



## **ATTACHMENT A:**

### **Discipline Report 1.A:**

### **“Sustainability Program Elements and Profiles”**



# City of Shoreline Environmental Sustainability Strategy

Contract Deliverable 1.A.:

## Sustainability Program Elements and Profiles



November 21, 2007

Prepared by:  
AHBL, Inc.  
O'Brien & Company



Memorandum:

# Sustainability Program Elements and Profiles

## I. Introduction

The City of Shoreline is taking significant steps toward sustainability, both in its internal operations and in the greater community. The proposed Environmental Sustainability Strategy will lend cohesiveness and measurability to existing efforts and establish new strategic initiatives that are aligned with the City's principles and goals. The Sustainability Strategy signals a bold direction for the City and establishes it as a regional leader.

This memorandum includes a draft mission statement for a Sustainability Strategy and a set of Guiding Principles and High-Level Goals that were developed with substantial input from City staff. These form the foundation for the Sustainability Strategy, and were presented to community stakeholders for input and refinement during Community Conversation #1.

The Shoreline Sustainability Strategy has the benefit of building on the collective experience of other cities. A substantial portion of this memorandum is dedicated to profiles of existing city sustainability programs that are instructive for the development of the Shoreline Sustainability Strategy. Profiles of significant and successful efforts in Fort Collins, CO; Santa Monica, CA; Whistler, BC; Cleveland, OH; and Burlington, VT indicate that many cities are using the principles of sustainability as criteria with which to evaluate and develop programs across all departments – including utilities (energy and water), economic development, purchasing, communications, transportation, parks and recreation, and natural resource management.

Common elements among these programs include:

- A framework of principles that provide guidance for program development as well as for implementation;
- A set of outcomes expressed in goals and measurable objectives, correlated to the program framework, and based on prioritized indicators of sustainability;
- Regular internal and public reporting mechanisms; and
- A set time horizon or schedule for regular program evaluation

However, programs differ in management structure and degree of detail specific to objectives. Structure and complexity vary according to funding and existing management resources. Some programs such as those in Fort Collins and Santa Monica are part of annual budgets and are initiated and

managed by city departments created for this purpose; others such as Burlington's are grant-enabled community visions without centralized leadership and ongoing management.

Many cities are developing or using advanced performance monitoring systems that include specific objectives with representative indicators (metrics) and performance targets. Indicators are defined as standards of measurement (of performance) that give evidence of a condition or direction of environmental change. Performance targets are goals established to measure progress of desired change for each indicator. The Whistler program is notable for its intricately crafted set of 16 strategic emphases and more than 100 indicators, each with specific performance targets; in contrast, the Cleveland program emphasizes major projects such as wind-power generation and river cleanup.

Shoreline can draw from existing models to create a Sustainability Strategy that is uniquely appropriate for its needs and resources. The City's Guiding Principles and High-Level Goals will set the course for establishment of specific objectives, indicators, performance targets and recommendations as follows:

- Guiding Principles
- High-Level Goals
- Specific Objectives
- Indicators
- Performance Targets
- Strategies to Achieve Targets
- Policies, Programs and Projects to Implement Strategies
- Evaluation Using Assessment Tool, Indicators and Targets
- Strategy, Program and Target Modification Based on Evaluation

Criteria for assessing current and potential actions and policy initiatives are needed to determine their consistency and effectiveness. A four-step approach and draft working tool for sustainability assessment are included in this memo. Finally, the memo contains an extensive discussion and analysis of the existing and potential green infrastructure elements for further discussion. We intend to use this tool to obtain valuable input from the community to help guide physical and spatial components of the overall effort.

Because of their close relationship, specific objectives, indicators and targets will be developed using an iterative process that relates these elements back to the Guiding Principles and High Level Goals. These relationships and related recommendations for sustainability measurement and tracking will be detailed in the upcoming Memo 1B.



## II. Mission Statement and Guiding Principles

As part of Task 1A the consultant team used existing policy guidance contributions from City of Shoreline representatives during the project kick-off meeting, and additional feedback from City staff on specific potential work products to draft a Mission Statement and Guiding Principles with High Level Goals for the Sustainability Strategy. The foundation for this effort is the direction provided by the City Council's adopted Goal #6 for its 2007-2008 Work Plan.

*To Create an "Environmentally Sustainable Community":*

*Provide management and stewardship of natural resources and environmental assets such that their value is preserved, restored, and enhanced for future generations; and such actions complement community efforts to foster economic and social health. Components include implementing "Green" practices at all City-owned or operated facilities, requiring new development or redevelopment to achieve high standards for stormwater management, energy efficiency, and reduction of solid waste, and maximizing recycling and reuse of resources.*

Goal #6 lists the development of an "Environmental Sustainability Strategy" as a key objective.

### Draft Mission Statement

The City of Shoreline Sustainability Strategy Mission Statement establishes environmental sustainability as a framework to align the City's plans, policies, operations and actions with the direction provided in Council Goal #6, as well as the City endorsed<sup>1,2</sup> goals of the Cascade Agenda<sup>3</sup>, the Green Cities Program<sup>4</sup>, and the US Conference of Mayors Climate Protection Agreement<sup>5</sup>.

Mission:

*We will provide management and stewardship of natural resources and environmental assets such that their value is preserved, restored, and enhanced for present and future generations. We will*

---

<sup>1</sup> City of Shoreline has endorsed the principles of the Cascade Agenda and declared the City's intent to participate in the "Cascade Agenda City" and "Green City Partnership" by adoption of Resolution 260 on June 11, 2007.

<sup>2</sup> City of Shoreline authorized support of the US Conference of Mayors Climate Protection Agreement by adoption of Resolution 242 on April 24, 2006.

<sup>3</sup> <http://www.cascadeagenda.com/>

<sup>4</sup> <http://www.cascadeland.org/stewardship/green-cities>

<sup>5</sup> <http://www.usmayors.org/climateprotection/agreement.htm>

*reduce waste, energy and resource consumption, carbon emissions, and the use of toxics in our own operations. We will lead and empower our community to make these same changes and evaluate our shared progress. We will create and foster community-based stewardship programs for our community open spaces, critical areas and urban forest. We will promote sustainable land use development, improved parks and recreation facilities and transportation solutions to enhance the ecology, livability and health of our community.*

## Guiding Principles with High-Level Goals

The City of Shoreline has identified 10 Guiding Principles as the foundation for the City's Sustainability Strategy. The Principles are not prioritized, but they are organized into two areas of emphasis – Strategy Framework (including process guidance) and Focus Areas (which deal with specific topics). Each Guiding Principle is followed by related high-level goals that provide additional details on City priorities and future actions. These Guiding Principles will serve as the defining framework for the strategy and we will be able to trace our subsequent efforts back to these roots.

### **1. Sustainability Will be a Key Factor in Policy Development**

The long-term impacts of policy choices will be considered to ensure a sustainable legacy. All policy decision will be considered according to impacts on conservation and restoration of the natural environment. The City will develop specific tools to ensure that citizens and decision makers understand the potential impacts of our choices on sustainability. The City will establish a clear list of sustainability priorities to guide the overall sustainability strategy and evaluate them on a regular basis to ensure the efficacy and efficiency of our actions.

### **2. Lead by Example and Learn from Others**

The City will lead by example and encourage other community stakeholders to make a similar commitment to the environment. We will learn from others and incorporate successful approaches into our efforts. The City will act as an advocate for innovative programs and approaches that embody the goals of sustainability. The City's sustainable programs, policies, facilities and practices will be designed as models that can be emulated by special districts, services providers, businesses, institutions, organizations and individuals in the community.

### **3. Environmental Quality, Economic Vitality, Human Health and Social Benefit are Interrelated**

The City recognizes that a sustainable community requires and supports economic development. The City will encourage environmentally sustainable business. We recognize that the health of humans is

inherently dependent on the health of the communities we create and the ecological framework that sustains us. In achieving a healthy environment, the City must ensure that inequitable burdens are not placed on any one geographic or socioeconomic sector of the population and that the benefits of a sustainable community are accessible to all its members.

**4. Civic Education, Participation and Responsibility are Key Elements of a Sustainable Community**

The City will be a leader in the creation and sponsorship of education opportunities to support community awareness, responsibility and participation in cooperation with schools, colleges and other organizations in the community. We recognize that partnerships between governments, businesses, residents and all community stakeholders are necessary to achieve a sustainable community, and we will serve as a catalyst and facilitator of these relationships. Public participation and a transparent decision making process are essential to finding and selecting alternatives.

**5. Commitment to Continuous Improvement**

The City will reevaluate its priorities, programs and policies on a defined, regular basis to ensure that the best possible investments in the future are being made. We will encourage our community partners to pursue similar efforts. The evaluation of a program's cost-effectiveness will be based on a lifecycle analysis of environmental and social costs and benefits. Performance monitoring will be achieved via a system of indicators and performance targets (e.g. a carbon scorecard). Analytical and monitoring tools will emphasize simplicity to ensure long-term utility for the City in terms of application and communication of the results for the explicit purpose of becoming more sustainable.

Focus Areas:

**6. Manage Expected Growth in a Sustainable Way**

We are part of a larger region and must accept our fair share of future housing needs and employment growth to achieve the goals of Growth Management and the Cascade Agenda. This growth must not come at the expense of our local environment or community livability. The City will seek innovative ideas and emerging technologies to minimize the negative impacts of growth and to leverage redevelopment to enhance environmental sustainability where practicable. Higher intensity land uses and increased density will be focused in specific areas that are environmentally suitable and served by adequate infrastructure, including transit, bicycle and pedestrian facilities. Community access to parks and natural features will be enhanced.

## **7. Address Impacts of Past Practices**

As a community we recognize that we must not only change the way we do things now and in the future, but we must also address the impacts of our past actions. The City will be a leader in identifying and addressing environmental degradation resulting from urban development. Impacts caused by use of outdated technologies and infrastructure will be a priority (e.g. stormwater system improvements and sidewalks). We recognize that we do not live in a pristine environment, but we will seek out ways to improve the ecological health, including the human health, of our community.

## **8. Proactively Manage and Protect Ecosystems**

Good stewardship demands that we both protect and actively manage our dynamic local environment. The City will seek opportunities to enhance and restore our critical areas, shorelines, urban forest, landscape hydrology and other key elements of our natural environment so that we are ready to meet environmental challenges to come. The City will manage public lands, including right-of-ways, for multiple benefits, including ecosystem protection and sustainable transportation. The City will promote and empower residents and property owners to improve ecosystem conditions in residential yards, institutional sites and commercial properties. Our environment is constantly changing. Lasting ecological health and environmental services cannot be achieved in a human-altered ecosystem by simply leaving the remaining natural elements alone and hoping they will fix themselves.

## **9. Improve and Expand Waste Reduction and Resource Conservation Programs**

The City will evaluate and implement strategies for reducing volumes and types of materials that are directed into the waste stream. We will be a leader in reducing waste and conserving resources through conscientious purchasing policies and expanded recycling programs. The City will take steps to reduce water consumption in its facilities and operations, investigate water reuse technologies and promote water conservation efforts in the larger community in partnership with utility providers. Policies and contracts will reflect our commitment to reducing internal waste generation and resource consumption by enabling partner organizations to lessen impacts on the environment through waste management and resource conservation. We will evaluate all policies and decisions according to the “Cradle to Cradle” idea of reducing negative environmental impacts from initial sourcing through the end of useful product or project life.

## **10. Energy Solutions are Key to Reducing Our Carbon Footprint**

The City will reduce the amount of energy used in facilities and operations and promote sustainable sources of energy. The City will use a carbon

scorecard to evaluate energy use and carbon emissions of the Shoreline community and develop and promote conservation targets. Other ways in which the City can promote conservation goals include compact development that supports transit and walkability, non-motorized transportation improvements, and coordination and advocacy for efficient transit solutions that serve both the people of Shoreline and the region.

### III. Sustainability Program Profiles

For Task 1A.4, the consultant team examined 19 city sustainability programs to determine applicable models for the Shoreline Sustainability Plan. Each program was evaluated according to the following components:

- **Leadership and Guidance** – What is the management and leadership structure? Who is in charge? Is it a single entity or dispersed across multiple entities? If it is a government entity, what department is it within? Staffing?
- **Programs and Scope** – We looked at plan components such as Mission, High-Level Goals/Objectives, Indicators, and Metrics. We included descriptions of specific planning/modeling tools used. Where information is available, we included budget, funding sources, and other financial considerations of a sustainability program.

The complete list of known sustainability programs and indicator projects in North America is presented in Appendix B. Four programs were selected for this memo based on existing conditions in comparison to those of Shoreline, scope of programs, and presence of indicators and ongoing monitoring:

- Fort Collins Action Plan for Sustainability, Fort Collins, CO
- Santa Monica Sustainable City Plan, Santa Monica, CA
- Whistler 2020 Comprehensive Sustainability Plan, Whistler, BC, Canada
- City of Burlington Legacy Project, Burlington, VT

Full details and analysis of these program profiles are provided in Appendix A.

Notably, two local sustainable city programs were not chosen as profiles – the Sustainable Seattle program and City of Portland Office of Sustainability and Sustainable Development Commission. Both cities have significantly greater resources than Shoreline, although this is not the primary reason for their exclusion. Sustainable Seattle is considered too complex to be considered a model for Shoreline given the primarily ecological goals of the Shoreline City Council and existing resources. In the case of the Portland program, it has been adapted by Fort Collins and scaled to fit resources more closely resembling those of Shoreline.

#### Lessons Learned:

Research and interviews with key sustainability program personnel from model programs indicate several common elements of successful sustainable city plans. Minimally, a program must include a:

- Framework to provide structure;
- Method to engage the community; and
- Baseline to track progress.

Specific recommendations from other programs include:

### **Engage the Community**

Get people involved. According to the Director of Whistler2020, “You can’t just draw up a policy and then present it from some high level and expect citizens to be empowered to participate.” A representative framework is integral to success for something as amorphous as sustainability. Base descriptions of success on community input. Include from the outset those who may be opposed to the program.

### **Make the Program Stand Alone**

Sustainability strategies span all city departments and programs, so they should be recognized as independent of existing programs – overarching and unbiased. Autonomy is common to most successful sustainability plans. For instance, both Fort Collins and Santa Monica house the sustainability program in the City Manager’s Office, which gives the program the authority of the office and independence from other departments. Some cities have found that housing a sustainability program within an existing department, such as the planning division or environmental services department can compromise the authority of the sustainability program.

### **Give the Plan Authority**

Although a sustainability plan should be based in community values and participation, it must also be given statutory authority. A City Council mandated sustainability plan allows centralized control of the process and gives Council-level entities power to alter departmental functions to match the goals of the sustainability plan.

### **Empower Champions for the Plan**

A champion – whether an individual or group – is needed to provide energy and continuity, not only during early program development, but also throughout the continued life of the program. Additional champions are needed for components that are the responsibility of individual departments. The more authority the champion has, the more success they and the strategy are likely to have. However, champions are especially needed in the larger community. Achieving community buy-in and momentum is critical. The City needs the ongoing assistance of the community to make the strategy a success.

### **Ensure Accountability**

The development of indicators and targets is a key component of ensuring accountability for the sustainability strategy. In addition to identifying

progress, they signal where changes should be made and improvements are required.

### **Make Sustainability Part of the Overarching Policy Framework**

Do not make sustainability an add-on. This does not mean creating an extra layer of staffing and programs, but rather working with existing governmental structure and resources and adjusting existing departments to set and achieve targets.

### **Start with a Measurable Rallying Point**

One Director noted that a number of the climate action plans across the country are sustainable city plans “cut a different way.” Her point is that climate action plans may be too vague, so the community must be given something tangible. For instance, if the strategy is to reduce greenhouse gas emissions, introduce the concept of a carbon footprint, address how strategies will reduce the footprint, and what the effect will be.

### **Keep Indicators Static – Adjust Targets**

Once indicators are determined and baselines are established, indicators must remain the same for a considerable period of time in order to build continuity and measure progress.

### **Base Decisions in Science**

Science is the foundation of an evaluation tool called The Natural Step<sup>6</sup>, but it is not exclusive to that process. Many decisions during the process of developing and maintaining the sustainability plan will be either contentious or seemingly prohibitive in scope or cost. Yet, basing decisions in hard data can lend sustainability strategies validity in the eyes of the public and major stakeholders. One example from Santa Monica: Data indicated greenhouse gas (GHG) emissions did not decrease during a given year. The staff of the Sustainable City Program used this data to recommend a community energy independence initiative that became policy.

### **Focus on “Executable Tasks”**

Most successful programs focus on strategies that are actionable within a year. Overall performance targets might be longer-term, but most strategies should be short-term in scope so that rapid feedback is possible and parties responsible for strategies have finite timelines. An additional aspect is annual reporting that informs the next strategy cycle – programs can build on successes and avoid repeating previous mistakes.

---

<sup>6</sup> The Natural Step is a framework grounded in natural science that serves as a guide for businesses, communities, educators, government entities, and individuals working toward sustainable development. The Natural Step framework was developed in Sweden by oncologist Dr. Karl-Henrik Robèrt in 1989. Dr. Robèrt brought leading Swedish scientists together to develop a consensus on requirements for a sustainable society.



## **Find a Sustainable Funding Source**

Most programs are not financed from the general fund because cities recognize that sustainability programs might lose priority during lean financial times. Sustainability plans should have reliable funding each year. Portland's program is financed through a .001% fee on all construction permits – permits are a convenient source of income in a growing community, and the fee is not prohibitive. Santa Monica's program is financed via revenue from the City's solid waste and water utilities.

## **Start Small and Scale Up**

Start by expanding existing programs or initiating strategies that the public can easily grasp. One Director asserted that the easiest scale for people to grasp is building scale, so a green-building program was a logical component for the city's nascent program. Creating linkages between strategies is also effective: Green-building policies complement sustainable city planning and GHG reduction policies. In this way, green-building becomes the gateway to other, less tangible aspects of sustainability. This is often called "scale jump".

## **Areas of Emphasis**

### *Other Cities*

This section presents a number of areas that organizations typically address when they seek to adopt more sustainable practices.

### **Sustainable Purchasing**

- Automotive vehicles & equipment
- Building materials
- Cleaning & coating materials
- Food
- Office equipment and Furnishings
- Paper products and other

### **Green Building**

- New construction & major retrofits
- Tenant Improvements
- Operations & Maintenance
- Infrastructure

### **Healthy Ecosystems**

- Water use management
- Chemical & nutrient containment
- Habitat and wetland conditions

- Land cover & stormwater runoff
- Erosion control

### **Pollution and Waste Reduction**

- Construction and demolition
- Office recycling & waste
- Toxic or hazardous substances
- Food waste
- Other major waste streams

### **Sustainable Energy**

- Facilities, vehicles, and equipment
- Office equipment
- Work travel
- Employee commuting

### **Open & Fair Process**

- Fair contracting
- Equal opportunity employment
- Citizen involvement

### *City of Shoreline*

By way of comparison, the City of Shoreline has identified the following areas that are addressed under the current sustainability program umbrella or that the City has indicated will be addressed. Specific programs are listed underneath each area. Full details are provided in the *City of Shoreline Environmental Sustainability Inventory* compiled by Juniper Nammi, revised 8/29/07. An asterisk (\*) indicates that the City desires substantial analysis of this program as part of the Sustainability Strategy. Underlines indicate that a program is in its early stages or has not yet been initiated.

#### **Climate Protection and Transportation Management**

- Business Access/Transit Lanes on Aurora
- Promoting Alternatives to Driving\*
- Climate Protection Campaign\*
- Fleet Vehicles Purchasing
- Regional Roads Maintenance Forum

#### **Community Building and Public Outreach**

- Earth Day Celebration
- Neighborhood Environmental Stewardship Team\*
- Environmental Mini Grant Program
- Adopt-a-Road and Adopt-a-Trail Programs

#### **Habitat Conservation and Restoration**

- Urban Forest Assessment Planning
- Open Space Acquisition
- Critical Areas Ordinance
- WRIA 8 Participation
- Ivy Out Volunteer Program\*
- Habitat Restoration Projects

#### **Land Use and Development**

- Green Building Program Implementation\*

- Civic Center/City Hall
- Green Street Demonstration Project\*

#### **Resources Use and Consumption**

- Sustainable Business Extension Service
- City Buildings Operations Practices and Policies\*

#### **Toxics Reduction**

- No Spray Zones
- Pesticide Free Parks

#### **Waste Reduction and Management**

- Solid & Hazardous Waste Management Program\*
- Municipal Compost Facility\*
- Business Solid Waste Reduction, Recycling and Resource Conservation Program
- Free Wood Chips at Hamlin Park
- Battery Recycling

#### **Water Resources Management**

- Car Wash Kits
- Stormwater Standards Update
- Aurora Corridor Project Stormwater Solutions
- Storm Drain Medallions & Stenciling

As part of our future work, the Consultant team will look at the City's existing programs, focusing on those priority programs for which the City has requested an in depth review. Using the Sustainability Assessment Tool discussed later in this memorandum and specific objectives, targets and indicators which will be detailed in the upcoming Memo 1.B, we will identify key gaps in the existing program mix that should be filled and opportunities where existing programs can be strategically realigned.

## IV. Criteria for Assessment and Policymaking

The program profiles suggest possibilities for what the City *could* do with its Sustainability Strategy – from governance models to specific program components. The next step is to identify criteria for assessing what the City *should* do. Specific objectives, indicators, performance targets, and feedback methods will also form the backbone of implementing the City's Sustainability Strategy, and will be addressed in subsequent memos.

Program assessment criteria are extremely useful in studying possible actions and policy directions for the City. They will help provide a better sense of the value of existing programs, as well as identify where new actions are needed. Assessment criteria can identify actions or policies that on their face may seem to fit the overall sustainability strategy, but when evaluated more closely seem a poor use of City's finite resources. The intent is to find actions and policies that leverage resources and that provide significant benefit either by creating major improvements in a particular focus area, or better yet, address multiple high level goals.

**The recommended approach is a four-step process:**

- **Step 1:** Identify and Distill Potential Actions or Decisions
- **Step 2:** Initial Qualitative Evaluation and Comparison
- **Step 3:** Modified Strength, Weakness, Opportunity and Threat (SWOT) Analysis from Traditional Strategic Planning
- **Step 4:** Preliminary Cost and Resource Evaluation

**In Step 1**, actions are clearly identified and phrased as statements, such as “establish detailed sustainability purchasing policies and procedures.” Statements should be as specific and concrete as possible.

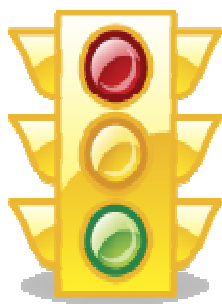
**In Step 2**, actions are screened by evaluating them against four environmental criteria, one economic criterion, a social, human health and safety criterion, and three feasibility criteria. Actions get check marks for each criterion they impact positively (see *Sustainability Assessment: Draft Working Tool* below).

Listing several actions within the same table, aids in comparison of benefits, gap analysis, and prioritization. An action must receive at least one check mark for an environmental criterion for it to be considered worthy of further analysis; otherwise it is eliminated from further review (red light). When more information is needed for evaluating an action, or when actions receive fewer

marks, they may be put on hold for future consideration (yellow light). Actions receiving several marks are considered worthy of further analysis (green light). Preferred actions will generally have economic, social, and/or human health benefits as well as environmental benefits.

**In Step 3**, actions that have received a green light in Step 2 are analyzed in more detail by assessing qualitatively their strengths, weaknesses, unknowns and the level of control the City has over their outcomes. This analysis may also be useful for evaluators having a difficult time establishing whether an action has a positive impact on a criterion in Step 2. In this way, Step 3 creates a feedback loop, where information can be fed back into Step 2 and results revised. The user should not be overly concerned with where to put a particular concern or benefit. The important point is that the discussion brings the concern to light and allows a forum for it to be properly considered. Once the strengths and weaknesses of actions have been analyzed, actions are again given either a red, yellow or green light to indicate whether they are worthy of further analysis.

**In the final step, Step 4**, actions are evaluated in terms of their costs. Initial cost increases and life cycle cost savings are incorporated into the evaluation as well as the availability of resources needed to accomplish the action. If action costs far outweigh potential benefits or pose an insurmountable barrier to implementation, actions are eliminated from further review (red light). If action costs match benefits, but potentially represent a barrier to short-term and/or long-term implementation, actions are put on hold for future consideration (yellow light). If action benefits exceed action costs and do not present a barrier to short or long term implementation, the action is worthy of further consideration (green light).



- **Red light actions are eliminated from further review.**
- **Yellow light actions are put on hold for future consideration.**
- **Green light actions are considered worthy of further review.**

Users of this tool should not be overly concerned with which column to put a particular concern, that every column is filled out, or discussions between users about whether something is a yellow or red light. The point is that the use of the tool results in a structured and purposeful discussion that provides opportunities for alternatives to be considered and decision making to be improved.



### Sustainability Assessment: Draft Working Tool (Task 1.A.5)

#### **Step 1: Identify and Distill Potential Action or Decision**

Clearly identify a topic, policy issue, action or issue that you would like to evaluate for its impact on sustainability. The action should be phrased as a statement, such as “establish detailed sustainability purchasing policies and procedures” – and should be as specific and concrete as possible.

#### **Step 2: Initial Qualitative Evaluation and Comparison**


Evaluate each idea based on the sustainability criteria below (which are based on the Draft Guiding Principles) by putting a check in each box where the potential action, on balance, positively impacts the criterion listed. It is helpful to list potential actions and/or alternative actions within the same table to aid in benefit comparison, gap analysis and prioritization. Some users may also want to sum the checkmarks for each potential action; however certain criteria deserve greater emphasis. An action should address at least one of the four environmental focus areas (in green), to be considered a potential sustainability initiative or action. Preferred actions will also usually provide a clear or direct economic, social, and/or human health and safety benefit as well (in yellow).

POTENTIAL ACTION	SUSTAINABILITY					FEASIBILITY			
	Advances sustainable development & transportation	Directly + Impacts Energy Conservation and Carbon Reduction	Likely to result in Improved Local Ecosystem Health	Tangible Waste Reduction and Resource Efficiency Benefits	Provides Clear or Direct Economic, Social, or Human Health and Safety Benefits	Relies upon existing system, proven technology or incremental change	Promotes City Leadership and/or Broader Participation	Represents a Potential Quick Win	Recommendation:
Develop Sustainable Purchasing Guidelines for All Staff		✓	✓	✓	✓	✓	✓	✓	
Other potential actions for comparison									

**If the initial evaluation indicates an idea presented is worthy of further thought, it should be given the “green light” for a modified SWOT analysis.** Eliminate items (red light) or hold items (yellow light) for future consideration if more information is needed or there are higher priorities. When eliminating or “holding” ideas, please record the rationale for future reference.

### Step 3: Modified SWOT Analysis

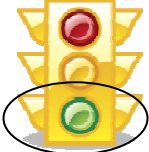


This step allows more detailed qualitative analysis of those potential actions that are able to pass through the filter of Step 2. Although presented here as Step 3, the Modified SWOT Analysis is also useful when evaluators find it difficult to establish whether an action is consistent with a criterion, and represents a “feedback” loop that provides an opportunity to revise the Step 2 evaluation.

POTENTIAL ACTION:		RECOMMENDATION & RATIONALE:		
Develop Sustainable Purchasing Guidelines for All Staff		Pursue this recommendation – conduct cost and resource evaluation based on multiple strengths		
Evaluation Criterion	Strengths	Weakness	Unknowns or Level of Control Over Outcome	
Advances sustainable development & transportation	None.	None.	Not clear how this would impact criterion.	
Directly Impacts Energy Conservation and Carbon Reduction	Products purchased under sustainable purchasing guidelines would be more energy efficient and have lower carbon emissions.			
Likely to result in Improved Local Ecosystem Health	Products purchased under sustainable purchasing guidelines would reduce impacts to local air and water quality.		Benefits to local ecosystem health may be difficult to quantify. Measurement of change could be difficult.	
Tangible Waste Reduction and Resource Efficiency Benefits	Products purchased under sustainable purchasing guidelines would emphasize reducing, reusing, and recycling resources.	Adjustments to perceived quality of sustainable products may be slow.		
Provides clear or direct economic, social, or human health and safety benefits	Products purchased under sustainable purchasing guidelines should be more economical in the long term, less harmful to ecosystem/human health, and promote sustainable business.		Unknowns regarding lifecycle costs could require more investigation and documentation.	
Relies upon existing system, proven technology or incremental change	Existing sustainable products could be substituted for less sustainable products and more could be added as they become available or more cost effective.	Unproven, yet potentially beneficial products may be dismissed.		
Promotes City Leadership and/or Broader Participation	City leadership in the purchase of sustainable products would strengthen the market for sustainable goods leading to greater availability.		City's ability to influence availability of sustainable products and purchasing by general public could be limited.	
Represents a Potential Quick Win	Using sustainable purchasing guidelines could be implemented quickly and benefits documented.	Documenting benefits would require coordination and training city-wide. Product lists would be very useful, but would take a greater level of effort.		

If, on balance, the idea seems worthy of further analysis, it should be given the “green light” for cost and resource evaluation. Eliminate (red light) or table (yellow light) items. When eliminating or “holding” ideas be sure to record rationale for future reference.

#### Step 4: Preliminary Cost and Resource Evaluation

Evaluate potential actions that are given the “green light” in Step 3 on the basis of cost and other resource availability factors. Red should be selected if costs appear to be an insurmountable barrier when compared to potential benefits, yellow if costs represent a barrier to short term implementation and possible long term implementation, and green should be selected if after evaluation of costs, the idea appears to be worthy of further consideration. Once again, eliminate items (red light) or hold items (yellow light) for future consideration if more information is needed or there are higher priorities that demand attention. When eliminating or “holding” ideas, record the rationale for future reference.

POTENTIAL ACTION	Initial Cost Increase?	Lifecycle Cost Savings?	Cost Estimate (if known)	Able to Accomplish Using Existing Resources?	Resource Assistance Availability and Details	<u>Summary Cost Evaluation (TBD)</u>
Develop Sustainable Purchasing Guidelines for All Staff	No, not if done by existing staff	Yes	TBD	Yes, with implementation steps to be described in Sustainability Strategy	Yes, details TBD	
<i>Other potential actions for comparison</i>						
						



# V. Green Infrastructure Planning

## Introduction

Infrastructure is defined as “the substructure or underlying foundation, especially the basic installations and facilities on which the continuance and growth of a community depends”. Recently, sustainability planning efforts both locally and nationally have devoted substantial effort and thought to the concept of *green infrastructure*. Efforts to define this concept included the President’s Council on Sustainable Development, who initiated efforts to apply the concept of sustainable development in the United States. In a May 1999 Report entitled *Towards a Sustainable America – Advancing Prosperity, Opportunity and a Healthy Environment for the 21<sup>st</sup> Century*, they identified green infrastructure as one of several key strategies for achieving sustainability. They defined green infrastructure as:

***Our nation’s natural life support system – an interconnected network of protected land and water that supports native species, maintains natural ecological processes, sustains air and water resources and contributes to the health and quality of life for America’s communities and people.***

*Green infrastructure* recognizes that humans are part of the environment and that viable ecosystems are the foundation for society by providing the natural resources we need to support our human systems and built environment. This concept recognizes the dependence of mankind on natural systems and the need for us to utilize these systems in order to maintain and improve our quality of life. However, it also recognizes that we must do this in a manner that enhances, not destroys, the natural processes we rely on for our existence, consistent with the basic tenets of sustainability.

Human development and the associated man made infrastructure needed to support it has fragmented and degraded natural ecosystems. We have developed new infrastructure systems, such as sanitary sewers and storm drainage, to deal with the symptoms of the problems this development and degradation have caused. The impacts of much of our growth and development have decreased nature’s ability to respond to both short-term changes, such as flooding and drought, and long-term environmental trends, such as global warming and the spread of invasive species.

Man-made infrastructure designed to support the built environment we have created, can also impede natural processes, including the flow of water and the migration of fish and animals. This spatial fragmentation also has human consequences: we have become dependent on the energy needed to support complex traditional infrastructure systems for a wide range of daily

tasks. Our dependence on the automobile and the resulting impacts on land use, human health and the health of the larger environment are examples of the limitations and notable consequences of viewing ourselves as separate from our natural environment.

The concept of sustainability recognizes that a viable ecosystem serves as the foundation for our society by providing the natural resources we need to support our human systems and man made surroundings. A variety of natural processes interact to create a healthy environment. The goal of green infrastructure is to integrate functioning ecosystems with the built environment and to mimic natural systems and leverage their benefits, flexibility and resiliency to improve both ecological and human conditions. Green infrastructure proponents seek to “design with nature” and plan land use and infrastructure based on land suitability, just as advocated by the famous landscape architect and planner Ian McHarg more than 30 years ago.

Recently, the concepts of green infrastructure have been adapted to the scale of an individual community. In this context, the concept of green infrastructure has been expanded beyond its traditional focus on natural lands and features to include elements with more human interaction. The focus is on those systems that connect humans more directly to the natural environment, that promote sustainable development and that replicate natural processes. In this context, green infrastructure can be thought of as:

***A network of parks, natural vistas, shorelines, civic spaces, sidewalks, trails, shorelines, creeks, natural drainage features and urban forests that connect neighborhoods, individuals, landscapes, flora and fauna to one another.***

In this paradigm, green infrastructure can include elements such as native landscaping, innovative low impact development and drainage systems, restored wetlands, managed urban forests and other attempts to mimic nature for the benefit of both humans and the larger ecology.

## Green Infrastructure in Shoreline

As part of Task 1.A.7, we have used GIS technology, our working definition of green infrastructure and our knowledge of City plans, programs and landscapes to begin the process of identifying “possible elements of the existing and future green infrastructure system for further discussion.” The concept of green infrastructure can serve as a robust framework for the spatial and physical aspects of sustainability planning. It allows us to understand the impacts of past, current and proposed development practices and policies, how our currently planned improvements fit into the picture and how we may modify our future policies and plans to achieve multiple goals and embody these important concepts.

By breaking our existing physical landscape and urban improvements into specific components and mapping them we can begin to see both the extent and nature of the existing green infrastructure system. We can also see how existing elements of traditional infrastructure can be adapted and improved to serve a broader range and quality of functions. Put differently, we can see the ways in which we can “green” our current infrastructure. Looking at the current system, we can identify key gaps and opportunities to implement our sustainability objectives.

The development of this system strongly supports the Guiding Principles and related High Level Goals detailed earlier in this report. Notably the following:

- Sustainability Will be a Key Factor in Policy Development
- Environmental Quality, Economic Vitality, Human Health and Social Benefit are Interrelated
- Manage Expected Growth in a Sustainable Way
- Address Impacts of Past Practices
- Proactively Manage and Protect Ecosystems
- Energy Solutions are Key to Reducing Our Carbon Footprint

## Green Infrastructure Maps

**Figure 1** depicts the existing community connections that relate to our sustainability guiding principles and framework goals. These include various types of non-motorized facilities and transit which link commercial and civic hubs, schools, institutions, parks and open space. We have shown these “human” *hubs* (or centers) and *links* (or connections) on a separate map only so the detail of the underlying information can be conveyed and analyzed - so that this component of the whole can be fully understood. It is only part of the picture.

**Figure 2** depicts the ecological framework or system, including watersheds, topography, open space, parks, streams, wetlands and shorelines. Habitat features, particularly forest areas and forest health conditions, can be added to the map as this information becomes available from the City through its work with Seattle Urban Nature Project. Priority Habitats and Species Data from the Washington Department of Fish and Wildlife should also be added so key areas of habitat diversity, quality, concerns and opportunity can be better understood. As various layers are added, combined and analyzed, systems (such as the headwaters of Thornton Creek) and their components (e.g. wetlands, streams and remnant forest on public and private land in a broad band through the middle of the City) become more apparent. Again, we have shown “natural” hubs and links (for which we could readily obtain data) on a separate map only so the detail of the underlying information can be understood.

**Figure 3** is a conceptual and potential *Future Green Infrastructure System Map*, with specific Green Infrastructure *Opportunities* identified. This is where we see the full power of green infrastructure planning take shape, as we show the blending of human and ecological hubs and links to form a more coherent system. Looking at the entire system and the interaction between human and more natural elements allows us to identify opportunities. These include specific locations where there are missing elements to the system, where gaps exist or where existing facilities can be improved to serve green functions. In defining these opportunities, we looked at the following factors:

- Key human connections, which support sustainable development, and could be made between existing pedestrian facilities, commercial and civic hubs, neighborhoods and natural features
- Key natural links that could be made between drainage features, open space and habitat hubs
- Vulnerable landscapes, features and processes that should be protected, conserved, restored or otherwise actively managed
- Potential new or enhanced public access improvements that would provide connections to natural features or link neighborhoods
- Opportunities, such as low impact development, green building and green streets that combine multiple elements in a key location.

## Green Streets

Special attention was paid to potential green street locations. In addition to the green infrastructure benefits that a combined program of pedestrian improvements, native landscaping and natural drainage provide, we believe green streets can be used as a tool to help define the different characters of the City. In areas where a more urban feel is appropriate, standard sidewalks with street trees and traditional storm drainage infrastructure may be more desirable. As you move away from the arterials, the green streets help signal and solidify the residential neighborhood character and a closer connection with natural processes. In some areas, traffic calming will be a significant priority in the design of a green street.

In the July 2005 Shoreline Transportation Master Plan, the City has developed some basic “Design Guidelines for Transportation Green Streets”. The Master Plan contains the recommendation that the City “adopt the recommended standards in Table 6-2 for arterials and neighborhood collectors”. The Master Plan calls on the City to “conduct a planning study with the storm and surface water utility to identify an initial *Green Street* corridor”. Table 6-2 is included in Appendix C. While the city has developed preliminary design standards, no criteria have been developed yet to determine where green streets are desirable, feasible or are a priority.

The focus of the green street analysis and discussion in this report is to establish criteria for prioritizing potential locations and where they may serve the maximum pedestrian and environmental benefit, preferably at a lower relative cost. For the purposes of our analysis, the preliminary criteria for the siting of potential green streets included the following priorities (not absolutes, but important factors):

- **Seek a Balance of Character and Connectivity.** Lower volume neighborhood collectors that are or could be important non-motorized community links were favored in this analysis because they provide a mix of connectivity, neighborhood character and safety for non-motorized users. Neighborhood residential streets are acceptable if they provide an important connection that will be used for walking and biking. Limited portions of arterial collectors were selected by default - because they provided a key link. Overall, the preference is to find streets where speeds are slower, so there are fewer conflicts between vehicles, pedestrians and vegetation. However, we also favor a high degree of connectivity, so the City will be able to move a greater number of people sustainably and thereby provide a higher return on investment.
- **Prioritize Safety, Provide Connections and Fill Gaps in the System.** Locations that are near and/or connect to schools and parks, where pedestrian safety concerns are paramount, will take priority. Yet the City should also consider opportunities to provide needed connections to commercial, residential and institutional centers. Locations where there are limited pedestrian facilities currently are an obvious consideration because it is not cost effective to replace functional improvements.
- **Link and Leverage Existing Assets with an Opportunistic Approach.** Corridors that provide connections across the community and that feed into existing pedestrian facilities found on several major arterials are important. Potential locations may have existing ditches or rustic off-street paths that can be enhanced and integrated into an “opportunistic” and cost effective improvement. Locations with an existing ditch or wide shoulder provide more room for improvements and design flexibility for this approach.
- **Review Existing Plans for Improvement Opportunities.** Where construction plans have not already been completed, planned road and stormwater capital improvements that are already in the pipeline should be assessed to see how various Green Street concepts can be integrated cost effectively in priority locations. It is important to not only consider opportunities where the full range of green street elements can be implemented, but also incremental improvements to more traditional street designs along identified corridors.

The City should review these potential siting criteria and provide additional guidance to help frame this key element of the sustainability strategy. Anecdotal information indicates that in other communities in the region, green streets have become be a desired improvement for a neighborhood. Once

priority locations are established based on feasibility and suitability, pilot programs should focus on gaining the cooperation of neighboring homeowners. Homeowners could also partner on implementing low impact development improvements on the private side of the property line, including rain gardens and infiltration facilities targeting run-off.

## Greener Streets and Complete Streets

In addition, it should be noted that continued landscape and art improvements on 175<sup>th</sup> Street from Fremont to 15<sup>th</sup> Ave. NE and improvements along the majority of 15<sup>th</sup> Ave. NE will have a significant benefit in terms of linking community destinations in more sustainable ways and improving the visual character within key corridors of the City. Providing a pedestrian landscape amenity zone is also a key need along 145<sup>th</sup> Street, Richmond Beach Road and 205<sup>th</sup> Street. Continued care and improvement of pedestrian and bike facilities and street trees, and enhancement with additional vegetation on the following streets is also important for the development of sustainable connections across the city: 155<sup>th</sup> Street and 185<sup>th</sup> Street. These needed improvements are recognized in the City's Comprehensive Plan and Transportation Master Plan and are important priorities, regardless of whether they are called "green streets" or by another name.

## Preliminary Analysis and Findings

Based on our analysis of these elements, in combination with a review of key City policy documents that outline recognized needs and planned facilities (e.g. Comprehensive Plan, Parks, Recreation and Open Space Plan, Transportation Master Plan and Surface Water Master Plan), we have developed a typology of 8 general categories of improvements that could be made to the green infrastructure system. These can be further refined into more site specific and detailed improvements in later planning and implementation phases. Figure 3 depicts the locations of the various items on this "menu" of opportunities that were used in this initial investigation:

**Natural Landscaping**– While applicable throughout the City, this icon depicts the location where natural landscaping would help promote a stronger connection to the environment, enhance community appearance and pride, improve ecological function and connect natural features. This category of improvement or "green infrastructure prescription" is particularly applicable in key commercial centers that were developed under outdated standards (e.g. Aurora Village) and key arterials that currently have sidewalk facilities, but very limited landscaping, such as 145<sup>th</sup> and 175<sup>th</sup> Streets. Continued enhancement of the I-5 freeway corridor and City gateways are also needed. Notably, the City's existing and planned improvements to the Aurora Corridor and Interurban Trail include a significant amount of natural landscaping.

**Public Access** – This icon depicts the location of where a key public access enhancement would improve non-motorized community connections or would help reconnect the community to the natural environment. A pedestrian connection across the I-5 freeway near 165<sup>th</sup> Street is a key example. Of particular emphasis in this memorandum is promoting stronger connections to the Puget Sound shoreline. Only limited legal public access is currently provided in large part due to the presence of the Burlington Northern Santa Fe railroad tracks and the lack of public property. Private ownership of these lands will determine how feasible it is to create public access. However, examples of improvements could include a pedestrian bridge over the railroad tracks to connect the City's Innis Arden Reserve to the shoreline, a public access easement and safe pedestrian connection from Richmond Beach Drive NW to the popular community beach south of the Pt. Wells terminal, a more established walking connection from 145<sup>th</sup> Street into the Paramount Open Space, and formal and legal public access to the Boeing Creek Reserve. We observe that the City could create a bold long term vision for shoreline public access to enhance and leverage this historically neglected community asset to meet recreation needs locally.

**Natural Drainage Connection or Feature** – While applicable citywide, this icon depicts the general location where the construction of a natural drainage feature would enhance or help restore natural processes and address human issues, such as flooding. Locations were selected using GIS, based on the presence of extensive roadside ditches, historic stream channel locations, and location within the drainage basin. Examples include re-establishing and enhancing surface water connections in the upper Thornton Creek and Boeing Creek Watersheds, in Hamlin Park and on the Fircrest Campus. Notably, the City's next phase of planned improvements along Aurora Ave. North includes a substantial natural drainage component.

**Habitat Enhancement** - This icon depicts the location where a key high quality element of the natural environment should be conserved, restored or otherwise actively managed. Examples include vegetation management in Hamlin Park, Richmond Beach Saltwater Park and South Woods. Continued enhancement of high quality wetlands and streams on private land in Richmond Beach, Innis Arden, near Lake Forest Park and in City owned parks and open space is needed.

**Low Impact Development (LID) and Green Building**– While applicable citywide, this icon depicts the location where encouraging in-fill and redevelopment using LID and Green Building techniques and standards would protect vulnerable ecological conditions or address ongoing impacts to humans or other elements of the environment. Examples include targeting the upper portions of the Boeing Creek basin to enhance natural drainage and infiltration and protecting water quality, groundwater springs, soils and



vegetation in a key area in the northeastern portion of the City where multiple cold, clear springs feed tributaries to McAleer Creek. Redevelopment of Aurora Square using LID and Green Building standards has the potential to significantly improve stormwater run-off to the Boeing Creek watershed and provide a model for a new era of commercial development in Shoreline. The planned new City Center/City Hall and future redevelopment of the Fircrest Campus are two other prime examples of LID and Green Building opportunities.

**Complete Streets** – This symbol represents a potential future network of complete streets. Complete streets are designed and operated to enable safe access for all users, including pedestrians, bikes, motorists and buses. Arterial and collector streets that link important community destinations should be high priority for street improvements such as sidewalks, landscaping, enhanced pedestrian crossings and bike lanes. Locations near schools are also an identified priority.

In areas identified as Complete Streets, the emphasis is on traditional non-motorized improvements and landscaping, but low impact development principles can be integrated where appropriate. Locations, such as N 155<sup>th</sup> Street, 5<sup>th</sup> Ave. NE, Meridian Ave. N, and N 185<sup>th</sup> Street, which currently have sidewalks and landscaping, the focus should be on enhancing pedestrian and bike safety and landscaping. Arterials with limited or no pedestrian and bicycle facilities (such as Dayton Ave. N and 25<sup>th</sup> Ave. NE) where improvements are planned were also selected. On arterials that currently have substandard sidewalks (such as Richmond Beach Road, N 145<sup>th</sup> Street, 15<sup>th</sup> Ave. NE and N 175<sup>th</sup> Street), additional improvements are needed. Other collector and local streets that provide key connections were also included.

**Pedestrian and Bike Paths** – This symbol represents a potential future network of pedestrian trails and paths. These paths would range from roughly surfaced forest footpaths to paved improvements suitable for a wider range of users. In areas with fewer limitations related to topography, user conflicts and resource protection issues, non-motorized improvements should also be designed for bikes. Mapped features include existing paths, where improvements such as designation and way findings are needed. Potential new paths are also shown that would help complement both complete streets and green streets to form a sustainable transportation network. Non-motorized paths are particularly important in those areas where direct vehicle access is not provided and the street grid is discontinuous. Examples include public access and way-finding on trails in the Innis Arden and Highlands neighborhoods. Better trail designation and signage on trails in parks in Shoreview and Hamlin Parks are needed. East-west connections and a trail between Hamlin Park and South Woods on the Fircrest Campus are other examples of potential new pedestrian and bike paths that would improve the overall sustainable transportation network.



**Green Streets** – This icon depicts potential high priority locations where a combined program of natural landscaping, surface drainage and non-motorized improvements would help link the human and natural environments and form the core of the green infrastructure system. We have provided some examples of where green streets might be appropriate. However the City should give further consideration to our draft siting criteria, other City goals and financial and locational feasibility in deciding which streets to identify as high priority locations for these improvements.

Our initial efforts have focused primarily on arterial collectors and neighborhood collectors (where there are lower speeds and arguably somewhat less emphasis on the automobile) as priority locations for green streets. The City's Transportation Master Plan recognizes that the concept of green streets can be adapted to fit a variety of community situations. We feel the use of the public right of way as a strategic tool for achieving environmental goals and improving community appearance, while continuing to meet our transportation objectives, should be a key sustainability strategy.

The Green Streets concept addresses several key Guiding Principles, including:

- Manage Growth in a Sustainable Way
- Address Impacts of Past Practices
- Proactively Manage and Protect Ecosystems
- Energy Solutions are Key to Reducing Our Carbon Footprint



















The *Draft Green Infrastructure Maps* shown in Figures 1-3 are intended to initiate a discussion of green infrastructure planning within the City and the larger community during Community Conversation #1. The concept of green infrastructure is a robust tool not only for parks and open space planning, but also for the broader aspects of land use planning and the development of our sustainability strategy. We recommended the continued use and refinement of this tool to help identify a range of potential actions that synergistically impact the physical environment, ecology and livability of the city.

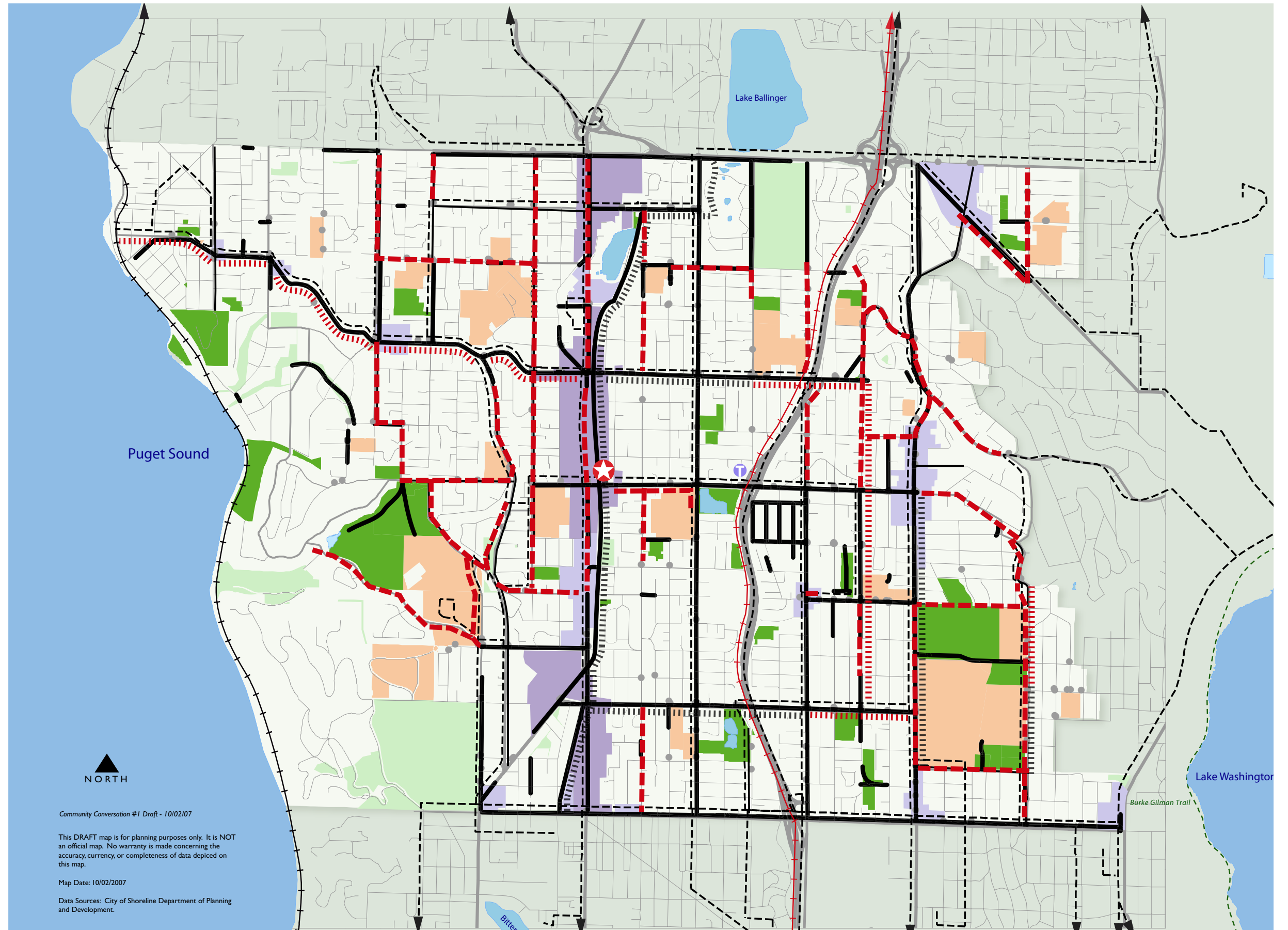
The Project team will use the *Draft Green Infrastructure Maps* during Community Conversation #1 and throughout public involvement efforts to get input from citizens on key human and natural links and hubs which need to be conserved, restored, created or otherwise actively managed. We will discuss examples of improvements planned by the City and other potential improvement ideas shown in Figure 3 to promote community discussion and feedback.

Green infrastructure should be a key element of the overall *Environmental Sustainability Strategy* – it will provide a framework for analysis and

discussion of potential actions which have a physical and/or spatial component. Following community input, the *Draft Sustainability Strategy* will include recommendations related to the existing and potential Green Infrastructure System. Strategies and potential physical improvement ideas that result from green infrastructure analysis can be evaluated and prioritized along with the larger menu of recommendations using the assessment and decision tool described earlier on page 15 of this memo. Recommendations included in the *Sustainability Strategy* adopted by the City Council, will be subject to further consideration and refinement in future plans, programs, projects and budgets.










## Legend

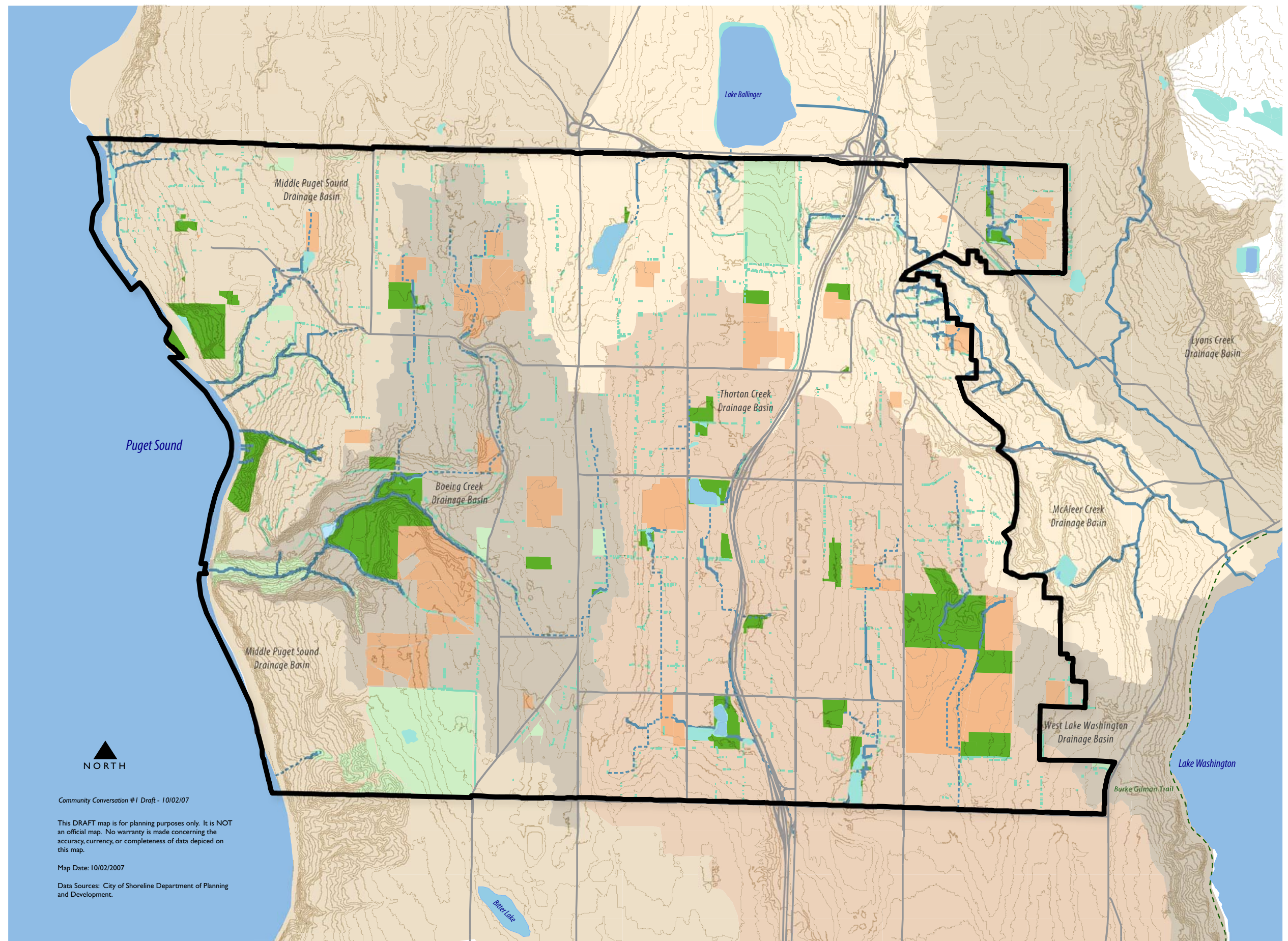
-  Civic Hub
-  Light Rail Station Proposal
-  City of Shoreline
-  Crosswalks
-  Sidewalks/Trails
-  Shoulders
-  Bike Routes
-  Bus routes
-  Sounder Commuter Rail
-  Planned Pedestrian Improvements (Comprehensive Plan 2005)
-  Planned Bicycle Project or Study (Comprehensive Plan 2005)
-  Sound Transit Light Rail Proposal
-  Water
-  Public & Private Institutions
-  Shoreline Parks
-  Private Open Space
-  High Intensity Land Use Hubs
-  Medium Intensity Land Use Hubs





## Legend




-  City Boundary
-  20 Foot Contours
-  Open Watercourse
-  Piped Watercourse
-  Ditches
-  Water
-  Wetlands
-  Public & Private Institutions
-  Shoreline Parks
-  Private Open Space






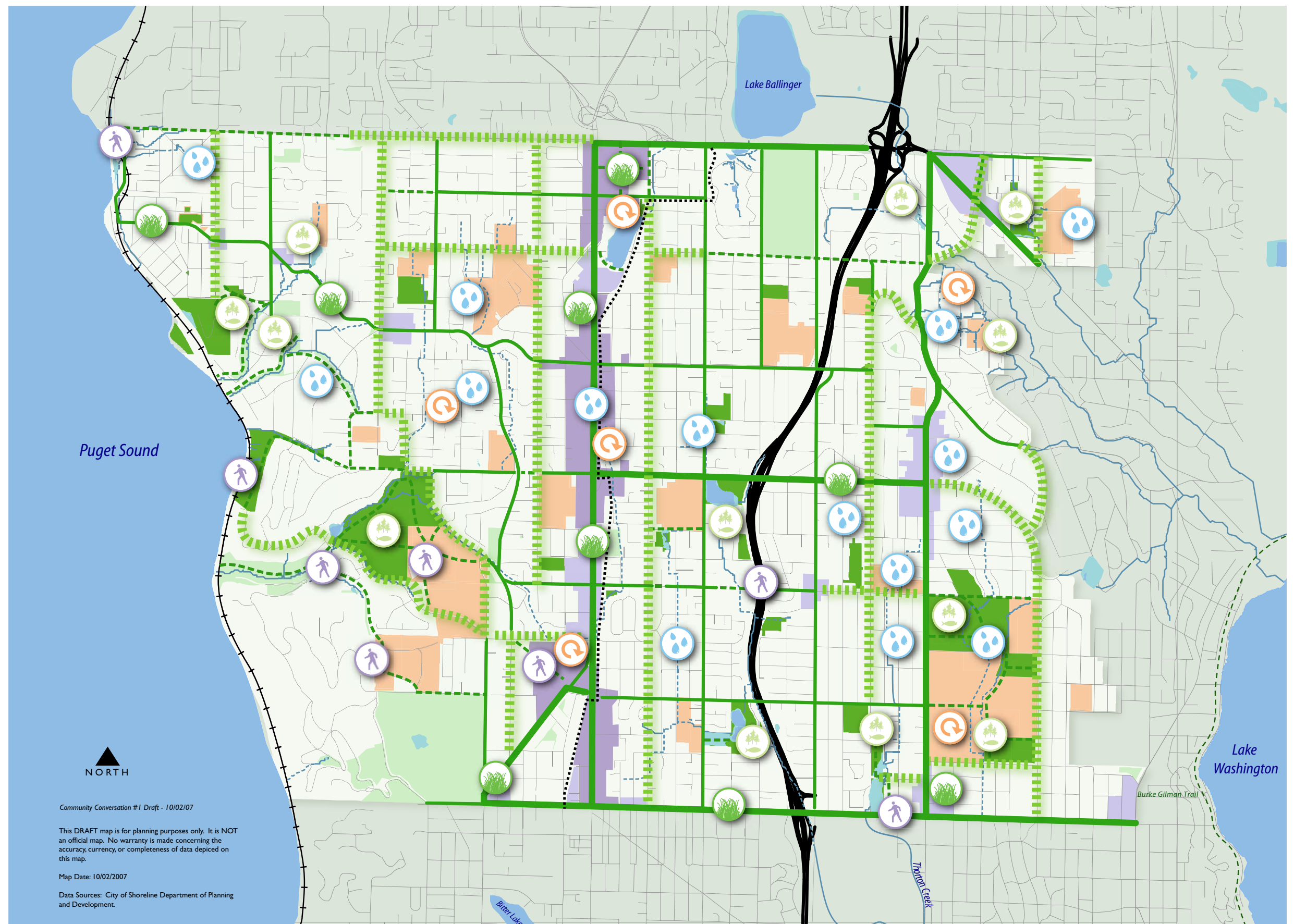
**Legend****Opportunities**

-  Natural Landscaping
-  Public Access
-  Natural Drainage
-  Habitat Enhancement
-  Low Impact Development & Green Building

-  Green Streets
-  Complete Streets
-  Pedestrian Paths

**Current features**

-  City Boundary
-  I-5
-  Street
-  Interurban Trail
-  Railroad
-  Open Watercourse
-  Piped Watercourse
-  Water
-  Wetlands
-  High Intensity Land Use Hub
-  Medium Intensity Land Use Hub
-  Public & Private Institutions
-  Shoreline Parks
-  Private Open Space



## VI. Summary

This memorandum provides recommendations for the basic foundation of the City's Environmental Sustainability Strategy. A Mission Statement and Guiding Principals with High Level Goals, establish the policy direction and general priorities for this effort. The Guiding Principals with High Level Goals will also serve as the framework upon which we develop more specific objectives, indicators and targets in Task 1B.

Extensive review of the sustainability programs in other communities provides some insight into what the City could do, as well as lessons learned from the other efforts. Given the unique needs and resources of the City of Shoreline, no profile is a perfect match. To reiterate, the most common elements of existing sustainability plans include:

- Create or use a framework that provides structure for the program;
- Engage the community and build capacity for citizen involvement;
- Make the program autonomous within the City governance structure;
- Identify a champion to be a steward and public face of the program;
- Give the plan statutory authority;
- Make sustainability the overarching policy framework;
- Start with a measurable rallying point;
- Create a baseline;
- Keep indicators static – adjust targets;
- Base decisions in science;
- Focus on “executable tasks”;
- Find a sustainable funding source; and
- Start small and scale up.

In Section IV, we presented a set of draft Criteria for Assessment and Policymaking that are rooted in the Guiding Principals. These will help guide our review of existing programs and the development of specific recommendations. The Decision and Assessment Tool presented is also designed to be used by the City for sustainable decision making.

Finally, Section V of this memo described the concept of green infrastructure, how this concept relates strongly to sustainability and how this tool can serve as a robust framework for sustainability planning and for obtaining valuable input from the community to guide the physical and spatial aspects of the overall effort. This tool also allows us to see you how planned city improvements fit into the overall sustainability strategy. A select number of the green infrastructure opportunities identified through this preliminary analysis could be further evaluated and prioritized by the City. Criteria for evaluating potential green street locations and designs should be further refined and applied by the City as the program is developed in the coming months.

Key ideas and concepts presented in this memo will be refined and integrated into future project deliverables. The *Draft Environmental Sustainability Strategy* will integrate significant project findings and will be presented to the City Council for review and revision by City staff as necessary prior to adoption. All recommendations will be subject to further refinement during future planning, budgeting and implementation phases.

# Appendix A. Sustainable City Program Profiles

## Fort Collins Action Plan for Sustainability, Fort Collins, CO

### *Background*

The City of Fort Collins Action Plan for Sustainability provides recommended policy, goals, and targets for advancing sustainability within the City of Fort Collins operations with a unified, cross-departmental approach. A staff team, with representation from each City service area, developed the Plan. The team used the City of Portland Sustainable Development Commission's *Resourceful Government Guidebook* for City of Portland and Multnomah County agencies to guide the development of the Action Plan.

Fort Collins has a long history of environmental planning, ranging from a 1992 Framework for Environmental Action to a comprehensive Air Quality Policy Plan, Natural Areas Policy Plan, Environmental Policy Plan, and more recently, a Greenhouse Gas Reduction Plan. However, coordination and standard metrics of performance were lacking. Overlapping practices were in place, but without coordinated effort toward measurement, management, or optimization. Thus, the motivation for this Action Plan was to elevate the City's sustainability performance by following a strategic and systematic path.

During the planning process for development of the Action Plan, the first step the Ft. Collins team undertook was to develop the following policy statement for City adoption:

*The City of Fort Collins will serve as a community leader in sustainability by conducting daily operations through balanced stewardship of human, financial, and environmental resources for present and future generations.*

The next step the City took was to assess existing sustainability practices and identify new opportunities in daily operations. Based on these documented successes and opportunities, the team then used worksheets from the *Resourceful Government Guidebook* to prioritize nine areas of key importance to the City, with no implied priority.

- Sustainable Purchasing: General
- Sustainable Purchasing: Auto Vehicles and Equipment
- Healthy Productive Employees: Employee Health
- Healthy Productive Employees: Employee Safety



- Green Buildings: New Construction, Major Retrofits, Operations & Maintenance
- Healthy Ecosystems: Water Use Management, Irrigation
- Sustainable Energy: Employee Commuting
- Pollution and Waste Reduction: Office Recycling and Waste Reduction
- Management Tools: Planning

The final step in the planning process was to develop goals and quantitative targets for each of the nine priorities. Each target contains four elements:

1. Performance measure: how results will be quantified;
2. Scope: what part of the operation will be measured;
3. Performance goal: what the desired outcome is; and
4. Completion date: when the outcome will be achieved.

The next phase was to develop the Action Plan based on the Priorities, Goals, and Targets. The project boundaries established for the process were to develop an Action Plan for Sustainability that includes all City departments and internal operations designed to apply the triple bottom line of sustainability.<sup>7</sup> Policies and programs that affect stakeholders external to the City as an employer were not included in the project boundary. Also, it was outside of the scope of the Action Plan to cover regulatory compliance issues or to serve as a management system.

### *Leadership and Guidance*

The City's Environmental Leadership Team (ELT), which directed early planning phases of the Action Plan, established a technical team to develop targets and implementation schemes. The technical team consisted of 18 members from each service area across the City (City Manager, Library and Recreation, Purchasing, Planning and Environmental Services, Transportation, Utilities, Communications, and Neighborhood Resources). The Brendle Group, Inc. and its subcontractor, Colorado State University Institute for the Built Environment, facilitated the team process, providing technical support in developing the Action Plan. In addition, the U.S. Environmental Protection Agency (EPA) Region 8 provided in-kind technical support to the process. The team met monthly from April through August.

### *Programs and Scope*

The technical team developed the following objectives related to the nine priority topics:

---

<sup>7</sup> In practical terms, triple bottom line (TBL) accounting means expanding the traditional reporting framework to take into account environmental and social performance in addition to financial performance. TBL is often referred to as "the three e's" – economics, environment, and social equity – or "three p's" – people, planet, and profit. The phrase was coined by John Elkington in 1994.

- A. General Purchasing. Establish a purchasing guideline.
- B. Auto Vehicles and Equipment. Purchase the highest fuel efficient and/or lowest emission vehicles for the requested transportation application.
- C. Employee Health. Increase overall mental and physical health of employees. Value mental and physical health within the City organization.
- D. Employee Safety. Incorporate a City-wide program fostering a culture of safety that is supported by administration and practiced throughout the organization.
- E. New Construction and Major Retrofit. Pursue the Leadership in Energy and Environmental Design for New Construction and Major Renovations (LEED-NC) Silver requirements.
- F. Operations and Maintenance. Report utility usage for all City buildings to promote resource efficiency.
- G. Water Use Management. Reduce water use at City-owned landscapes.
- H. Employee Commuting. Reduce employee single occupancy vehicle trips. Increase the number of work-related trips using ultra low emitting vehicles (ULEVs).
- I. Office Recycling and Waste Reduction. Institute reduction practices.
- J. Management Tools Planning. Make sure the Action Plan for Sustainability does not sit on a shelf. Institute the ongoing maintenance of the Action Plan for Sustainability. Reflect sustainability in the capital planning process.

Next, Goals and Related Targets were developed, including a completion schedule. Examples of goals and targets are as follows:

**A. Sustainable Purchasing - General**

- Goal: Establish a purchasing guideline.
- Target: Publish a purchasing guideline by December 2004.

**B. Sustainable Purchasing - Auto Vehicles and Equipment**

- Goal: Purchase highest fuel efficient and/or lowest emission vehicles for the requested transportation application.
- Target: Purchase three to five of the highest fuel efficient and/or lower emission light-duty City fleet vehicles per year according to the Environmental Project Agency's Green Vehicle Guide 1.

The first task in the Action Plan was creation of an inter-departmental implementation team responsible for reporting biannually on progress toward the goals and targets. Ultimately, individual departments are responsible for implementation of actions for achieving targets. However, the implementation team provides support and is responsible for measuring and reporting progress toward the targets. A detailed schedule for new goals and targets was developed in coordination with individual departments, followed by

implementation plans that include specific resource needs, responsible staff members, and timelines. The final step is to communicate Action Plan and Implementation Plan components to City employees.

# Santa Monica Sustainable City Program, Santa Monica, CA

## *Background*

In 1994 the Santa Monica City Council adopted the Santa Monica Sustainable City Program, created and proposed by the City's Task Force on the Environment. The Sustainable City Program provides an overarching set of guidelines for all City operations, and provides criteria for evaluating the long-term impacts of decisions.

Development of the Plan was guided by the Sustainable City Task Force – a large group of community stakeholders that included elected and appointed officials, City staff, and representatives of neighborhood organizations, schools, the business community and other community groups. The Task Force evaluated the long-term sustainability of Santa Monica using a framework comprised of three forms of community capital: natural capital – the environmental resources of the community; human and social capital – the connectedness among people in the community and the education, skills and health of the population; and financial and built capital – manufactured goods, buildings, infrastructure, information resources, credit and debt.

The Sustainable City Plan includes goals for the City government and all sectors of the community: to conserve and enhance local resources, safeguard human health and the environment, maintain a healthy and diverse economy, and improve the livability and quality of life for all community members in Santa Monica. Bi-annual progress reports are compiled by the Task Force on the Environment.

## *Leadership and Guidance*

The City's Task Force on the Environment assumed the initial leadership role on behalf of the community for the Sustainable City Program. With the update and expansion of the Sustainable City Plan into new and more diverse goal areas, the Task Force on the Environment recommended the creation of a Sustainable City Task Force (SCTF) that includes broad representation from community stakeholders with expertise in all of the SCP goal areas. The Sustainable City Task Force was created in 2003 to provide leadership and guidance for implementation of the SCP.

At the City staff level, the Sustainable City Program is managed by three full time employees (FTE's): a Director, a Purchasing Specialist, and an Outreach Specialist. The Director is tasked with working with each City department to help meet targets. The entire staff provides technical assistance to departments in four specialty areas: Toxic substance use reduction, green building, energy efficiency, and stormwater management. An interdepartmental Sustainability Advisory Team (SAT) was created to coordinate existing City activities so that they are consistent with the

Sustainable City goals and to facilitate the future implementation of innovative programs and policies to achieve the goals. Members of this group serve as Sustainable City liaisons to their respective departments.<sup>8</sup>

The SCTF and the SAT are responsible for developing a comprehensive implementation plan for meeting Sustainable City goals and targets, and for coordinating implementation, both interdepartmentally and between the City and community stakeholder groups.

### *Programs and Scope*

The Sustainable City Program was created using two well-known tools, The Natural Step (TNS) sustainability framework and the Ecological Footprint calculator. The City enlisted the help of Doug McKenzie-Mohr to guide a “community-based social marketing” initiative that rallied residents around the concept of The Natural Step. The City worked with Redefining Progress to examine its Ecological Footprint in 1999 and again in 2004 to show reductions in land-use area and development impacts.

The Plan is founded on nine Guiding Principles – created during a community visioning process – which provide the basis for policy and program decisions. Eight Goal Areas encompass the Guiding Principles:

- Resource Conservation
- Environmental and Public Health
- Transportation
- Economic Development
- Open Space and Land Use
- Housing
- Community Education and Participation
- Human Dignity

For each Goal Area specific Indicators have been developed to measure progress toward meeting the goals. Indicators are tools that help to determine the condition of a system, or the impact of a program, policy or action. Two types of indicators are tracked as part of the Sustainable City Plan. System level indicators measure the state, condition or pressures on a communitywide basis for each respective goal area. Program level indicators measure the performance or effectiveness of specific programs, policies or actions taken by the City government or other stakeholders in the community.

Specific Targets have been created for many of the indicators (see Figure 1A.4 1) – the targets are for the year 2010 and use data from 2000 as a

---

<sup>8</sup> Santa Monica’s sister city, Culver City, is developing a Sustainable City Program based on the Santa Monica model. Staff requirements for the new Culver City program have included one lead and three support staff, borrowed from city departments. Total new hours are equivalent to one FTE.

baseline. For some indicators no specific numerical targets have been assigned. This was done where development of a numerical target was determined to be not feasible or where limits on data type and availability made it difficult to set a numerical target. In many cases a trend direction was substituted for a numerical target. Many of the goals and indicators measure more than one area of sustainability. A Goal/Indicator Matrix was developed to show linkages.

**Figure 1A.D 1** Example of the City of Santa Monica's Indicators and Targets. Note that Indicators are specific and measurable. Targets have both numeric targets and time components.

<u>Indicators – System Level</u>	<u>Targets</u>
<b>Solid waste generation</b> <ul style="list-style-type: none"> <li>▪ Total citywide generation (also report per capita and by sector)</li> <li>▪ Amount landfilled</li> <li>▪ Amount diverted (recycled, composted, etc) from landfill</li> </ul>	Generation: Do not exceed year 2000 levels by 2010  Diversion: Increase amount diverted to 70% of total by 2010
<b>Water use</b> <ul style="list-style-type: none"> <li>▪ Total citywide use (also report per capita and by sector)</li> <li>▪ Percent local vs. imported</li> <li>▪ Potable vs. non-potable</li> </ul>	Reduce overall water use by 20% by 2010. Of the total water used, non-potable water use should be maximized  Increase percentage of locally-obtained potable water to 70% of total by 2010
<b>Energy use</b> <ul style="list-style-type: none"> <li>▪ Total citywide use (also report per capita and by sector)</li> </ul>	(Target pending completion of Greenhouse Gas Emission Reduction Strategy in 2003)

The Sustainable City Program is financed through enterprise funds, which are used to account for revenues received for goods or services provided to the general public on a continuing basis and primarily financed through user charges. Because the City is its own water and solid waste utilities, it generates revenue from services such as wastewater conveyance and treatment, water provision, and waste management. Portions of revenue are dedicated toward the Sustainable City Program. Enterprise funds must be linked by common elements – for instance, sustainability strategies that address water use and treatment must be funded by fees from water use and treatment services.<sup>9</sup>

<sup>9</sup> One-third of municipal sustainability programs nationwide are financed via enterprise funds. Fees can be tied to waste hauling and management, water-related services, and other City services, providing the area of service from which fees are derived is the same as the area governed by the sustainability program.

# Whistler 2020 Sustainability Plan, Whistler, BC, Canada

## *Background*

Whistler2020 is the Resort Municipality of Whistler (RMOW) plan for sustainability. The plan includes a set of guiding principles similar to those of The Natural Step (TNS), a sustainability framework that was the inspiration for the town's sustainability movement. Whistler2020 is the highest policy level in the municipality – no policy can supersede the Plan, and every government decision is vetted through the Plan.

RMOW decided to develop its sustainability plan in 1999, and a consortium of government entities, large businesses, and NGOs agreed in 2000 that the best framework for this process would be The Natural Step. This started a three-year visioning process called Whistler: It's Our Future. Whistler2020 was adopted in 2002, the first in North America to adopt a comprehensive sustainability plan at its highest level. This evolved into the 2020 document.

Whistler2020 was developed in four phases over three years of consultation and community collaboration before it was adopted in 2005. During Phase 1, the community identified "success factors". In Phase 2, five alternative futures were explored and assessed by the community. Phase 3 involved crafting a preferred future and developing the draft plan with the involvement of sixteen community task forces. In Phase 4, the preferred future was transformed into the Whistler2020 vision, and the sixteen strategies were completed with ongoing action-planning by the strategy task forces and on-the-ground implementation through the involvement and commitment of a broad spectrum of implementing organizations throughout the community.

## *Leadership and Guidance*

The Whistler2020 plan was created by 30 Whistler2020 Partner organizations, and is managed by a three-person government team – a Community Engagement Manager, an Internal Project Manager, and a Sustainability Coordinator. Plan updates and performance targets are guided by 16 Task Forces comprised of more than 140 members from 75 official Implementing Organizations. Whistler2020 Partners have each signed Partnership Agreements that express commitment to work cooperatively toward achieving the stated Vision and Priorities of the Plan.

Ongoing action planning is driven by a wide group of interested community members – each holding expertise, experience and/or representative perspectives in specific strategy areas. The 16 Whistler2020 task forces meet on an annual basis to assess progress and prioritize recommended actions for moving forward. By tapping into the breadth and depth of knowledge represented on task forces, the community focuses its limited resources on identifying actions that may not otherwise be identified by individual organizations and that may better leverage synergies within the community.

Whistler2020 Implementing Organizations review task-force recommended actions, implement those that are feasible, and report progress to the community.

### *Programs and Scope*

The Whistler2020 Plan has at its heart the principles of sustainability, but the plan is equally committed to performance monitoring and hard data (one of the precepts of The Natural Step framework).<sup>10</sup> The Whistler2020 Monitoring Program consists of a monitoring and reporting system that tracks status and progress towards the Vision and strategy Descriptions of Success. Performance is reported at three levels:

- **Core Indicators** – Core indicators provide high level, ‘Whistler-at-a-Glance’ information for tracking progress relative to the Vision, Priorities and Sustainability Objectives.
- **Strategy Indicators** – Strategy indicators provide more detailed information for tracking progress relative to each of the sixteen strategy Descriptions of Success.
- **Context Indicators** – Context indicators provide additional information about the resort community, and are not directly linked to Whistler2020 performance.

Reporting is the process of communicating monitored information to a chosen audience. The Whistler2020 Team characterizes effective reporting by:

- Completeness – concerning the unbiased inclusion of performance in all areas
- Materiality – reflecting the needs of key stakeholder groups
- Timeliness – current enough to be used as an effective input for decision making
- Credibility – potentially verified or deemed reliable by the users
- Accessibility – communicated in a way that is accessible by key stakeholders

Once Whistler’s Vision and Strategy Descriptions of Success were established, the first step was to identify appropriate indicators. The Whistler2020 team conducted external research to identify best practice indicators used in other jurisdictions, as well as internal research to

---

<sup>10</sup> The Natural Step sustainability principles present four science-based conditions for achieving a sustainable society: Reduce and eventually eliminate contributions to systematic increases in concentrations of substances from the Earth’s crust; reduce and eventually eliminate contributions to systematic increases in concentrations of substances produced by society; reduce and eventually eliminate the contributions to systematic physical degradation of nature; and, reduce conditions that undermine the ability of others to meet their basic human needs.



understand what was already being reported within Whistler. The results of this research were then proposed to various users and data providers, who reviewed potential options and added their own suggestions. This revised list of potential indicators was then assessed against specific criteria to assess tradeoffs and prioritize the options. Criteria included:

- Reliability
- Validity
- Resource Intensity / Information Availability
- Comparability

The second step in the monitoring process was to collect the baseline indicator data. In some cases, the data gathering systems already existed, and in others, they had to be developed. The third step was to analyze the data and prepare preliminary findings, which were reviewed by task forces and other interested stakeholders.

Whistler2020 is divided into 16 strategic areas of emphasis. Each strategic area has multiple indicators and targets that are closely monitored – a total of 103 indicators. Data are presented via the Whistler2020 Monitoring Report, which is communicated through the Whistler2020 website and through other channels.

Two Internet-based tools are used to efficiently document and report indicator data. The Explorer Tool is the tracking and monitoring tool, intended to make the process transparent and to ensure accountability. The Action Browser allows users to filter actions according to lead, year, or strategy. Both tools were developed by RMOW with a UK firm called Credit 360, which specializes in web-based data monitoring and dissemination.<sup>11</sup> The RMOW Council bases political actions on the sustainability actions documented online.

Data is derived from a variety of sources, both within Whistler (e.g. Resort Municipality of Whistler (RMOW) and Tourism Whistler) and external to Whistler (e.g. Statistics Canada, BC Hydro). In addition to existing data sources, the Whistler2020 Monitoring Program requires the development of new forms of data gathering in areas that were either not measured previously, or where the current data sources are not sufficiently timely or valid for use in decision-making. In 2005 and 2006, two additional data gathering tools were developed and executed: an annual Whistler community survey; and a Whistler affordability report. Whistler2020 Task Forces are reconvened every year to assess progress and to prioritize actions. Each Task Force reviews the results of past recommended actions, evaluates the most current indicator data, strategically

---

<sup>11</sup> <http://www.credit360.com/credit2/site/home.acds?context=1847001&instanceid=1847002>

assesses local and regional opportunities and then presents a recommended set of actions – each capable of moving our community one step closer to their Vision.

All task force recommended actions have an identified Lead implementation organization, and often one or more Assisting organizations. All organizations that have been identified as a potential implementing organization are then presented with a list of recommended actions, and asked to consider incorporating these actions into their next year's work plan. If the organizations decline the responsibility of implementation, a detailed public rationale must be provided so that transparency and accountability are maintained and so that the task forces can evaluate the responses and improve subsequent recommendations.

If the organizations accept the responsibility, they confer with the potential assisting organizations, craft an implementation plan, and execute the action in the recommended year. Additionally, they commit to providing two brief progress reports back to community through the Whistler2020 website (July and December).

In 2005 task forces cumulatively recommended 215 actions – 144 of which were accepted (67%); in 2006, 160 were recommended and 115 accepted (72%). Of the 144 accepted 2005 actions, 79.9% either achieved full outcome (39.6%), partial outcome (13.9%), or are currently in progress (26.4%). However, the system's strength can at times be a weakness – representatives acknowledge that “accepting an action is not the same as executing it.” While 15 actions from the 2005 list were moved to the 2006 implementation year, roughly 7% were not initiated at all.

The RMOW does not provide funding for actions – there is no “heavy hand”. It is understood that leads on action items are responsible for implementing action items. Technology is used to remove mid-level management – for instance, the Action Browser is used to assign actions to lead organizations.

## City of Burlington Legacy Project, Burlington, VT

### *Background*

The Legacy Project is a sustainability initiative for the City of Burlington – a community visioning process without centralized city management. Initiated in 1999, the goal of the Legacy Project is to engage Burlington citizens in a comprehensive process to develop a community vision and plan for the future of the city. Citizens from all neighborhoods and sectors were asked to imagine what they wanted Burlington to look like in the year 2030 and, through the visioning process, determine how this could be achieved. The process led to creation of a community vision:

- Maintaining Burlington as a regional population, government, cultural, and economic center with livable wage jobs, full employment, social supports, and housing that matches job growth and family income
- Improving the quality of life in neighborhoods
- Increasing participation in community decision-making
- Providing youth with high-quality education and social supports, and lifelong learning opportunities for all
- Preserving environmental health

The following principles were identified as the base of the community's vision:

- Economic security, local self-sufficiency and equity
- Empowerment and responsibility
- Social wellbeing
- Ecological integrity

Through a large-scale public process, these principles were further developed into the Legacy Project Action Plan, which included goals and objectives, but no means of measuring progress.

### *Leadership and Guidance*

The planning process, Burlington's most extensive participation effort to date, was directed by a steering committee comprised of stakeholders from non-governmental (NGO) and business institutions along with youth and municipal representative, as well as leaders from low-income, social service, academic and environmental communities. The involvement of these stakeholders was critical to the success of the project.

The Institute for Sustainable Communities, an international NGO based in Vermont, provided guidance on defining sustainability and information on similar processes in cities around the world. During a period of a year-and-a-half, more than 1,000 residents contributed to the development of the vision. The multi-faceted participation process included a survey asking residents to

identify the city's strengths and weaknesses; a series of focus groups to discuss neighborhood and subject-specific issues; a youth participation component; informal discussions with community-based organizations; and a series of public hearings on the first draft of the plan.

### *Programs and Scope*

The Legacy Project steering committee explicitly framed the program as a community vision owned by all City residents, rather than as a centrally managed program with performance targets. In 2001, principles and objectives in the Legacy Project Action Plan were integrated into the city's overall Municipal Development Plan. The City has developed a number of more specific plans, including a climate action plan, a 10% challenge plan to reduce emissions, an open space protection plan, and an urban forestry master plan.

Financing and staffing of Burlington's sustainability initiatives are managed by the individual municipal departments responsible for different issue areas and projects. Staff members included a Legacy Project Director and two community organizers. Startup funding for The Legacy Project was provided by a grant of \$98,000 from the United States Environmental Protection Agency. The Institute for Sustainable Communities, the main project partner, received funding from the Jane B. Cook 1992 Charitable Trust. Financing for project implementation by the Legacy Project was \$100,000. This budget is very small in comparison to the city's budget, which in FY 2002 was \$158 million.

The lack of a sustainable funding model has compromised the effectiveness of The Legacy Project in advancing sustainability initiatives. In contrast to the Fort Collins, Santa Monica, and Whistler sustainability programs, the Burlington program does not have specific indicators and metrics: a performance monitoring program, called the Burlington Legacy Project Community Indicators, managed by the University of Vermont Center for Rural Studies, was canceled due to insufficient funding.

The Legacy Project is thus a set of guiding principles intended to steer policy, but without substantial monitoring or measurement to indicate progress. However, many objectives have been integrated into the Municipal Development Plan (similar to a Comprehensive Plan), including:

#### Air Quality:

- Provide for safe bicycle and pedestrian access
- Promote and invest in nonpolluting transportation technologies
- Invest in ongoing air quality monitoring and reporting

#### Lake Champlain Water Quality

- Minimize use of pollutants

- Implement broad-based environmental education
- Invest in ongoing water quality monitoring and reporting

#### Energy and Resource Conservation

- Explore sustainable, renewable energy sources
- Implement energy conservation measures
- Provide incentives for reuse and recycling efforts

## Appendix B. Sustainable City Programs in North America

### Sustainability Programs Evaluated

1. The Livable Tucson Vision Program, Tucson, AZ
2. Whistler 2020 Comprehensive Sustainability Plan, Whistler, BC
3. The South Coast Community Indicators Project, Santa Barbara, CA
4. Santa Monica Sustainable City Plan, Santa Monica, CA
5. The Sustainability Program, Boulder, CO
6. Fort Collins Action Plan for Sustainability, Fort Collins, CO
7. Vision for a Greater New Haven, New Haven, CT
8. Jacksonville Indicators Project, Jacksonville, FL
9. IndyEcology, Indianapolis, IN
10. Sustainable Lansing, Lansing, MI
11. EcoVillage at Ithaca, Ithaca, NY
12. City of Cleveland's Sustainability Program, Cleveland, OH
13. City of Portland Sustainable Development Commission *Resourceful Government Guide*, Portland, OR
14. Sustainable Chattanooga, Chattanooga, TN
15. Sustainable Communities Initiative, Austin, TX
16. Grantsville General Plan for Sustainable Community, Grantsville, UT
17. City of Burlington Legacy Project, Burlington, VT
18. Sustainable City Indicators/Sustainable Community Roundtable, Olympia, WA
19. Sustainable Seattle's *Indicators of Sustainable Community*, Seattle, WA

### Other North American Indicator and Measurement Projects

1. Bay Area Alliance for Sustainable Communities' *Bay Area Indicators: Measuring Progress toward Sustainability*, San Francisco, CA
2. City of Berkeley: *Sustainable Community Inventory*, Berkeley, CA
3. City of Pasadena Public Health Department's *Pasadena / Altadena Quality of Life 2003 Index*
4. Crossroads Resource Center's *Fifty-Year Vision and Indicators for a Sustainable Minneapolis*, Minneapolis, MN
5. Fraser Basin Council's 2004 State of the Fraser Basin Report Sustainability Snapshot 2
6. Governor's Sustainable Washington Advisory Panel's *Progress Report on the Action Plan for a Sustainable Washington*
7. Healthy Community Initiative, St. Joseph, IN (in *The Community Indicators Handbook*)
8. Indicators for a Sustainable San Mateo County: 2005 Report Card on our County's Quality of Life

9. Jacksonville Community Council, Inc.'s *Quality of Life 2004 Progress Report, Jackson*
10. Joint Venture's *Index of Silicon Valley*
11. Morrison Institute for Public Policy's *What Matters in Greater Phoenix* (1999) and *What Matters: The Maturing of Greater Phoenix* (2004), Phoenix, AZ
12. Multnomah County's *The Environmental Health of Multnomah County 2003*
13. Multnomah County Progress Board Benchmarks
14. Multnomah County Service Efforts & Accomplishments: Public Safety 2003
15. Nantucket Sustainable Development Corporation's *Sustainable Nantucket: A Compass for the Future*
16. Neighborhood Knowledge for Change's *West Oakland Environmental Indicators Project*
17. Northwest Environment Watch's *Cascadia Scorecard*
18. Oregon Progress Board's *Achieving the Oregon Shines Vision: The 2005 Benchmarks Performance Report*
19. Oregon Progress Board's *Benchmarks*
20. Oregon Progress Board's *State of the Environment Report 2000* (paper copy only)
21. Portland-Multnomah County Progress Board Benchmarks
22. Quality of Life in the Truckee Meadows, Washoe, Reno Counties, NV (in *The Community Indicators Handbook*)
23. Quality of Life Indicators in Toronto, Canada (in *The Community Indicators Handbook*)
24. Santa Barbara South Coast Community Indicators 2003
25. Southern Oregon Quality of Life Index (<http://www.sou.edu/sorsi/Qlife.htm>)
26. Sustainability Plan for the City of San Francisco (<http://www.sustainable-city.org>)
27. The New Jersey Sustainable State Institute's *Living with the Future in Mind: Goals and Indicators for New Jersey's Quality of Life 2004*
28. United Way Community Indicators, Greenville, SC (in *The Community Indicators Handbook*)
29. Yale Center for Environmental Law and Policy and the Center for International Earth Science Information Network's *2005 Environmental Sustainability Index: Benchmarking National Environmental Stewardship*

# Appendix C. Draft Green Street Design Guidelines

## “Green Streets”

The Community Design Element directs the City to develop a program to implement “Green Street” improvements that prioritizes connections to schools, parks, neighborhood centers and other key destinations. The public works department is charged with developing “Green Street” transportation standards to overlay existing street design standards. The “Green Street” standards will provide guidelines for an enhanced streetscape, including street trees, landscaping, lighting, pathways, crosswalks, bicycle facilities, decorative paving, signs, seasonal displays, and public art. The “Green Street” standards proposed in **Table 6-2** vary with the underlying street classification.

**Recommendation:** Adopt the recommended transportation “Green Street” standards in **Table 6-2** for arterials and neighborhood collectors. Conduct a planning study with the storm and surface water utility to identify an initial “Green Street” corridor.

**Table 6-2. Design Guidelines for Transportation “Green Streets”**

	Arterial “Green Street”	Neighborhood Collector “Green Street”
Vehicle Travel Lanes	2, 3 or 5	2
Vehicle Speed	Moderate	Slow
Turn/Median	Mix of medians and turn lanes that provide pedestrian refuge	None
On-Street Parking	Allowed	Usually
Landscaping	Street trees, landscaped medians and buffers between roadway and sidewalk	Street trees and buffers between roadway and sidewalk or mixed use path
Public Art	Included	Not included
Transit Amenities	High quality service supported with amenities at major stops and station areas	Buses/transit stops not generally allowed
Pedestrian Amenities	Sidewalk with buffering, special lighting and special crossing amenities tied to major transit stops	Sidewalk or mixed use path, with buffering, lighting and special crossing amenities
Bikeways	Striped or shared	Shared roadway or mixed use path
Drainage	Consider street edge alternatives that reduce storm water runoff from streets.	Consider street edge alternatives that reduce storm water runoff from streets.
<i>Note: Application of “Green Street” design elements and guidelines shall depend upon the unique characteristics of the design project, available right of way, and the character and intensity of planned land use.</i>		



# Appendix D. Sustainability Strategy Logo and Branding ideas



Green and growing  
Growing Green  
Building on a legacy of education for a greener future  
Shoreline Sustainability Strategy: Creating the Action Plan for a Better Tomorrow...or...Our  
Vision for a Better Future...or...Building a Green Legacy

or

Growing Green: Building a Sustainable Legacy  
Growing Green: An Action Plan for a Sustainable Legacy  
Shoreline Sustainability Strategy: An Action Plan for Growing Green  
Shoreline Sustainability Strategy: A Green Action Plan

Maybe we also have a tag line that is different for the community conversation #1 – maybe  
its:

Community Conversation #1  
Green Vision: Establishing the Framework for a Sustainable Shoreline

Or

VisionGreen: Creating the Framework for the Shoreline Sustainability Strategy

