




ENVISIONING SEATTLE'S GREEN FUTURE



*Visions and Strategies from
The Green Futures Charrette*

**OPEN SPACE SEATTLE 2100
JULY 2006**

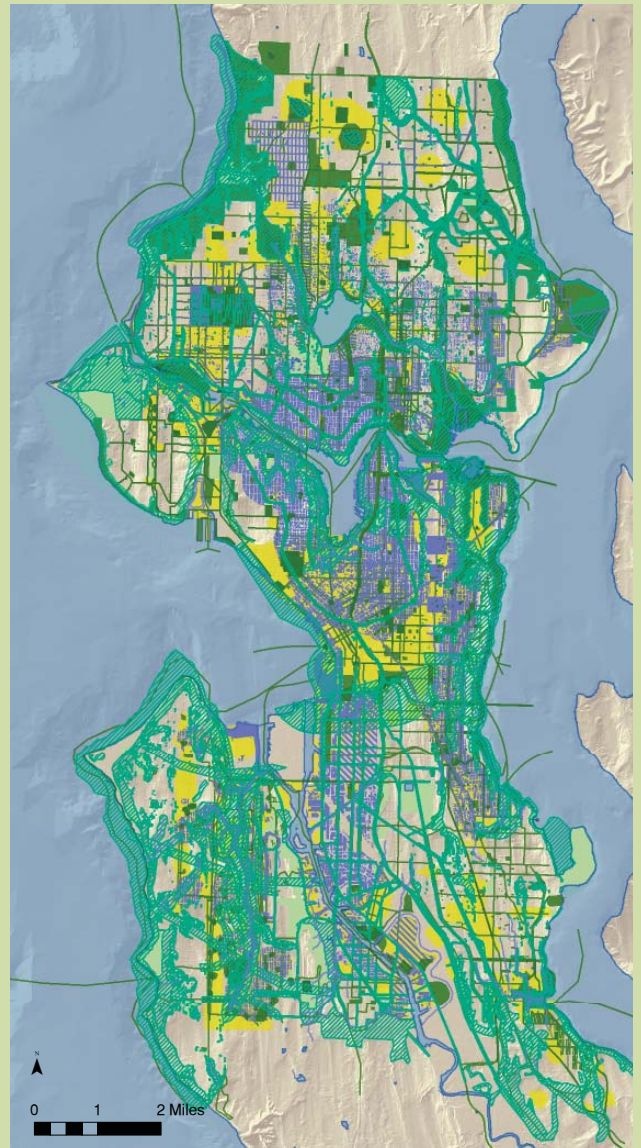
A photograph of a tree-lined path, likely in a park or residential area. The path is paved and curves gently to the right. On the left side of the path, there is a black street lamp with a white globe. The trees are tall and slender, with light-colored bark and dense green foliage. The background is slightly blurred, showing more trees and a hint of a building. The overall atmosphere is peaceful and natural.

In designing a system of parks and parkways the primary aim should be to secure and preserve for the use of the people as much as possible of these advantages of water and mountain views and of woodlands, well distributed and conveniently located.

*- John Charles Olmsted
Report of the Olmsted Brothers
to the Seattle City Council, 1903*

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The Green Futures Charrette
February 3-4, 2006*



a publication of the Open Space Seattle 2100 Project
Department of Landscape Architecture
College of Architecture and Urban Planning
University of Washington
July 2006

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Content generated by participants in the Green Futures Charrette

this report can be downloaded at www.open2100.org

PROJECT SUMMARY

Within the next century, at least another half-million people will need to fit within Seattle’s city limits, a doubling of our current population. How will the city retain its famed livability, while accommodating and attracting new residents away from sprawling over our last farms and forestlands? Further, how will we achieve the carbon-neutral status that the City is aiming for, restore our salmon runs, and cope with the impacts of global climate change and post-peak oil prices?

If Seattle is to be the vibrant ecological city we earnestly want it to be, it will only get there through careful and visionary planning. While our steps may be incremental, the vision must be clear, unwavering and bold, so that we know what we want to be and can seize opportunities to get us there. That is the premise of Open Space Seattle 2100 and the departure point for the participants of the Green Futures Charrette.

This planning endeavor enlisted the talents, skills and dedication of over 300 people, to whom future Seattle citizens will be deeply indebted. The high level of participation by professionals, citizen activists and students allowed every part of the city to be considered from multiple perspectives. Our approach reflected the 100-year time frame, dividing the city into its underlying, immutable topographic and watershed basins--not unlike the Olmsted Brothers’ plan of a hundred years ago that marked ravines, ridgelines, shorelines and peninsulas to preserve as open space.

These plans are the result of a two-day charrette, but they represent almost a year of careful preparation and study by our Guidance Committee and students, and in several cases are next iterations of long-formed community groups’ visions. As in any plan, these ideas need additional refinement, ground-truthing and public input, but they are a very solid beginning.

The Open Space Seattle work provides a spatial template for developing an integrated green infrastructure for all of Seattle. Taken as a whole, the proposals also suggest a framework of green urbanism policies that propel us toward civic action. The big planning moves that all 23 teams advocated are clear:

First, create an integrated, connected “green infrastructure” that supports urban functions without damaging the atmosphere or water: bikeways, green freeways, natural drainage filtration, and tree canopy cover are all part of that system.

Second, plan for density and community, by focusing development into urban nodes that contain civic spaces, local identities, walkable amenities and abundant public transit.

Third, strive for ecological open spaces, in both public and private realms, that restore ecological functions and promotes biodiversity on land and in our waters. Growing healthy, connected urban forests, restoring streams and shorelines, and reclaiming earthquake and hazard zones as greenbelts are examples.

Finally, provide democratic access to open space, so that all people, in all neighborhoods, can reap the benefits of a multi-faceted open space system.

We invite you to explore the ideas for each study area contained herein to learn how and where to make those planning and design moves at the neighborhood scale.

This work will only come to fruition with the memory and continued support of city officials and staff, professional planners and citizen activists to advance next phases of planning. With this bold plan for Seattle’s Green Infrastructure in hand, the process of verifying and vetting the vision needs to continue, watershed by urban watershed. Also, the City’s beginning efforts at interdepartmental collaboration need to be broadened if we are to achieve an efficient and integrated green infrastructure. Perhaps most important, funds for acquisition, development and restoration must be allocated—through finding interagency efficiencies in existing budgets and renewal of our expiring levies—so that the visions can begin to be implemented before the opportunities escape. And, all of this will require constant citizen advocacy and hard work.

But it will be worth it. As one young citizen wrote after seeing our exhibit of this work, “This is the Seattle I want for my future.”

Nancy Rottle and Brice Maryman
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July 2006

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Fritz Wagner, College of Architecture and Urban Planning

City of Seattle

PROCLAMATION

WHEREAS, Seattle's population is expected to at least double within the next 100 years; and

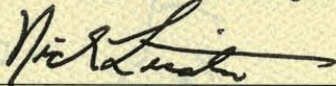
WHEREAS, To remain a livable city while increasing density Seattle must possess an open space system that gives people access to green spaces where they live, commute and work; and

WHEREAS, Open Space Seattle 2100 is a coalition of urban leadership that is sponsoring a public discourse and planning process to engage citizens in a collaborative visioning of Seattle's open space network; and

WHEREAS, The centerpiece of the project was a planning charrette that generated comprehensive vision plans including implementation strategies and priority recommendations for a city-wide open space network; and

WHEREAS, The open space plans were based upon a set of guiding principles;

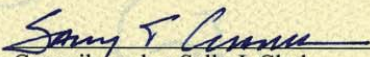
NOW THEREFORE, BE IT PROCLAIMED BY THE SEATTLE CITY COUNCIL that the Seattle City Council endorses the guiding principles of Open Space Seattle 2100 and its goal to create a bold, integrated Open Space Plan with implementation strategies for Seattle's next hundred years which will enhance the health and well-being of both our cultural and natural environments. This vision of a regenerative green infrastructure will strive to create a healthy, beautiful Seattle while maximizing our economic, social and ecological sustainability.



Council President Nick Licata



Councilmember Richard Conlin (sponsor)



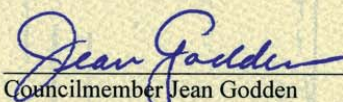
Councilmember Sally J. Clark



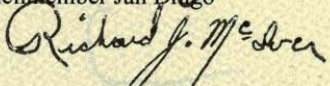
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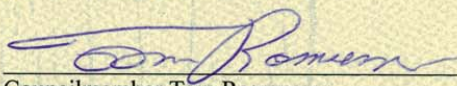
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In May 2006, the Seattle City Council endorsed the principles of the Open Space Seattle 2100 project.

PLAN GOAL AND GUIDING PRINCIPLES

Plan Goal

To create a bold integrated Open Space Plan with implementation strategies for Seattle’s next hundred years, which will enhance the health and well-being of both our cultural and natural environments. This vision of a regenerative green infrastructure will strive to create a healthy, beautiful Seattle while maximizing our economic, social and ecological sustainability.

Guiding Principles for the Open Space Plans

1. REGIONAL RESPONSIVENESS

Consider Seattle’s role as an ecological, economic, and cultural crossroads; its location in one of the world’s great estuaries and between two dramatic mountain ranges; its critical position as a threshold to two major watersheds (Cedar and Green/Duwamish); and its relationship to salt and fresh water bodies throughout the city.

2. INTEGRATED AND MULTI-FUNCTIONAL

Integrate a variety of types of open space within a unifying, coherent structure. Incorporate considerations for streets, creeks, parks, habitat, urban forests, trails, drainage, shorelines, commercial and civic spaces, back yards and buildings. Consider layering multiple functions and uses within green spaces to create high-functioning, high value open spaces.

3. EQUITY AND ACCESSIBILITY

Within a network of open spaces provide equitable access for all persons to a variety of outdoor and recreational experiences. Distribute appropriate open space types to every neighborhood, in order to address the needs of diverse population groups. Prioritize public access to water.

4. CONNECTIVITY/COHERENCE

Create a wholly connected system that facilitates non-motorized movement, enhances habitat through connectivity, links diverse neighborhoods, and is easy to navigate and understand. Connect these in-city amenities to surrounding communities, trails and public lands.

5. QUALITY, BEAUTY, IDENTITY and ROOTEDNESS

Use Seattle’s many natural strengths to create an exemplary, signature open space system. Build on intrinsic qualities, both natural and cultural; reflect, respond to and interpret geographic, ecological, aesthetic and cultural contexts; address emotional and spiritual needs; and inspire a deep connection to place.

6. ECOLOGICAL FUNCTION AND INTEGRITY

Expand the quantity and quality of natural systems in the city: Provide quality habitat for all appropriate species, with a special emphasis on the waters’ edge. Design for hydrological health (water temperature, water quality, water regimes, stormwater), and consider appropriate water and resource conservation strategies. Connect to regional ecosystems in order to achieve integrity, resiliency and biodiversity in the face of climate change.

7. HEALTH AND SAFETY

Continue to make the city a safe and healthful place to live. Reduce the risk of natural hazards (slides, flooding, earthquake, soil and water contamination) while reclaiming and treating previously toxic sites. Provide multiple opportunities for exercise, physical activity, and a connection to nature to be integrated into daily lives.

8. FEASIBILITY, FLEXIBILITY AND STEWARDSHIP

While visionary, the plan should be lasting and feasible, with a complementary set of near-term implementation strategies that include mechanisms for both public and private investment that are achievable in incremental steps and adaptable over time. (e.g. codes, funding sources and incentives). It should be maintainable, inspiring shared stewardship between public agencies, private businesses, and individual citizens to foster pride, purpose and community.

PROJECT DESCRIPTION AND BACKGROUND

Open Space Seattle 2100 and The Green Futures Charrette

In the early days of February 2006, over 300 of Seattle's citizens participated in the Green Futures Charrette to create a long-range vision for Seattle's open space network. Over the course of two full days and many weeks of preparation, twenty-three charrette teams composed of planners, designers, environmentalists, city officials developers, artists, and open space advocates envisioned livable, ecologically-healthy and socially-robust urban watersheds and neighborhoods for the city's sustainable future.



Teams envisioned Seattle as a dense, magnet city that would accommodate twice Seattle's current population. Each team focused on a distinct watershed-based study area delineated by the natural ridges in the city's topography, crossing neighborhood boundaries to weave green infrastructure within and between communities. Taken together, the plans reach from the city limits to the downtown core, creating a comprehensive network of parks, civic spaces, streets, trails, shorelines, creeks, natural drainage features and urban forests. This collaborative vision binds neighborhoods to one another, provides ecological conduits from the city's ridgelines to its shorelines, and proposes a wealth of green spaces for all of Seattle's future citizens to enjoy.

Themes and Strategies



Developing Visions for Seattle's Living Lattice

Charrette teams worked on two time scales, first envisioning what their study area's open space layout might be a full century from now and then proposing 20-year plans with near-term priorities and implementation strategies. Every team was given a set of predicted future scenarios i.e., over a million people living within the city limits, changing climatic conditions and water supply regimes, elevated oil prices, and new transportation modes.

To assist in these visioning exercises, graduate and undergraduate students in the UW Regional Planning and Neighborhood Design Landscape Architecture studios served as co-team leaders with professionals on each study area team. After the charrette, these students worked tirelessly to refine and digitize their teams' plans using Geographic Information Systems (GIS) software. They were then able to create detailed maps representing the 100-year and 20-year plans. These same students further developed ideas seeded in the charrette process, and illustrated them in the contexts

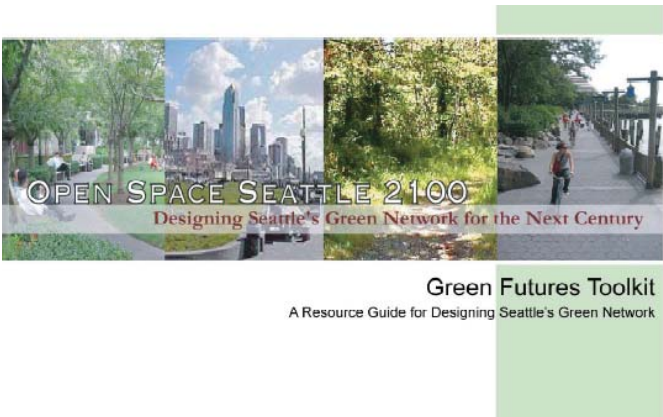


of their charrette teams' proposals. Students have herein described their design work and their teams' ideas and plans in sections representing each of the city's eighteen separate watershed areas.

With plans digitized into GIS databases, we were able to combine the eighteen study areas into the overall Green Infrastructure Visions for 2025 and 2100 that are presented in this document. These combined visions are further detailed in maps that explain contributing components: Parks and Community Spaces, Habitat, Water Interventions, Urban Centers, and Green Transport.

Focusing and Preparing for the Discourse

While visionary, this work was not done in a pie-in-the-sky vacuum. Rather, careful research, broad public input, multiple public education events and a year of intense process and participation firmly grounded the charrette work in real conditions, existing planning, and environmental science. We began by identifying issues, needs, players and existing work by conducting focus groups with city and non-profit representatives. Five separate sessions targeted advocates of environmental, non-motorized transportation, green design, parks, and real estate development. We then invited professionals, city staff and officials, non-profit and citizen advocates to serve on the project's advisory committees, which involved over 100 individuals representing over 50 organizations and agencies. This body met to craft Goals and Guiding Principles for the charrette, advise on our process, and review our preliminary research and the resulting charrette products.



Students in the UW Landscape Architecture department provided significant preparation for the charrette. In the fall of 2005, graduate seminar students engaged readings and guest speakers to discuss ecological urban patterns, open space issues and benefits, challenges presented by global climate change and dramatically rising "peak oil" prices. A team of students conducted a focus group with representatives of minority and underserved populations, while others gathered and created an annotated bibliography of almost a hundred relevant existing plans, compiled available Seattle map resources, and created an interactive digital map that delineated the city's watershed and topographic study areas for the charrette. Concurrently, students developed components of a Green Futures Toolkit, which can be found online at www.open2100.org. This document became a resource for participants during the Green Futures Charrette, and includes case studies on exemplary open space systems, typologies of outdoor spaces, and successful funding mechanisms.

During the 2006 winter term, we were joined by an undergraduate landscape architecture studio and five urban planning students. Research on open space systems and types continued, and expanded to explore more open-ended questions regarding such topics as urban ecosystems, future transportation modes, earthquake susceptibility and urban forestry. Pairing into groups, students became experts on their study areas, gathering, analyzing and producing maps and “dossiers” to provide essential information for their charrette team’s planning process, and leading team tours of their study areas. They also created “Opportunity Maps” by synthesizing existing GIS data on: habitat, parks and gaps in parks access, water bodies and buried streams, sewers and drainage, critical and sensitive areas such as earthquake faults and steep slopes, demographics, bike trails and green streets, and designated urban hubs and villages.



We also sponsored or co-sponsored several public lecturers who informed the discourse around key issues. Mark Childs from University of New Mexico presented research on civic open space, arguing for multi-use, multi-benefit public infrastructure; Mike Houck of Portland State’s Urban Greenspaces Institute relayed Portland’s strategies for urban ecology and livability, and Robert Garcia from The Center for Law in the Public Interest (CLIPi) addressed social equity issues related to urban parks. In addition to these outside experts, a panel of seven local researchers and professionals addressed Seattle-specific considerations for aquatic and terrestrial habitat, historic open space patterns and connectivity, global climate change implications, scenario building, transportation and green development. In a rousing speech, Patrick Condon from the University of British Columbia gave the keynote lecture on urban green infrastructure, presenting model strategies for dense, hydrologically-stable communities in British Columbia.



Keynote speaker Patrick Condon

Lessons from the Green Futures Design Process

The creativity, commitment and breadth of the charrette teams’ proposals provide rich fodder for developing a rubric of strategies to achieve ecological, equitable, and functional green infrastructure. We have mined the twenty-three teams’ work to find the richest common themes and strategies that can inform policy and planning for Seattle and other cities around the world. These themes are described on the following pages.



Next Steps for Seattle’s Green Infrastructure

These plans require continued development, study and vetting with citizens, business owners and neighborhood residents. The Open Space Seattle 2100 Implementation Committee has recommended that a follow-on planning process further engage residents in planning for the integrated green infrastructure of their watersheds, and that a multi-departmental task force is established in order to oversee this process and institutionalize an integrated planning body for Seattle’s open spaces.

The overall vision plans that result from the Green Futures Charrette do provide starting points to discern where systems of connective corridors and patches for people and wildlife might cohere, on regional, city and watershed scales. The plans suggest locations for new trails and bikeways, street thoroughfares that can be converted into multi-functional spaces, streams to restore and reveal, and opportunities for rain gardens to clean stormwater before entering our creeks and lakes: in short, a connected green infrastructure that functions as a system, as do our power lines, streets, and sewer pipes. In these optimal plans, every neighborhood and watershed has access to a variety of open spaces and to movement corridors that encourage walking, biking, exercise, and enjoyment of Seattle’s living environment. Identifying these potential systems can help us to rethink how we travel, reduce carbon emissions, revitalize neighborhood centers, restore our waters, and reforest our city. The visions illustrate pathways to an idealized future, one that may be essential if our children and grandchildren are to inherit the beauty and resources of our region and a city that is eminently prosperous and livable.

Themes and Strategies

Themes and Strategies

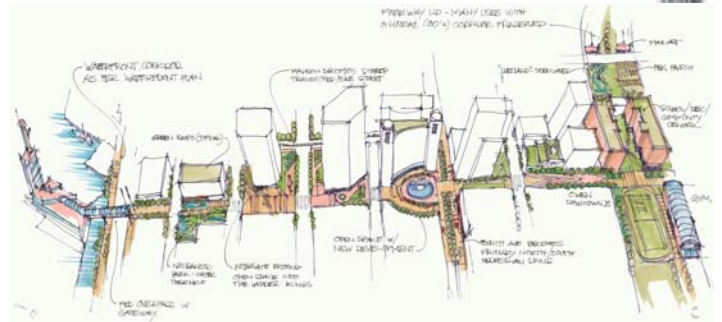
Create an Integrated Green Infrastructure to allow natural systems to support human needs:

- ## Density and Community

- Create New Urban Villages with Civic Hearts: Numerous dense, walkable urban villages with mixed residential, commercial, public amenities and civic gathering spaces would accommodate the city's predicted doubling of population while creating magnet communities. Charrette teams typically located new urban nodes on ridgelines, with views corridors preserved.

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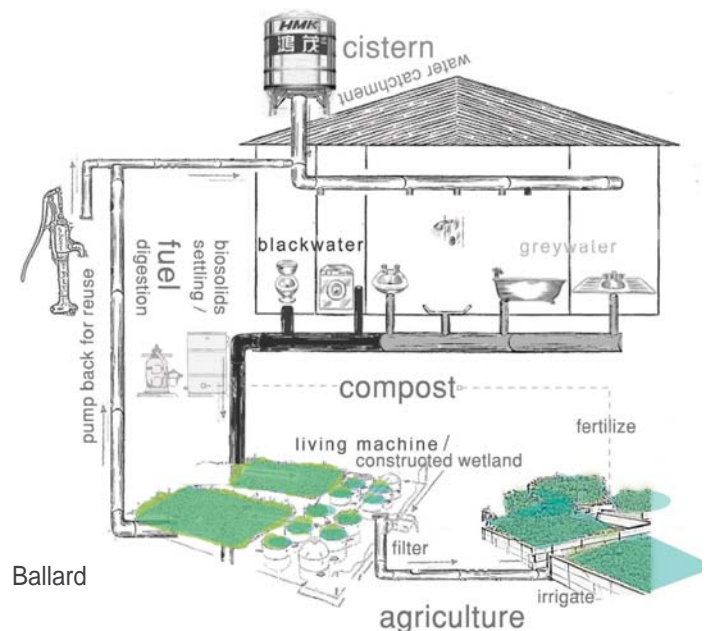
Rainier Valley



Downtown



Madison Transect



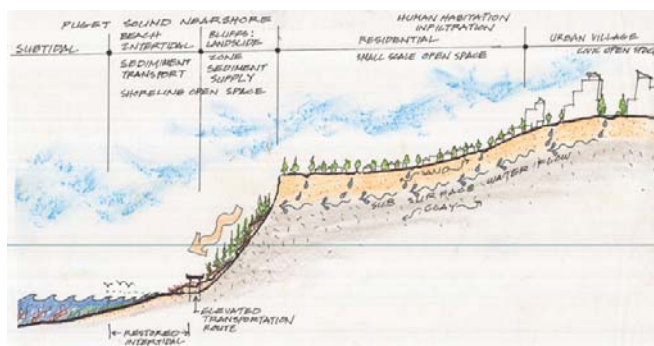
Ballard

Ecological Open Space

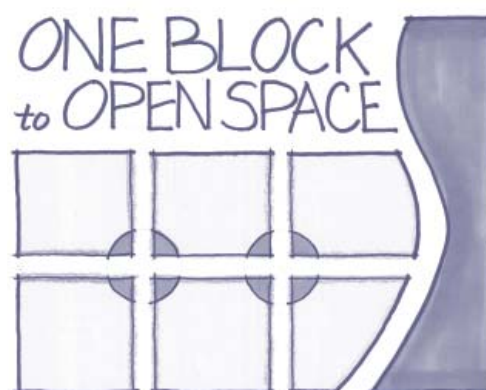
- Understand the City as Watersheds, to repair water-based ecological corridors and to connect neighborhoods. One charrette team proposed the concept of “neighborsheds” that weave natural threads through the cultural fabric of the city.
- Respect Underlying Natural Conditions to honor the existing ecology and minimize damage from natural disasters. Many teams based their 100-year plans on the assumption that a major earthquake would cause steep slopes and liquefaction zones to fail, creating opportunities for home buyouts and future connected open space in these sensitive and hazard zones.
- Re-establish Historic Streams that are now buried in pipes. Bringing water to the surface and restoring riparian corridors can assure that salmon will always have a place in our city, and express natural water flows on urban streets.
- Restore Shorelines for Habitat. Seattle sits at a critical threshold of two major Puget Sound watersheds—Lake Washington-Cedar-Sammamish and the Green-Duwamish—for salmon migrating to and from spawning grounds. Therefore, restore lake and river shorelines for habitat and human use, and reclaim waterfronts as climate-change induces rising estuarine waters.
- Establish and Protect Greenbelts and Habitat Networks: Protect and acquire steep slopes and riparian zones to extend existing greenbelts, with potential wildlife, forestry and recreational uses. Secure, restore and plant urban forests to provide optimum habitat and support biodiversity.



Magnolia/Interbay/Queen Anne



West Seattle



Greenlake/U-district

Democratic Access and Use

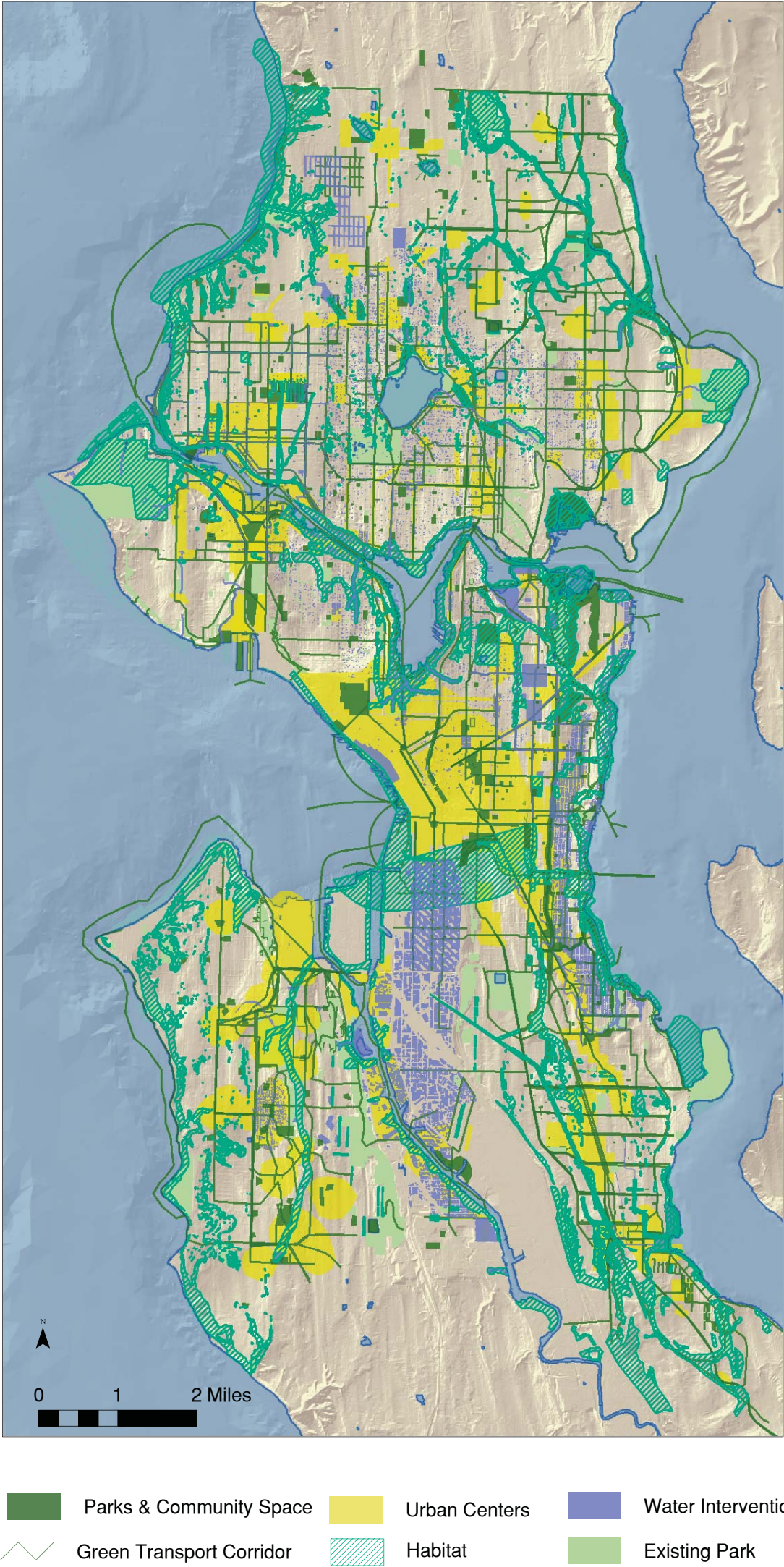
- **Provide Equality in Accessibility:** Provide democratic access to open space for all citizens, addressing diverse cultural needs and environmental justice.
- **Give Increased Access to Water:** Seattle is surrounded by water, yet little is available to public access. Therefore, provide equitable access to water from every neighborhood with waterfront.
- **Use Open Space for Education/Schools for Open Space:** Many charrette teams recommended incorporating schoolyards as community open space, and creating learning spaces such as gardens, views, interpretive trails and eco-revelatory features.
- **Provide a Hierarchy and variety of open spaces:** For every area of the city, ensure there is a variety and hierarchy of open spaces, including natural areas, large parks, playgrounds, P-patches, trails and pocket parks.



Taylor Creek

2025 GREEN INFRASTRUCTURE COMPOSITE

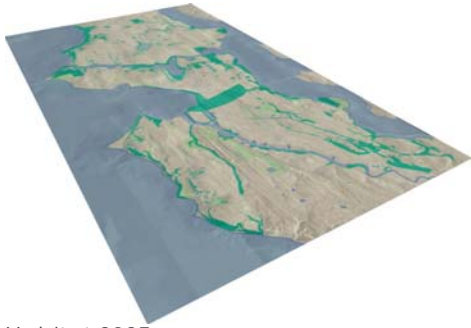
GIS Synthesis



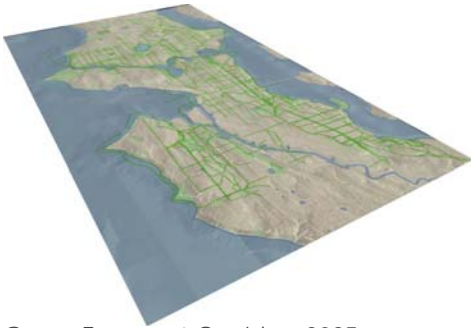
These 20- and 100-Year Plans for Seattle's Green Infrastructure represent the combined work of all twenty-three Green Futures Charrette teams. UW student leaders created digital maps of each team's ideas for their individual study areas, which were then joined together to create these all-city plans. GIS composite drawings by Betsy Severtsen.



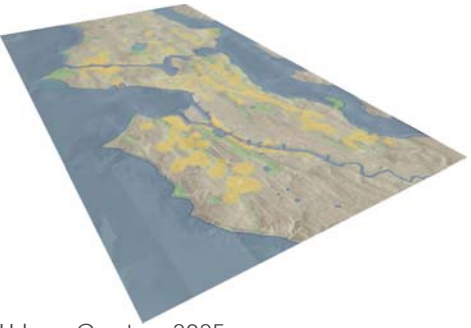
Parks & Community Space 2025



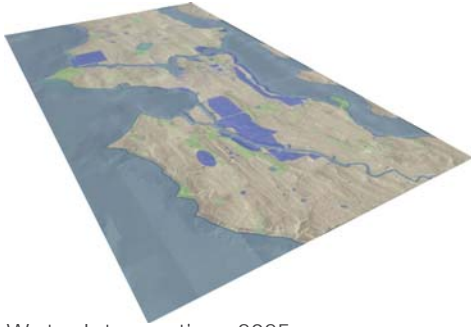
Habitat 2025



Green Transport Corridors 2025



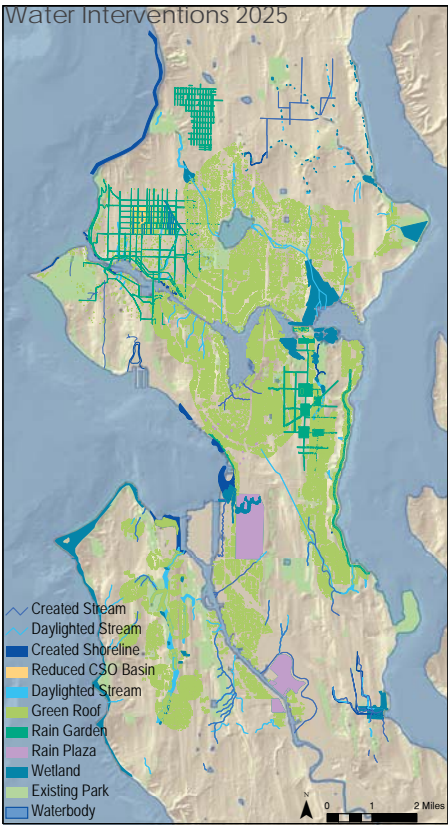
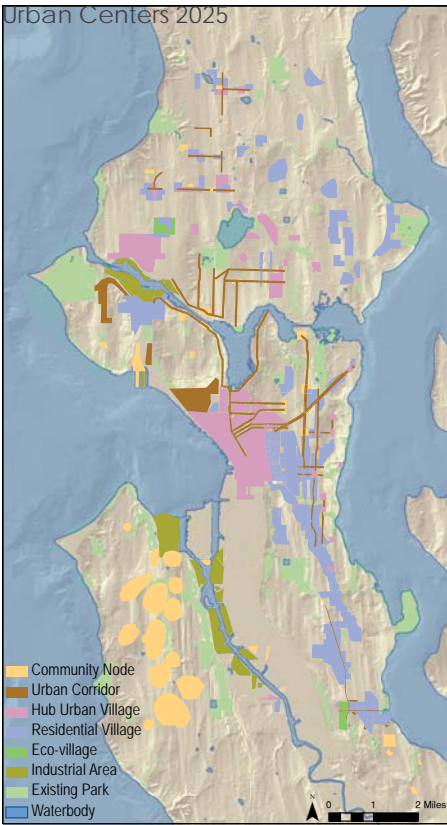
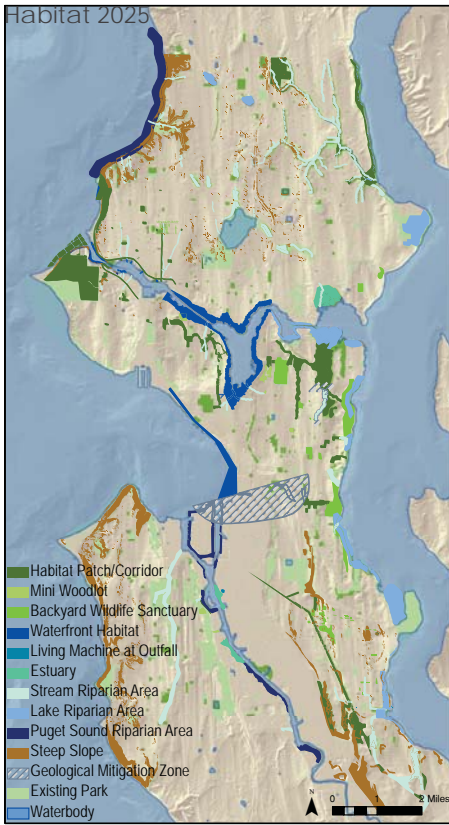
Urban Centers 2025



Water Interventions 2025

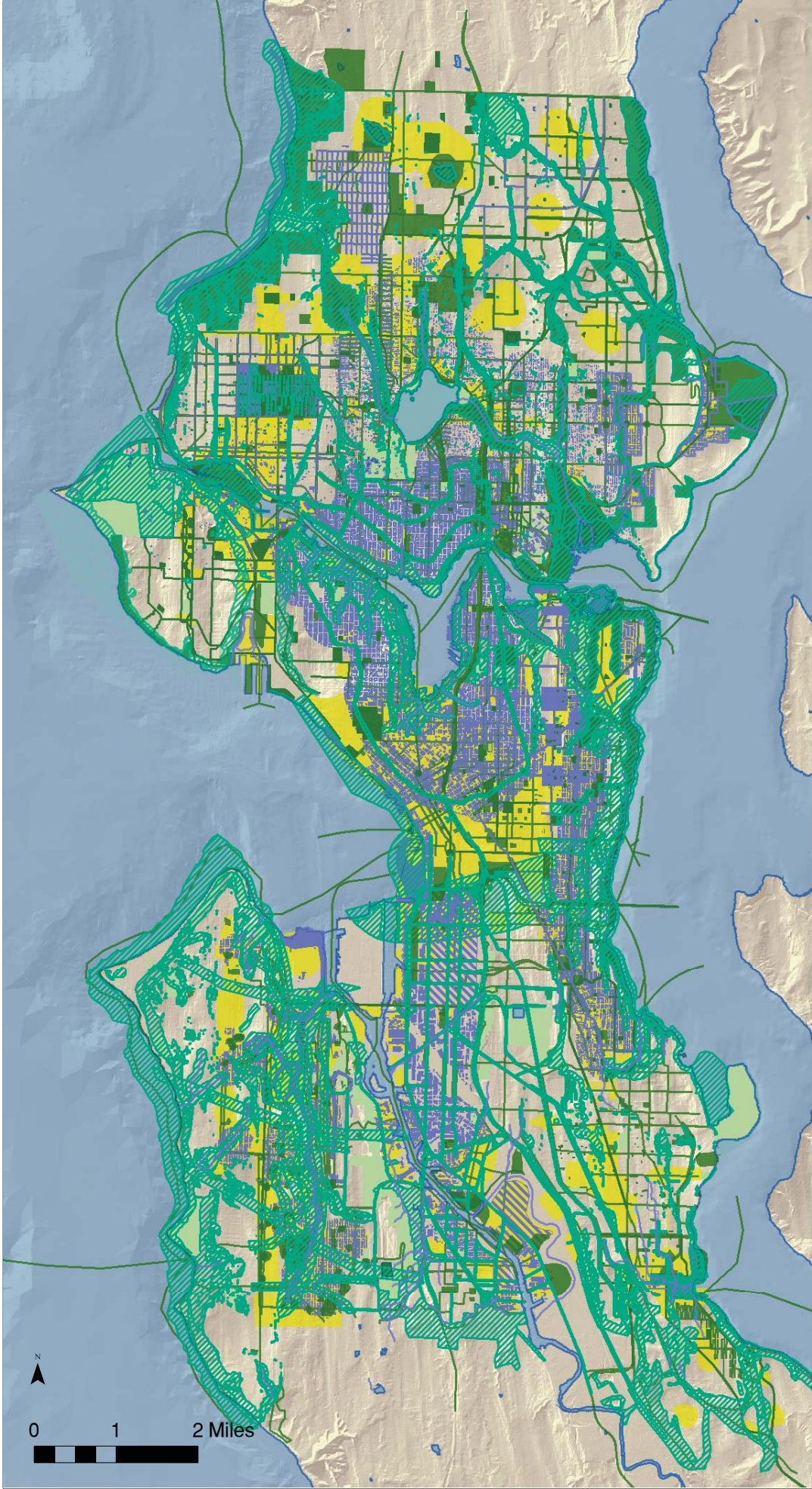
These maps provide greater detail to the categories illustrated in the 2025 Green Infrastructure Composite map.

Parks and Community Spaces provide a variety of landscape amenities used by urban dwellers. Wildlife is served through *habitat* additions. *Green transport corridors* provide not only opportunities for active transportation and mass transit corridors but also use streets for natural drainage (green streets). *Urban centers* provide civic hearts for specific neighborhoods. *Water interventions* include daylighting historic streams and providing other opportunities for natural storm-water drainage.



2100 GREEN INFRASTRUCTURE COMPOSITE

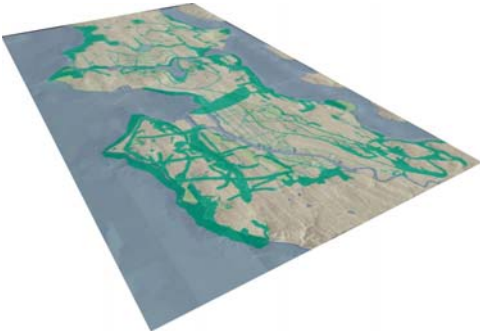
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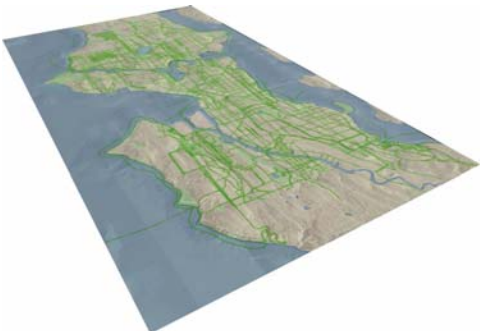
- | | | | | | |
|---|--------------------------|---|---------------|---|---------------------|
|  | Parks & Community Space |  | Urban Centers |  | Water Interventions |
|  | Green Transport Corridor |  | Habitat |  | Existing Park |



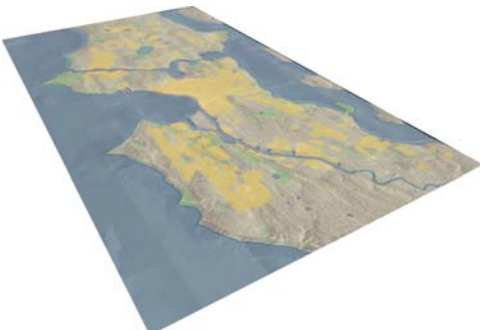
Parks & Community Space 2100



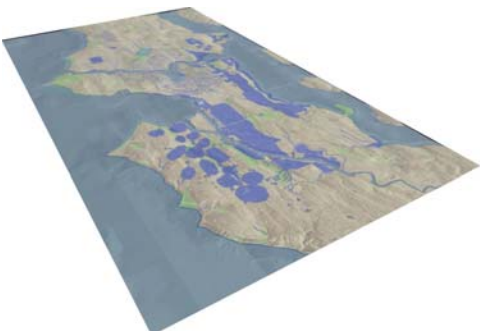
Habitat 2100



Green Transport Corridors 2100



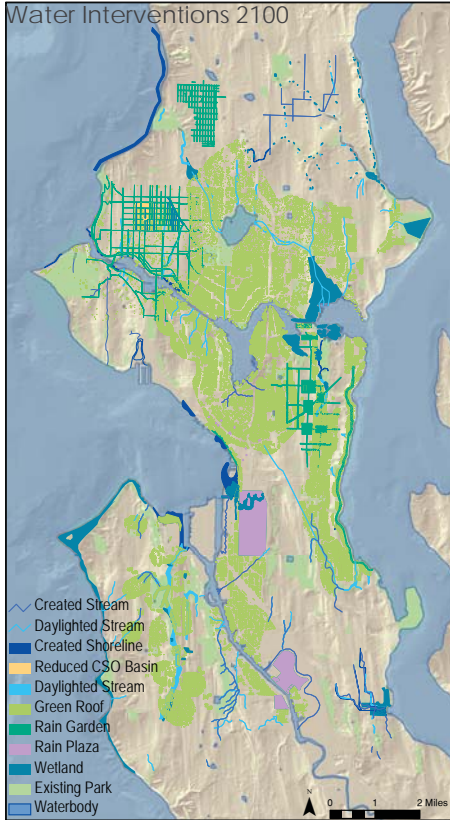
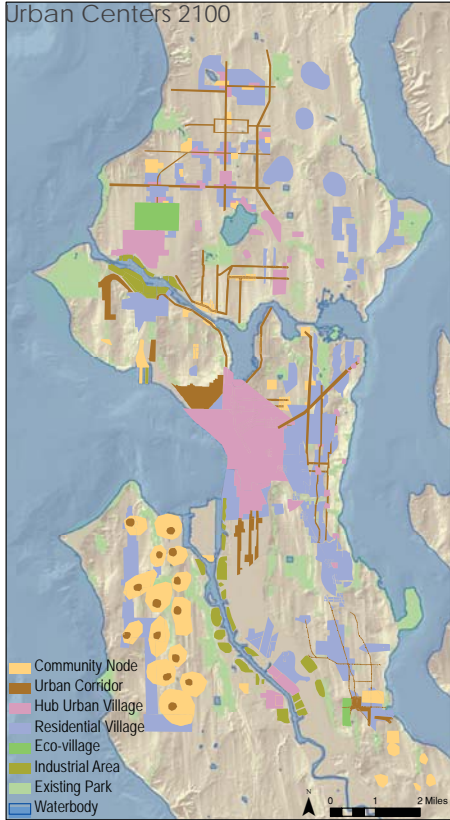
Urban Centers 2100



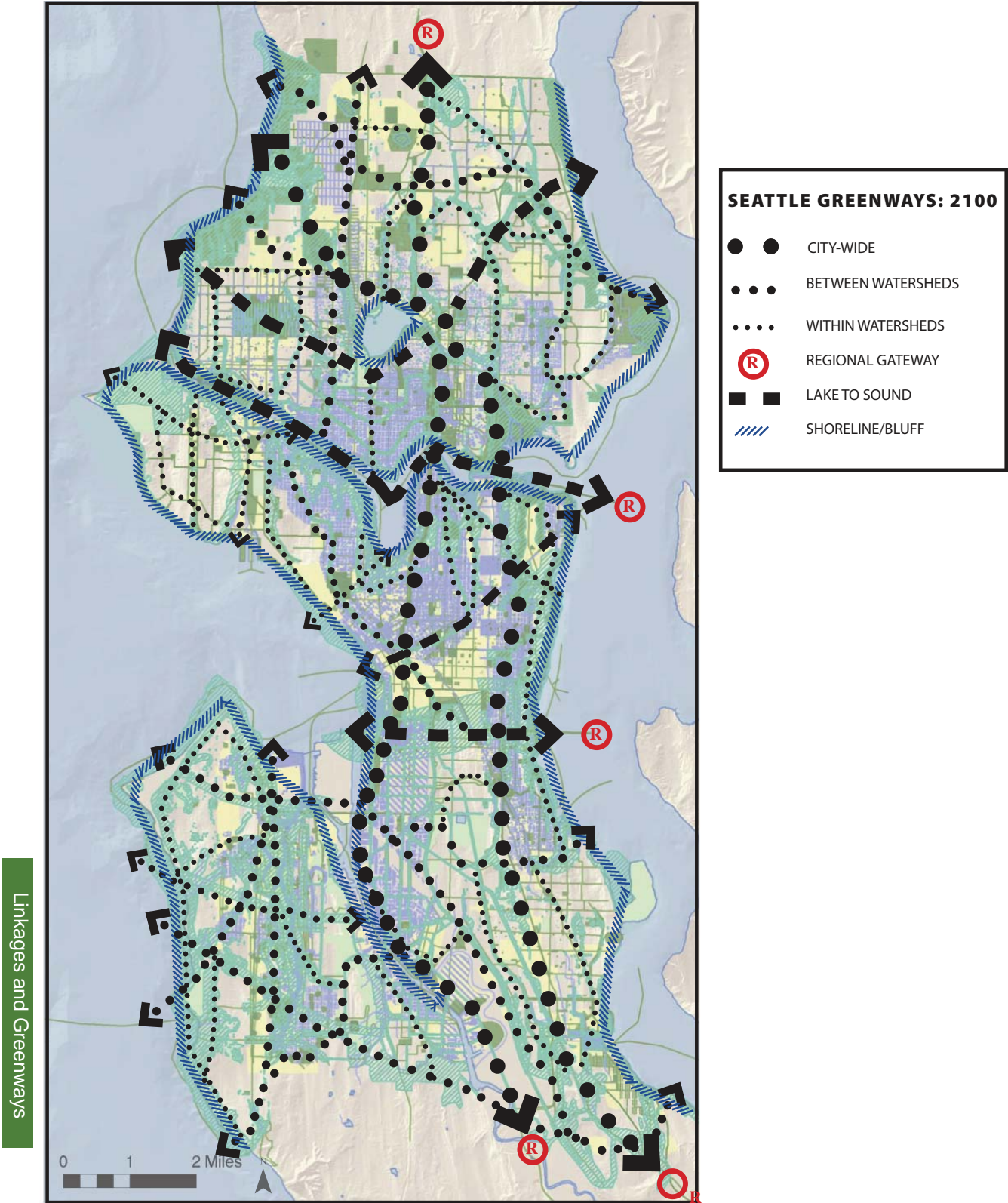
Water Interventions 2100

These maps provide greater detail to the categories illustrated in the 2100 Green Infrastructure Composite map.

Parks and Community Spaces provide a variety of landscape amenities used by urban dwellers. Wildlife is served through *habitat* additions. *Green transport corridors* provide not only opportunities for active transportation and mass transit corridors but also use streets for natural drainage (green streets). *Urban centers* provide civic hearts for specific neighborhoods. *Water interventions* include daylighting historic streams and providing other opportunities for natural storm-water drainage.

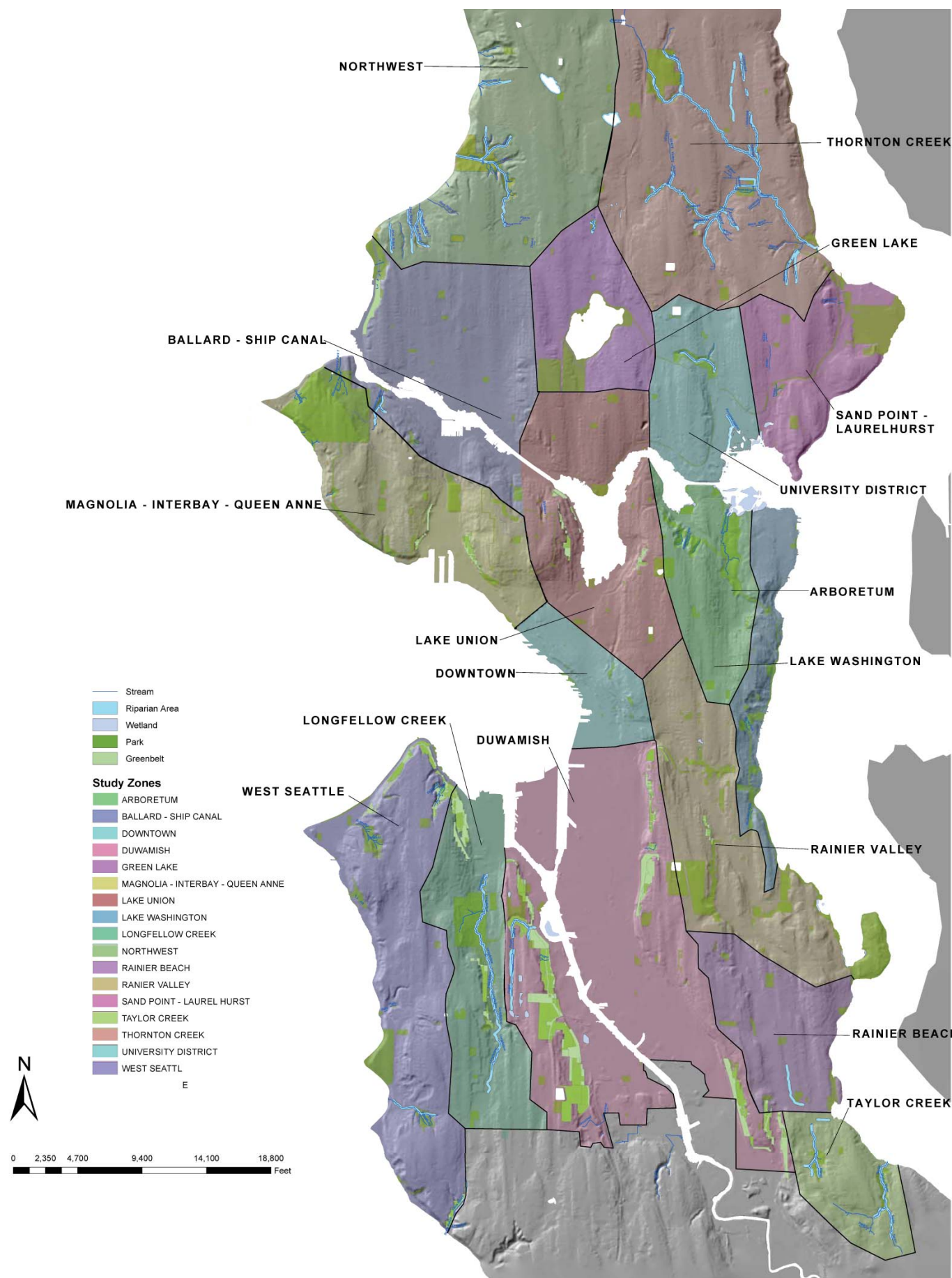


LINKAGES: SEATTLE GREENWAYS 2100



Upon completion of the 2100 city-wide Green Infrastructure map, possible greenway linkages were identified. City-wide linkages spanning large proportions of Seattle as well as smaller connections between and within watersheds were highlighted. Many of these greenways could act as a regional gateways to surrounding population centers. Some of the connections between watersheds could also provide important linkages between Lake Washington and Puget Sound. A common theme among the proposals was the use of shoreline and bluff areas for contiguous greenways within the City.

INTRODUCTION TO THE WATERSHED STUDY AREA PROPOSALS



Seattle divides neatly into topographic watershed areas, delineated by major ridgelines and drainages. Green Futures Charrette participants worked on the study areas shown on this map to develop long-range and near-term proposals for their selected watershed. Twenty-two teams tackled these eighteen watershed study areas, with an additional team working on a transect that cuts across four study areas along Madison Street.

Teams based their ideas on existing site conditions, completed city and neighborhood plans, predicted population figures, anticipated changes in transportation modes, and climate disruption and other potential natural hazard impacts. UW student team leaders refined, extended and illustrated their teams' ideas, mapped them using GIS software and created the following pages as records of their teams' extraordinary and visionary work.