Too Much of a Good Thing?
Approaches to Rating Sustainability and Assessing Performance

Panelists
- Brice Maryman, SvR Design Company
- Steve Muench, Greenroads Foundation
- Justus Stewart, O'Brien & Company

What Do You Need?
- A large state university with multiple campuses
- A large city park on a lake in a large West Coast city
- A semi-urban community in the Puget Sound region
- A new urbanist development on an inland lake

Measuring Sustainability from Buildings to Landscapes and Infrastructure
### Measuring What Matters

- Quantification of impacts and benefits
- Valuation
- Data collection, analysis and lessons learned
- Third-party verification
  - Accountability
  - Common yardstick
  - Access to incentives and funding

### Current and Emerging Rating Systems

- LEED for Neighborhood Developments
- Living Building Challenge (Landscape and Infrastructure)
- Sustainable Sites Initiative
- Greenroads
- Envision
- STAR Community Index

### Other Related Rating Systems/Initiatives

- Built Green Communities
- Enterprise Green Communities
- FHWA’s InVEST
- Sustainable Transportation Access Rating System
- Sustainable Asset Management
- Landscape Performance Series
- Complete Streets
- Eco Districts
- Salmon Safe
- One Planet Living/EcoConcierge
- Green Factor

### In-house Program Examples

- King County Sustainable Infrastructure Scorecard
- Sound Transit Sustainability Checklist
- National Park Service Sustainability Checklist
- WSDOT – Sustainable Practices Plan pilot

### Internal Programs

<table>
<thead>
<tr>
<th></th>
<th>Pro</th>
<th>Con</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Development speed</td>
<td>Not widely applicable / comparable</td>
</tr>
<tr>
<td></td>
<td>Custom, unique to your community or organization</td>
<td>Need to provide infrastructure to support</td>
</tr>
<tr>
<td></td>
<td>Internally regulated</td>
<td>Staff responsible for accountability</td>
</tr>
<tr>
<td></td>
<td>Control of marketing/messaging</td>
<td>No external verification</td>
</tr>
<tr>
<td></td>
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<td>No external brand</td>
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WA APA 2013 Conference

**LEED FOR NEIGHBORHOOD DEVELOPMENT**
What LEED-ND Is: A Collaborative Program

LEED for Neighborhood Development

Credit Categories

LEED* for Neighborhood Development

<table>
<thead>
<tr>
<th>Credit Category</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smart Location &amp; Linkage</td>
<td>27</td>
</tr>
<tr>
<td>Neighborhood Pattern &amp; Design</td>
<td>41</td>
</tr>
<tr>
<td>Green Infrastructure &amp; Buildings</td>
<td>59</td>
</tr>
<tr>
<td>Innovative &amp; Design Process</td>
<td>6</td>
</tr>
<tr>
<td>Regional Points Credit</td>
<td>4</td>
</tr>
</tbody>
</table>

*Out of a possible 100 points = 10 bonus points
**Certified 40+ points, Silver 35+ points, Gold 50+ points, Platinum 60+ points

What LEED-ND Is:

IMPROVED QUALITY OF LIFE

Smart Location & Linkage: Goals

1. Pick the right site
   - Infill
   - Previously Developed
   - Adjacent & Connected
   - Transit-Accessible

2. Build on the right portion
   - Avoid development on wetlands & water bodies, agricultural land, and in floodplains

Neighborhood Pattern & Design: Goals

Compact, Complete, Connected
- People connected to place and to each other
- Shared public spaces
- Nearby goods and services

Green Infrastructure & Buildings: Goals

1. Reduce resource use
2. Maximize ecological opportunities
Representative Types of Projects
- Urban infill
- Suburban retrofit
- Small community
- Brownfield redevelopment
- Transit oriented development
- Development on adjacent land

Considerations
LEED-ND is designed for individual development projects
- Not a replacement for comprehensive planning
- Not designed to rate zoning codes or comprehensive plans
- Not designed to rate existing, stable neighborhoods
- Not designed to rate an entire town, county or city

Certification Process
1. Registration
2. SLL Prerequisite Review
3. Stage 1: Conditionally Approved Plan
4. Stage 2: Pre-Certified Plan
5. Stage 3: Certified Neighborhood Development

Thornton Place – LEED ND Silver Pilot

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LIVING BUILDING AND INFRASTRUCTURE
WHY A CHALLENGE?

Infusing inspiration and poetry
Rewarding early adopters
Creating models for the future
Stirring the pot
Pulling the market forward

THE METAPHOR OF THE FLOWER

ROOTED IN PLACE AND YET:
Harvests all energy + water
Is adapted to climate and site
Operates pollution free
Is comprised of integrated systems
Is beautiful

FOUR TYPOLOGIES

3 CERTIFICATION PATHS
SUMMARY MATRIX

MCGILVRA PARK, SEATTLE

SUSTAINABLE SITES INITIATIVE

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SUSTAINABLE SITES INITIATIVE (SITES)

Participants/Coordinating Committee
American Society of Civil Engineers/Environmental and Water Resources Institute (rating system: ENVISION)
American Nursery and Landscape Association
EPA / Office of Smart Growth
General Services Administration
National Association of County and City Health Officials
National Park Service
National Recreation and Park Association
Office of Federal Environmental Executive/Council on Environmental Quality
Professional Landcare Network (PLANET)
US Air Force
US Green Building Council (rating system: LEED)
SITES Framework: Ecosystem Services

- Regulate local and global climate
- Erosion and sediment control
- Cleanse air and water
- Provide habitat
- Provide food and non-food renewable products
- Decompose and treat “waste”
- Regulate water supply
- Improve human health and well being
- Provide cultural benefits

Timeline

Guidelines & Performance Benchmarks 2009
- Released November 2009

Pilot Program
- June 2010 – June 2012

Public Comment Period on Proposed 2013 Credits
- Sept. 26 – Nov. 26, 2012

Release of 2013 Rating System/Reference Guide
- Fall 2013

Open Enrollment / Education + Training
- Fall 2013

Professional Credentialing Program
- Anticipated in 2014

Proposed 2013 Rating System – credit sections

SITES Goals

- Develop stand-alone Rating System: Project Certification (and eventually Professional Training)
- Influence existing rating systems and codes (Collaborate & coordinate, e.g. with LEED™)
- Promote use of guidelines and principles (without certification)

What it doesn’t address

- Embodied carbon in materials
- Indirectly supports urban agriculture
- Economics

......provides an option/incentive to create actual monitoring plan

SITES Pilot Project Locations (2010 – 2012)

- 345 applicants from around the world
- Over 150 Registered Pilot Projects – range of project types and sizes, geographic diversity
- Goal was to gain feedback to revise credits and inform Reference Guide

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SITES Pilot Projects—Types

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>OPEN SPACE/PARKS</td>
<td>20%</td>
</tr>
<tr>
<td>INDUSTRIAL (REP)</td>
<td>15%</td>
</tr>
<tr>
<td>COMMERCIAL (REP)</td>
<td>15%</td>
</tr>
<tr>
<td>RESIDENTIAL (REP)</td>
<td>15%</td>
</tr>
<tr>
<td>TRAFFIC/TRANS, CURB (REP)</td>
<td>10%</td>
</tr>
<tr>
<td>GARDEN/ARBORETUM</td>
<td>10%</td>
</tr>
<tr>
<td>GOVERNMENT (REP)</td>
<td>5%</td>
</tr>
<tr>
<td>MARITIME (REP)</td>
<td>5%</td>
</tr>
<tr>
<td>INDUSTRIAL (REP)</td>
<td>5%</td>
</tr>
</tbody>
</table>

23 pilot projects certified to date

- **8 Parks/Open Space** 35%
- **4 Public Garden/Arboretum** 17%
- **4 Educational (University)** 17%
- **3 Commercial** 13%
- **2 Residential** 9%
- **1 Industrial** 4%
- **1 Government complex** 4%
- And 75 continue to pursue certification through 2014

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GREENROADS

What is the Greenroads Rating System?

- Third-party certification process similar to LEED®
  - Applies to new and reconstructed surface transportation projects
  - Recognizes and quantifies roadway sustainability
    - Minimum set of baseline requirements
    - Awards points (1-5) for sustainable practices
- Over $4 billion in construction value represented

The Greenroads Story

- Development:
  - Began in 2007 at University of Washington
  - Industry, local and DOT research support
  - 5 years, 100+ people, 120+ test projects
- Managed by Greenroads Foundation since 2010
  - Independent 501(c)(3) set up for sustainable transportation education
  - Individual members, organizations, volunteers and 76 STPs worldwide

What can I do on my project tomorrow to be more sustainable?
How Greenroads Works

- Determine eligibility
- Register project online

Apply

- Sign Review Agreement
- Pay fees

Agree

- Upload documents
- Get feedback

Assess

- Report performance periodically
- Display logo

Award (Optional)

Project Rating System - Statistics

- 7 Certified
  - 6 in Washington, 1 in California
  - 4 Silver
  - 3 Bronze

- 39 Projects Pursuing Certification (in Progress)
  - 7 states registered, 2 in Canada, 3 in New Zealand
  - At least 5 more projects pending registration in 2013

- 7 Projects Pursuing Assessment (Pilot, A-Lined)
  - 1 project in Canada
  - 4 projects in New Zealand
  - 2 projects in South Africa

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Meadow Kansas Elle Trail
City of Bellingham

Owner: City of Bellingham
Lead Designer: Freeman Anthony, P.E.
Contractors: Larry Brown Construction
Location: Bellingham, WA
Constr. Cost: $0.88 million

Monterey Road Rehabilitation
City of San Jose

Owner: City of San Jose
Prime Cont.: San Jose, CA
Location: San Jose, CA
Constr. Cost: $2.7 million

South Division Street Promenade
City of Auburn

Owner: City of Auburn
Lead Designer: RFG
Prime Cont.: Johansen Excavating
Location: Auburn, WA
Constr. Cost: $3.2 million

Presidio Parkway – Doyle Drive
Caltrans

Owner: Caltrans (Phase I), Golden Link Concessionaire (II)
Owner’s Rep: AECOM
Prime Contractors: C.C. Meyers, R.M. Brosamer, Ghilotti Bros., Flatiron/Kiewit JV with HNTB
Location: San Francisco, CA
Constr. Cost: $214.3 mil (Phase I), $254 mil (Phase II)
**Why Was Envision™ Developed?**

- Current rating systems for infrastructure in the U.S. are sector specific
- No U.S. system covers all aspects of infrastructure
- Envision is designed to fill the gap

**Maintenance Fail!**

- ASCE Report Card on America’s Infrastructure
  - Ranked 23rd worldwide
  - 15 categories
  - Overall grade of D
  - $2.2 trillion needed
### System Development

#### ENVIION

- **Stage 1:** Exploration and Testing
- **Stage 2:** Assessment and Recognition
- **Stage 3:** Operational Imperatives
- **Stage 4:** Decision Support

**Phase 1:** Planning and Design

**Phase 2:** Construction

**Phase 3:** Operations and Maintenance

**Phase 4:** Decommissioning and Demolition

### Applicable Infrastructure Types

#### ENERGY
- Geothermal
- Hydroelectric
- Nuclear
- Coal
- Natural Gas
- Oil/Refinery
- Wind
- Solar
- Biomass

#### WATER
- Potable water
- Capture/Storage
- Water Reuse
- Storm Water Management
- Flood Control

#### WASTE
- Solid waste
- Recycling
- Hazardous Waste
- Collection & Transfer

#### TRANSPORT
- Airports
- Roads
- Highways
- Bikes
- Pedestrians
- Railways
- Public Transit
- Ports
- Waterways

#### LANDSCAPE
- Public Realm
- Parks
- Ecosystem Services

#### INFORMATION
- Telecommunications
- Internet
- Phones
- Satellites
- Data Centers
- Sensors

### Goals

- **Restore**
- **Sustain**
- **Improve**

**Technology Advancement Performance Goals**

**Whole System Design**
- Reduce, reuse, recycle
- Phased development
- Adaptive

**Conventional**

- Project team
- Owner organizations
- Affected stakeholders
- Professional services

**Technological Advancement**
- Design
- Construct
- O&M
- Reuse
- Disassembly

**Purposes of this Team**
- Extend the usefulness of the project
- Drive toward restorative performance

**Understand/Integrate Community Needs**
- Deliver as part of owner organization
- Partner with regulators

### Credits & Categories

#### QUALITY OF LIFE
- Purpose, Community, Wellbeing

#### LEADERSHIP
- Collaboration, Management, Planning

#### RESOURCES ALLOCATION
- Materials, Energy, Water

#### NATURAL WORLD
- Siting, Land & Water, Biodiversity

#### CLIMATE AND RISK
- Emission, Resilience

### Levels of Achievement

- All credits contain:
  - Description
  - Advancing levels
  - Evaluation / documentation
  - Sources

![Levels of Achievement Graph](image)
## Award Levels

<table>
<thead>
<tr>
<th>Recognition Level</th>
<th>Minimum Applicable Points</th>
<th>Minimum in Each Category</th>
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</thead>
<tbody>
<tr>
<td>Bronze</td>
<td>30%</td>
<td>No minimum category percentage required</td>
</tr>
<tr>
<td>Silver Award</td>
<td>40%</td>
<td></td>
</tr>
<tr>
<td>Gold Award</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>Platinum Award</td>
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</table>

Best in Class Award

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## Port of Everett

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**STAR COMMUNITIES**

STAR Communities helps cities and counties achieve meaningful sustainability through the first national framework for local community efforts.

[www.STARcommunities.org](http://www.STARcommunities.org)

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## STAR Communities

- Originally founded by: ICLEI-Local Governments for Sustainability, U.S. Green Building Council, and Center for American Progress
- Managed by the NGO STAR Communities
- Funded through grants and fees
- 30 Pilot Communities testing the rating system nationwide

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## Goal Areas

- Environment
- Economy
- Equity
- Health & Safety
- Natural Systems
- Sustainability
- Transportation
- Water & Waste
- Education, Arts & Community
- Public Participation

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Objectives

Measurement Approach

- Community Level Outcomes
  - Community Level Outcomes are measurable, condition-level indicators that show community progress on a STAR Community Rating System Objective.
- Local Actions
  - Local Actions are a range of decisions and investments that a local community can make or activities that a local community can engage in that are essential to achieving Outcomes.
  - Relevant, Feasible, Timely, Useful, Valid, Systemic, Reliable
- Scoring approach

Engaging STAR

- Opportunity to participate at the Leadership level by applying before October 15, including potential financial assistance through the Funders Network for Smart Growth and Livable Communities.
  - [http://www.starcommunities.org/get-started/leadership-star-community-program](http://www.starcommunities.org/get-started/leadership-star-community-program)
Coordinate Work Across Jurisdictions + Sharing Successes

Seattle and King County, WA are using the STAR Community Rating System to align performance metrics between the two jurisdictions and to identify ways to streamline sustainability work and increase results.

Exercise

• Break into 4 groups – one for each scenario
• Spend 15-20 minutes discussing how best to use these tools in that scenario
• Panelists roaming to answer questions
• 2 minutes for each team to report out

♫ Too Much of a Good Thing

♫ You’re too much, you’re too much.
You’re too much of a good thing,
 too much
Much too, much too, much too,
much too, much too,
much too, much too,
much too much,
You’re too much of a good thing. ♫

Thank You! More Info

• LEED for Neighborhood Developments
  www.usgbc.org/neighborhoods
• Living Building Challenge
  http://livingfuture.org/lbc/about
• Sustainable Sites Initiative
  www.sustainablesites.org
• Greenroads
  www.greenroads.org
• Envision
  www.sustainableinfrastructure.org
• STAR Community Index
  www.starcommunities.org