

# BRINGING IT ALL HOME:

## The Local Role In Creating Integrated Strategies For Resilience

Rocky Mountain Land Use Institute  
Conference | March 13, 2015



**Mayor Joe Gierlach**  
Town of Nederland  
**Breece Robertson**  
The Trust for Public Land  
**Abby Shannon**  
Boulder County Land Use  
**Brian Wilkerson**  
Revolution Advisors LLC



Photo credit: www.thinkstockphotos.com

# A Quick Detour to Vermont



# OVERVIEW

- Reflections and New Strategies for Boulder County  
(What we wish we had known!)
- Increasing Integration and Engagement for Resilience Planning
- Climate Smart Cities: Using GIS for Climate Resiliency and Scenario Planning
- Introducing #NedZero and How to Use It  
(Using social media to promote resiliency planning)

# REFLECTIONS AND NEW STRATEGIES FOR BOULDER COUNTY:

## What we wish we had known!

Abby Shannon, AICP  
Long Range Planning Manager

Boulder County Land Use Department  
RMLUI: Bringing It All Home - March 13, 2015



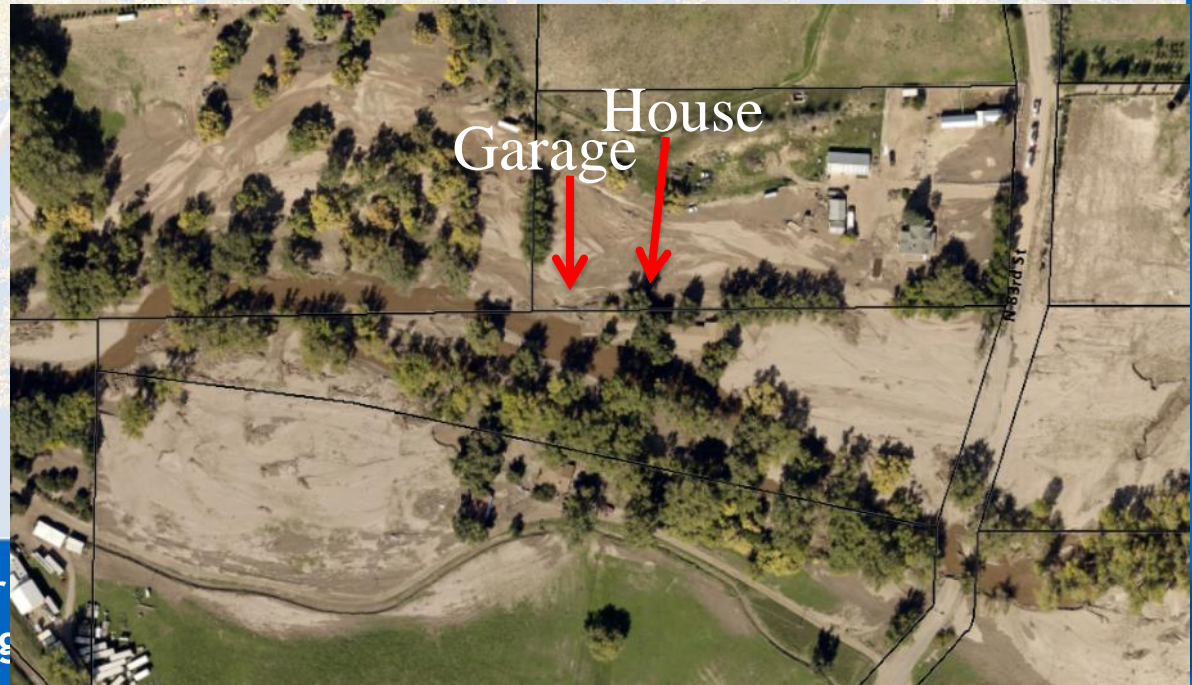
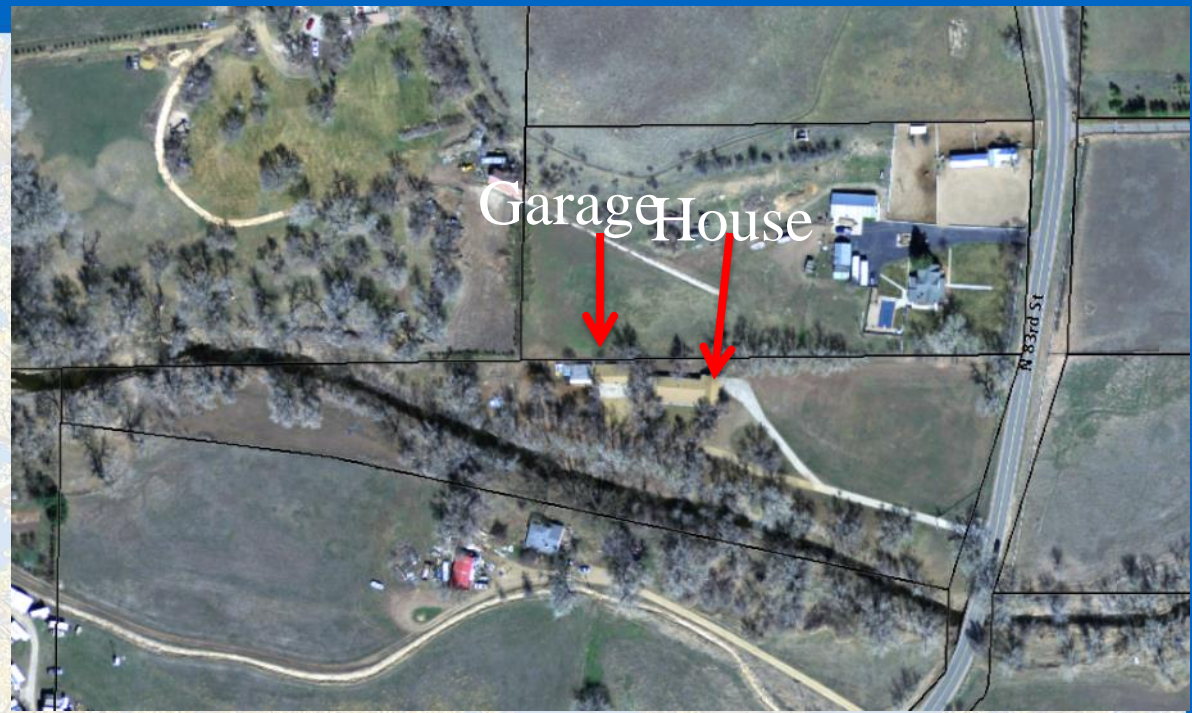
# Pre-disaster Checklist (pre-2013):

- ✓ Continuity of Operations Plan
- ✓ Multi-hazard Mitigation Plan

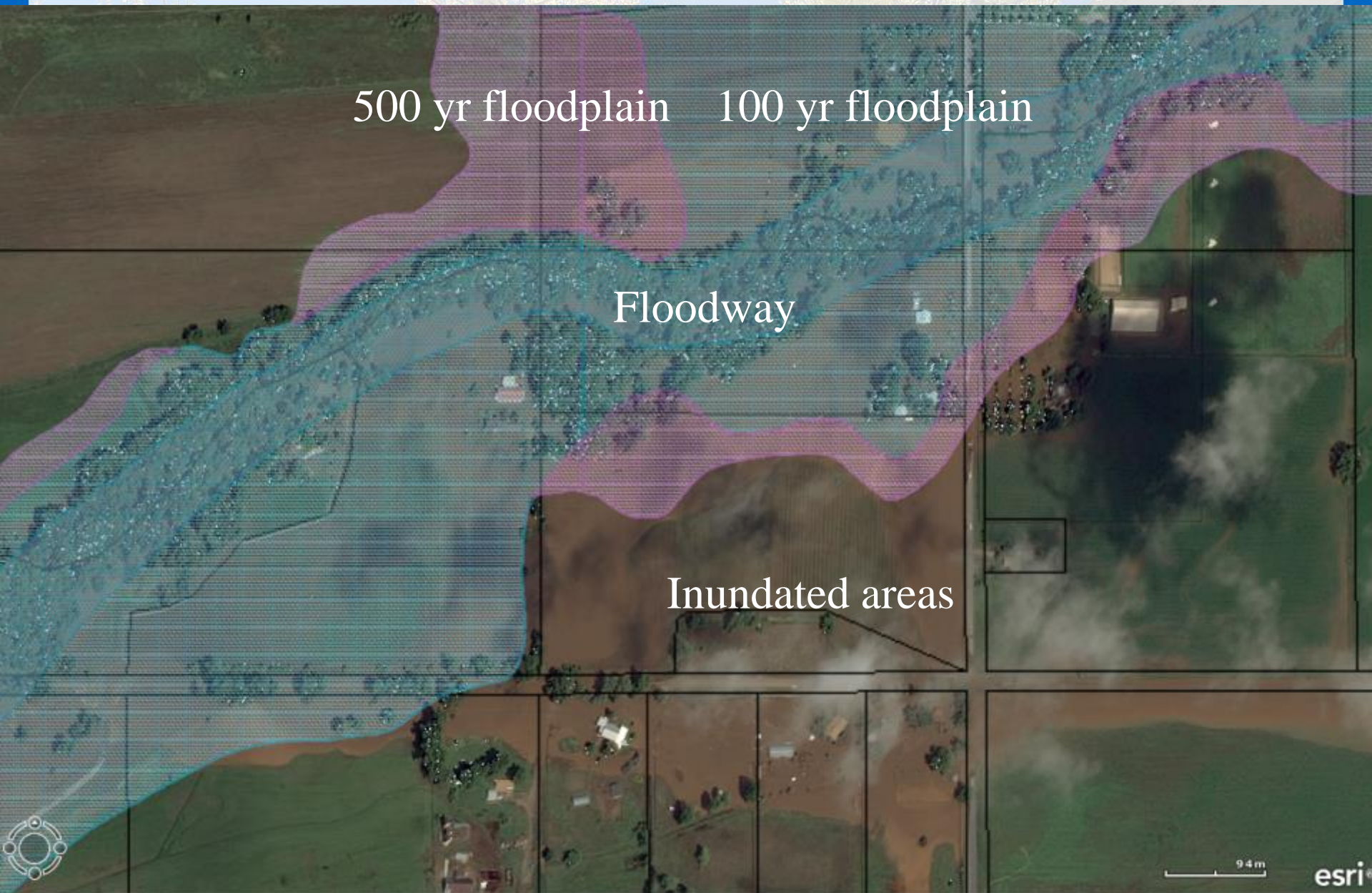


“Bought home  
eight years  
ago...Looking back  
now Boulder  
County should  
have never let  
anyone build  
there.”

Phil Gatt testimony to  
Boulder County  
Planning Commission  
10/16/2013



# Creeks and Rivers Don't Always Follow the Maps...



...or the established channel



FEMA has a Hazard Mitigation  
Grant Program...

... but the rules aren't designed  
for mountainous terrain



This house is still there in this condition.



This rubble was house. The debris has long-since been removed. This photo was taken in late October 2013.







Slope failure



# Questions to keep in mind:

- ✓ How you will gather and map data?
- ✓ How will you communicate with residents?
- ✓ How will you coordinate with agencies and communities?
- ✓ How can you rebuild with resiliency?
  - ✓ Green infrastructure
  - ✓ Buyouts
  - ✓ Disaster-resistant construction (elevations, IR materials, relocations, etc.)



# Refocus Authority You Already Have

- Board of County Commissioners/City Council emergency powers
- Chief Building Official powers
- Public Health powers
- Land Use/Planning Director powers
- Transportation/Public Works Director



# Lessons Learned (and still learning):

1. Start your recovery now
  - If you wait until after the disaster, it is too late
  - Review and prepare for the next time. Your last experience will help you with the next one.
2. Coordinate! Recovery is a joint effort that involves everyone.
3. Understand that NFIP requirements, grant processes and requirements complicate everything you normally will do.
4. Get help – logistical, mental, recovery expertise.
5. FEMA was great during response, but recovery is local and needs to be driven by local conditions, needs and expectations.
6. Be patient.



# Pre-disaster Checklist (post-2013):

- ✓ Continuity of Operations Plan
- ✓ Multi-hazard Mitigation Plan
- ✓ Make sure procurement standards are consistent with Federal guidelines
- ✓ Begin public dialog pre-disaster
- ✓ Plan for post-disaster public dialog
- ✓ Start training on FEMA/CDBG-DR programs
- ✓ Incorporate disaster recovery into your Land Use/  
Zoning regulations
  - Temporary moratoriums
  - Non-conforming uses
  - **Resiliency!**



Abby Shannon, AICP  
Long Range Planning Manager  
Boulder County Land Use  
[ashannon@bouldercounty.org](mailto:ashannon@bouldercounty.org)





# **Increasing Integration and Engagement for Resilience Planning**

Brian E. Wilkerson, MURP  
Revolution Advisors LLC

March 13, 2015

# Integration Across Departments

## Water

Ensure the reliable supply of clean drinking water as a fundamental component of public health

Provide sustainable water resources for agriculture and other businesses to support the economic development of the SRST

Mitigate extreme water fluctuations resultant of Missouri River flow mismanagement

Provide water utilities to homesites and businesses

Determine opportunities and feasibility of improved water treatment facilities

## Land

Land acquisition and ownership (Increase and consolidate tribal lands into larger, productive tribal tracts)

Proactively identify Land for Housing

Achieve comprehensive land use planning and zoning

## People

Educational outreach on land ownership, acquisition, and land consolidation efforts

Develop a TRIBAL FIRST public outreach campaign, designed to promote a unified vision for integrated planning among the eight districts.

Preserve the cultural heritage of the SRST

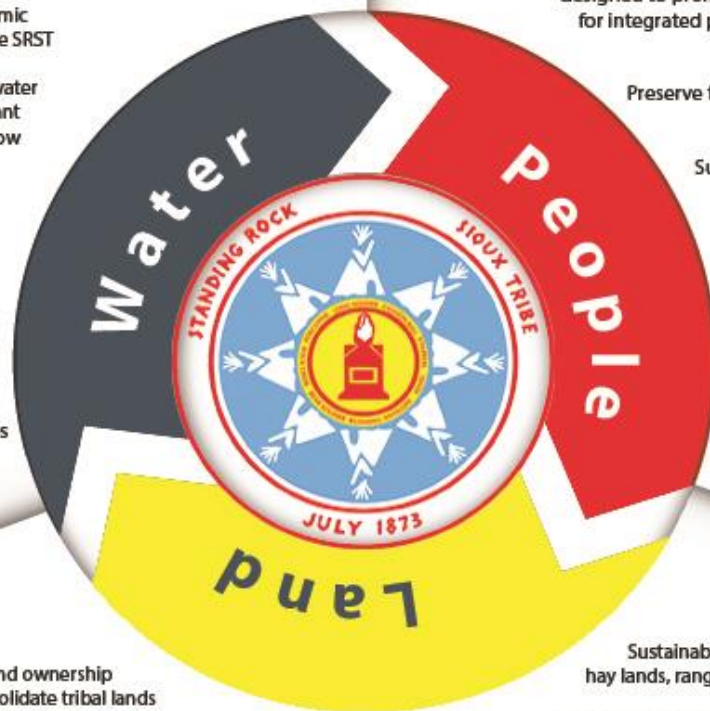
Support public health initiatives and programs

Promote a business-friendly environment that supports and encourages enrolled members

Sustainably manage croplands, hay lands, range and wildlife habitat

Coordinate pest management program across all resource mgmt departments

Leverage GIS mapping technology and land management software to aid decision making



2013-2017

Standing Rock Sioux Tribe



Integrated  
Resource  
Management  
Plan

# Achieving Integration



## RISK ASSESSMENT

- What natural, economic, geographic or other conditions pose threats?
- What assets or conditions in our community create opportunities?
- What could prohibit us from achieving our community vision? (likely / unlikely)



## FAR FUTURE MODELING

- What social, cultural, demographic and other changes should we track?
- What is the future of technology, business, world affairs, etc.?
- What disruptions could change the competitive advantage of our community?



## BUILD ORGANIZATION CAPACITY

- Increase the ability of our planners to assess and design for resilience
- Open organization boundaries to encourage exploration and sensemaking
- Build process mastery and connected networks



## INFUSE, MEASURE, ADAPT

- Make resilience an explicit criteria for evaluating plans
- Constantly measure and monitor resilience
- Adapt plans, policies, etc. based on the results

# Analyzing Investment in Common Terms

	Most Likely to Succeed	Maximum Revenue	Culture & Traditions	Training & Development	Self-Governance	Economic Self-Sufficiency	# of Living Wage Jobs	ED Outside Res Boundaries	Private Business Ownership	Infrastructure Improvement	Create Flexible Jobs	Address Housing Shortage	Clean, Healthy, Safe Community	Cohesive & Supportive Community
Increases Self-Governance	3.50	3.17	4.00	4.00	3.63	4.00	4.14	3.50	3.50	3.50	4.00	4.00	3.50	4.00
Increases Economic Self-Sufficiency	3.88	3.67	4.43	4.43	3.88	4.43	4.43	3.88	3.88	3.88	4.43	4.43	3.88	4.43
Livable Wage Jobs Created	8.00	9.00	9.14	9.14	8.50	9.14	9.71	8.00	8.00	8.00	9.14	9.14	8.00	9.14
Improves Infrastructure	3.50	3.00	4.00	4.00	3.25	4.00	3.71	3.50	3.50	3.50	4.00	4.00	3.50	4.00
Creates Alternative Approaches to Housing Shortage	2.75	2.67	3.14	3.14	2.75	3.14	3.14	2.75	2.75	2.75	3.14	3.14	2.75	3.14
Promotes Clean, Safe, Healthy, Substance-Free Community	3.25	3.17	3.71	3.71	3.25	3.71	3.71	3.25	3.25	3.25	3.71	3.71	3.25	3.71
Promotes Cohesive & Supportive Community	2.38	2.33	2.71	2.71	2.38	2.71	2.71	2.38	2.38	2.38	2.71	2.71	2.38	2.71

# Examples From Communities



- Energy Production for Community Needs and Competitive Advantage
- Virtuous Cycle of Food Production and Community Health
- Broadband as a Business and Community Foundation
- Taking Over Services from Outside Providers



- Ongoing **Alignment** around Community Vision and Promote **Involvement / Connection**
- Regular **Scenario Modeling** with Triangle Distributions (Best / Worst / Likely)
- Build **Diversity** and **Modularity**
- **Connections** with Outside Resources (other communities, etc.) for Exploration, Sensemaking, and Assistance
- Rapid **Feedback** Loops that Translate into Action

# Integration Model



# Community First Development

- Focus Development on Systematically Meeting the Needs of the People
- Address Key Systems
  - Food Security
  - Energy
  - Water
  - Housing
  - Transportation
  - Public Health
  - Government
  - Safety
  - Elder Care
- At the same time, provides an Advantage for Economic Development



# Strategies for Ensuring Participation

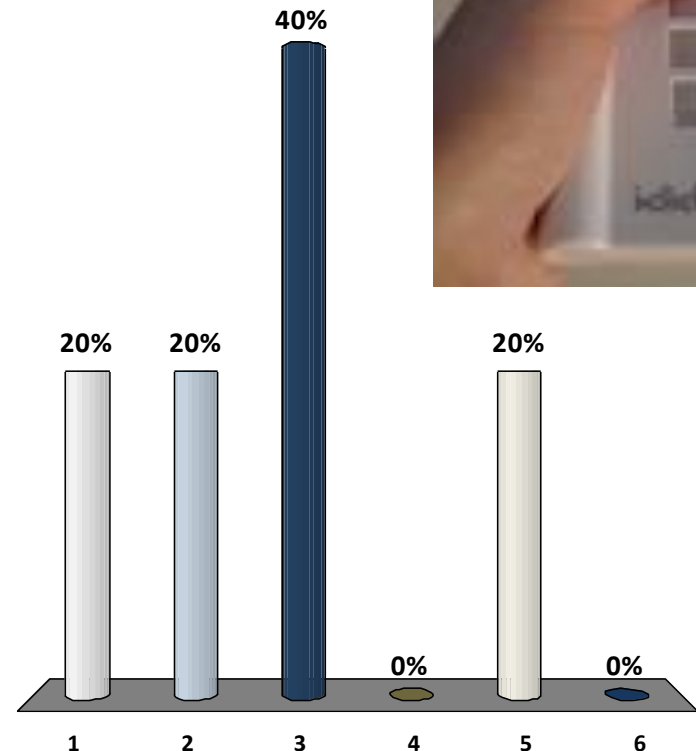
- Meet them where they are
- Bring a friend (or 100 friends)
- My kid made me do it
- Bribe them (or provide incentives)
- Chain Letters
- Make it Timely
- Moving Beyond the “Usual Suspects”



# Moving Beyond Traditional Meeting Designs

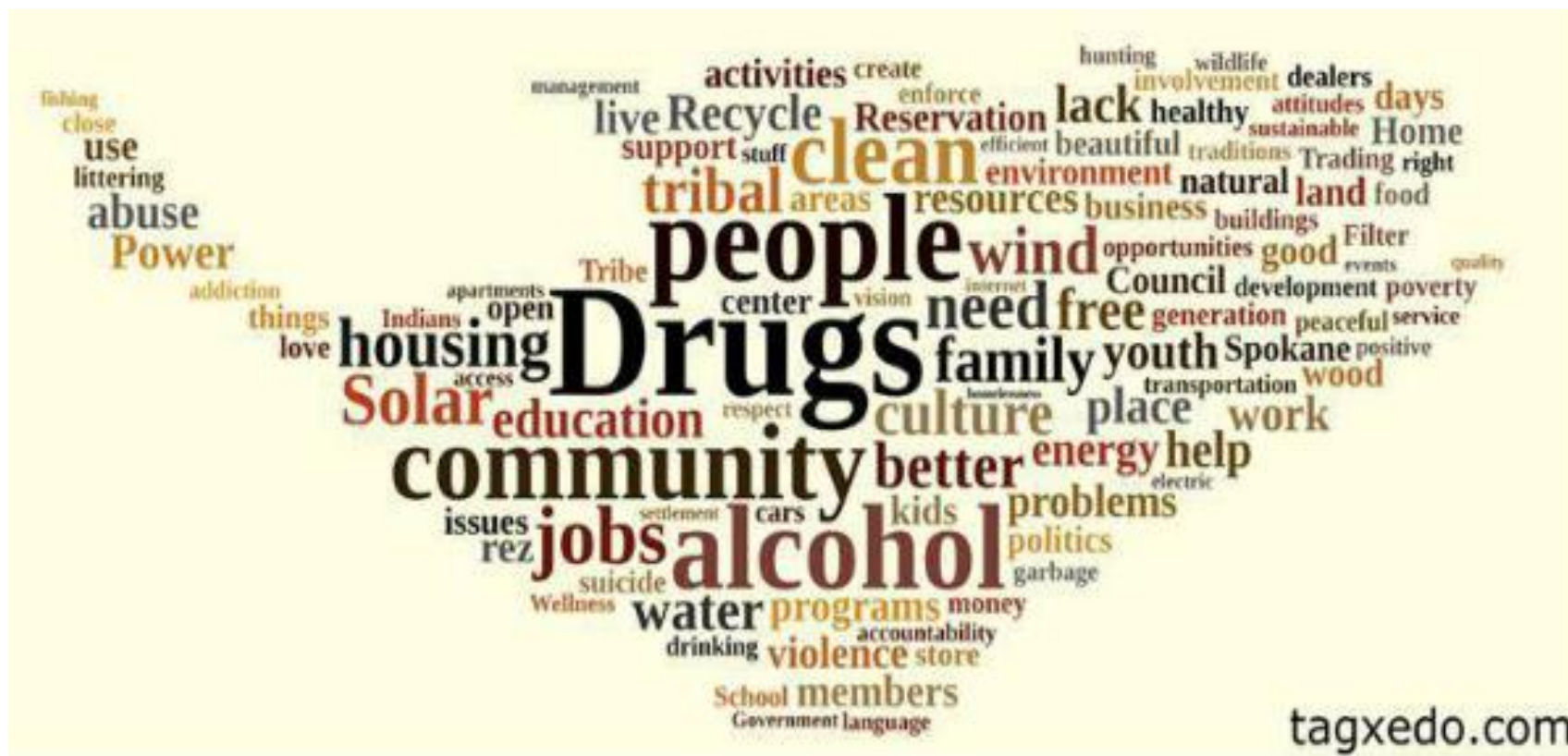
**Which is the most important among the following categories of goals?**

1. Development that reflects Community Character
2. Self-Sufficiency
3. Promoting Entrepreneurship
4. Education, Housing, and Infrastructure that Promote Economic Development
5. Healthy Community
6. Promoting Full Employment with Living Wage Jobs



**Example Numbers Only**

# Representing Community Feedback



## ***Spokane Guiding Principles***

- 1) Coordinate policies and leverage investment
- 2) Enhance economic competitiveness
- 3) Support existing communities
- 4) Promote equitable, affordable housing
- 5) Provide more transportation choices



Available at [www.spokanetribe.com](http://www.spokanetribe.com)

# Keys to Consensus Building

- Creating Goals that measure the interests of **ALL stakeholders**
- Creating measures that can demonstrate the impact of a given policy option or development option on **ALL goals**
- **Simulating** multiple possible futures
- Showing the **complete set of impacts** from a given option in ways that stakeholders can understand
- Helping to illustrate **tradeoffs** and building on **common ground**
- Effective **facilitation** and focus on objective analysis



# THANK YOU

Brian E. Wilkerson

**Revolution Advisors LLC**

[bwilkerson@revolution-advisors.com](mailto:bwilkerson@revolution-advisors.com)

(720) 409-5301





Rocky Mountain Land Use Institute Conference  
March 12 – 13, 2015

**Climate Smart Cities:  
Using GIS for Climate Resiliency and  
Scenario Planning**

Breece Robertson  
*National GIS Director*

THE TRUST *for* PUBLIC LAND

LAND FOR PEOPLE

# Our Mission

The Trust for Public Land conserves land for people to enjoy as parks, gardens, and other natural places, ensuring livable communities for generations to come.



# Leadership in GIS and Planning Applications

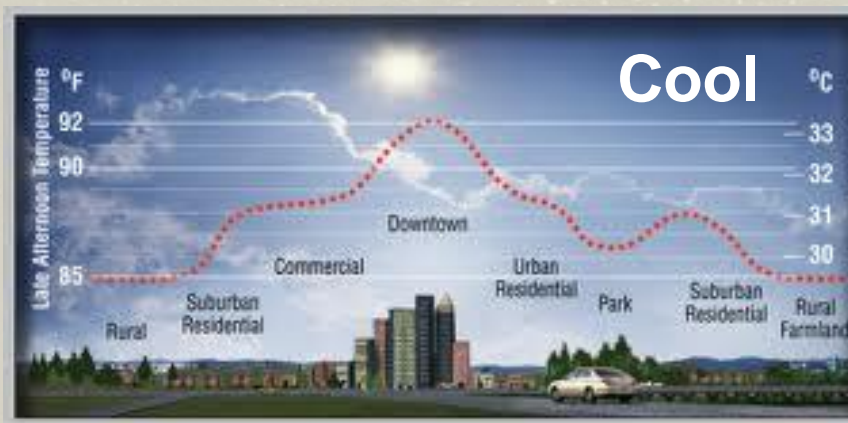


# Green Cities to Become Climate-Smart

**Connect**



**Cool**



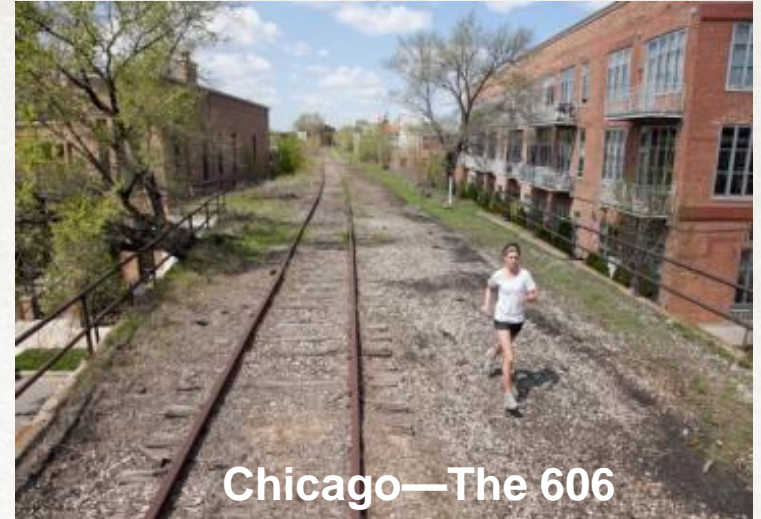
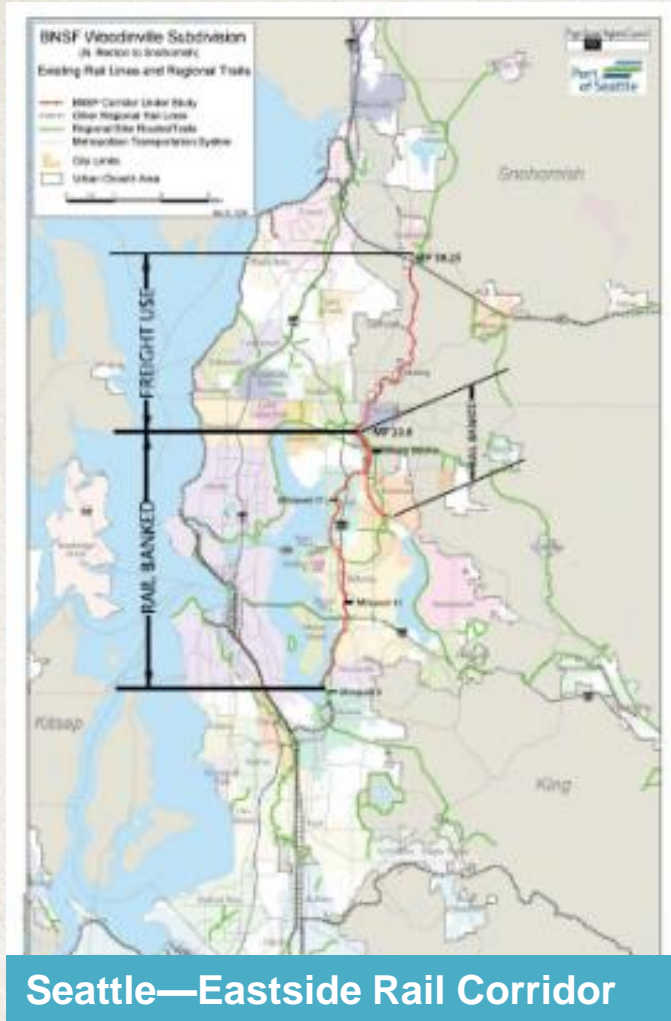
**Absorb**



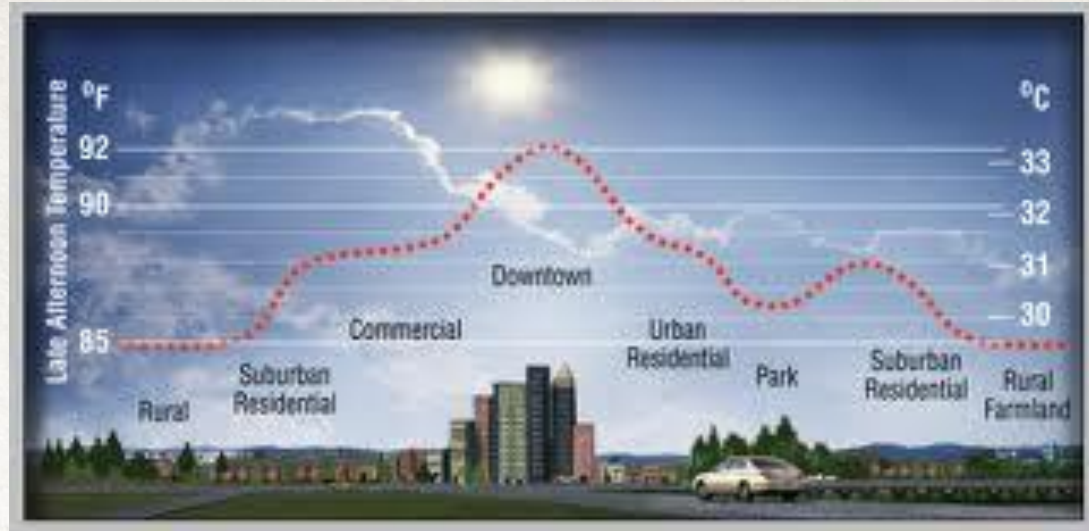
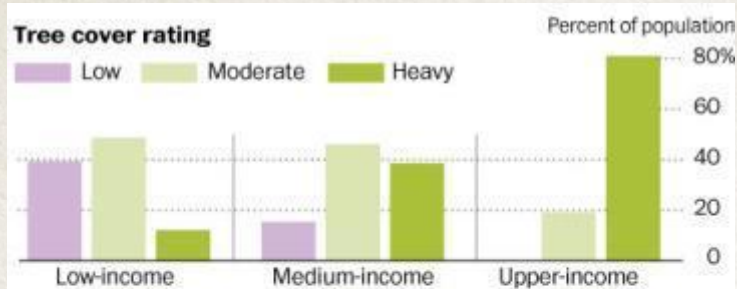
**Protect**



# Connect – To Save ½ Lb. CO2 & 1.3 Cents Per Mile



# Cool – Add Green to Cool Air by 5-22 Degrees



# **Absorb** – To Clean Urban Waters & Recharge Aquifers

*Ballona Wetlands*



*Los Angeles Green Alleys*




*LA River Restoration*



# Protect – Green Shorelines to Buffer Cities





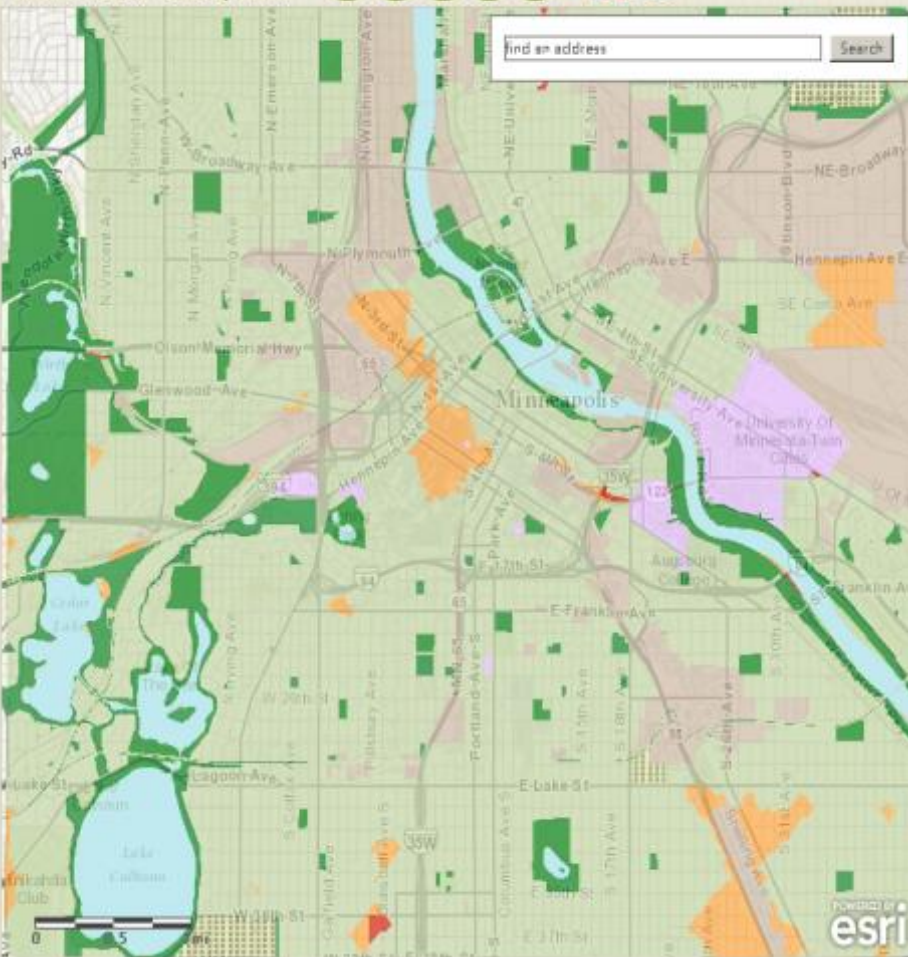
*North Shore Park,  
Staten Island*



*Old Place Creek,  
Staten Island*

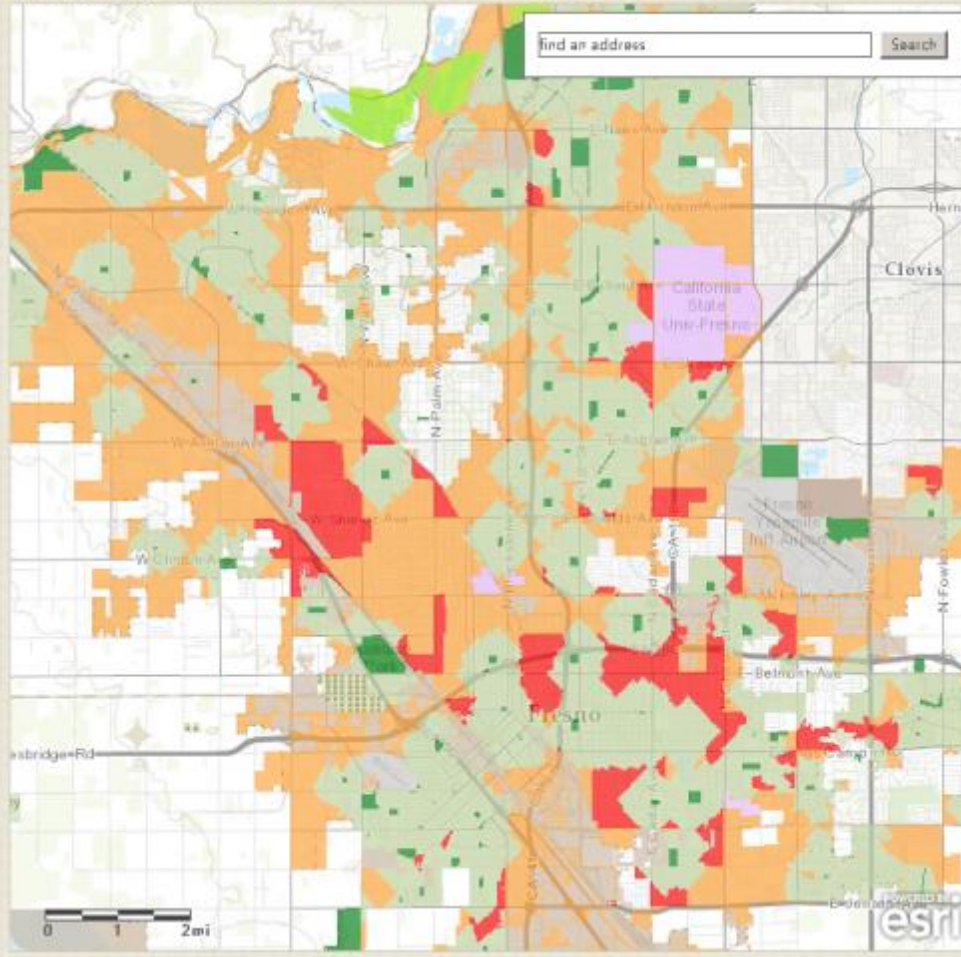
# MINNEAPOLIS, MN

 = **81.0** ParkScore 



# FRESNO, CA








 = **27.5** ParkScore 



## MINNEAPOLIS, MN



[DOWNLOAD MAP & TABLES](#)

Rank 	Population 	Acreage 		Services & Investment 		Access 	Raw Score 	ParkScore 
1 out of 50	379,969	27 MAX 40		32 MAX 40		38 MAX 40	97 MAX 120	81.0 MAX 100
		Median Park Size	Park Land as % of City Area	Spending per Resident	Playgrounds per 10,000 Residents			
		12 MAX 20	15 MAX 20	20 MAX 20	12 MAX 20			

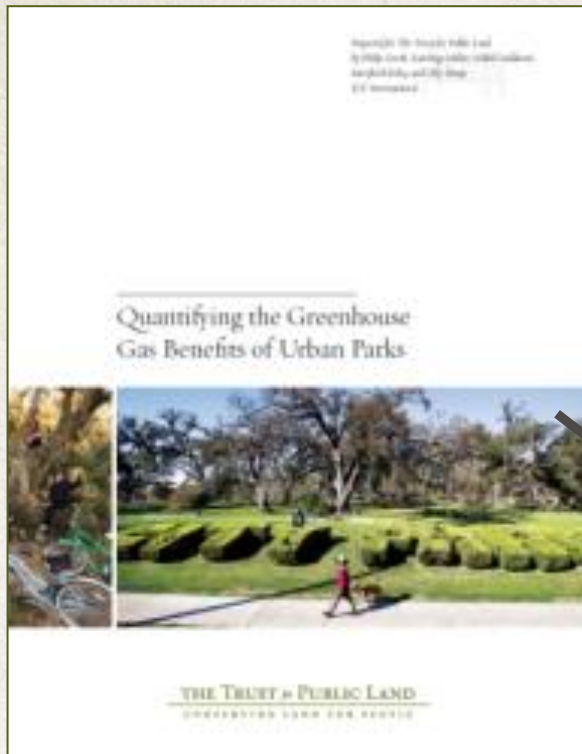
## FRESNO, CA



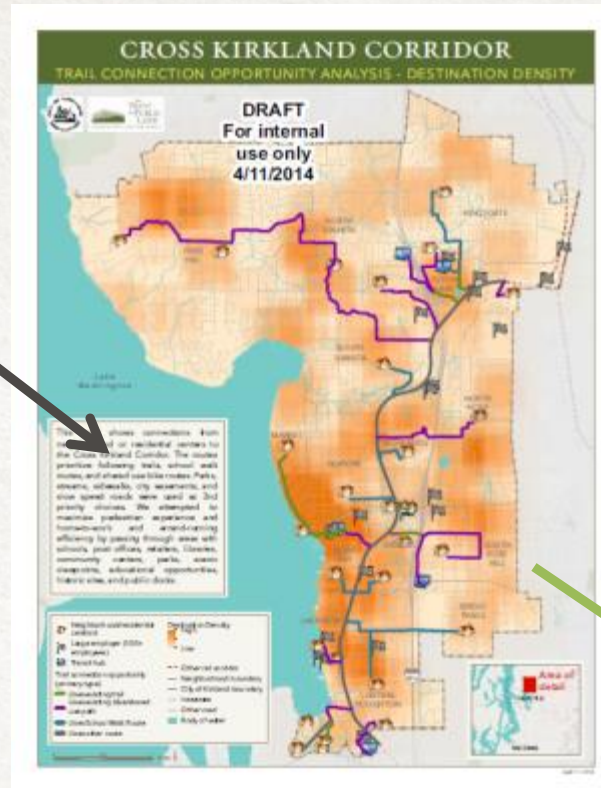
[DOWNLOAD MAP & TABLES](#)

Rank 	Population 	Acreage 		Services & Investment 		Access 	Raw Score 	ParkScore
50 out of 50	468,337	10 MAX 40		7 MAX 40		16 MAX 40	33 MAX 120	27.5 MAX 100
		Median Park Size	Park Land as % of City Area	Spending per Resident	Playgrounds per 10,000 Residents			
		9 MAX 20	1 MAX 20	5 MAX 20	2 MAX 20			

# Climate-Smart Cities Pilot: *Eastside Rail Conversion to **Connect** Seattle*



**RESEARCH:**  
Quantify CO2  
Reductions

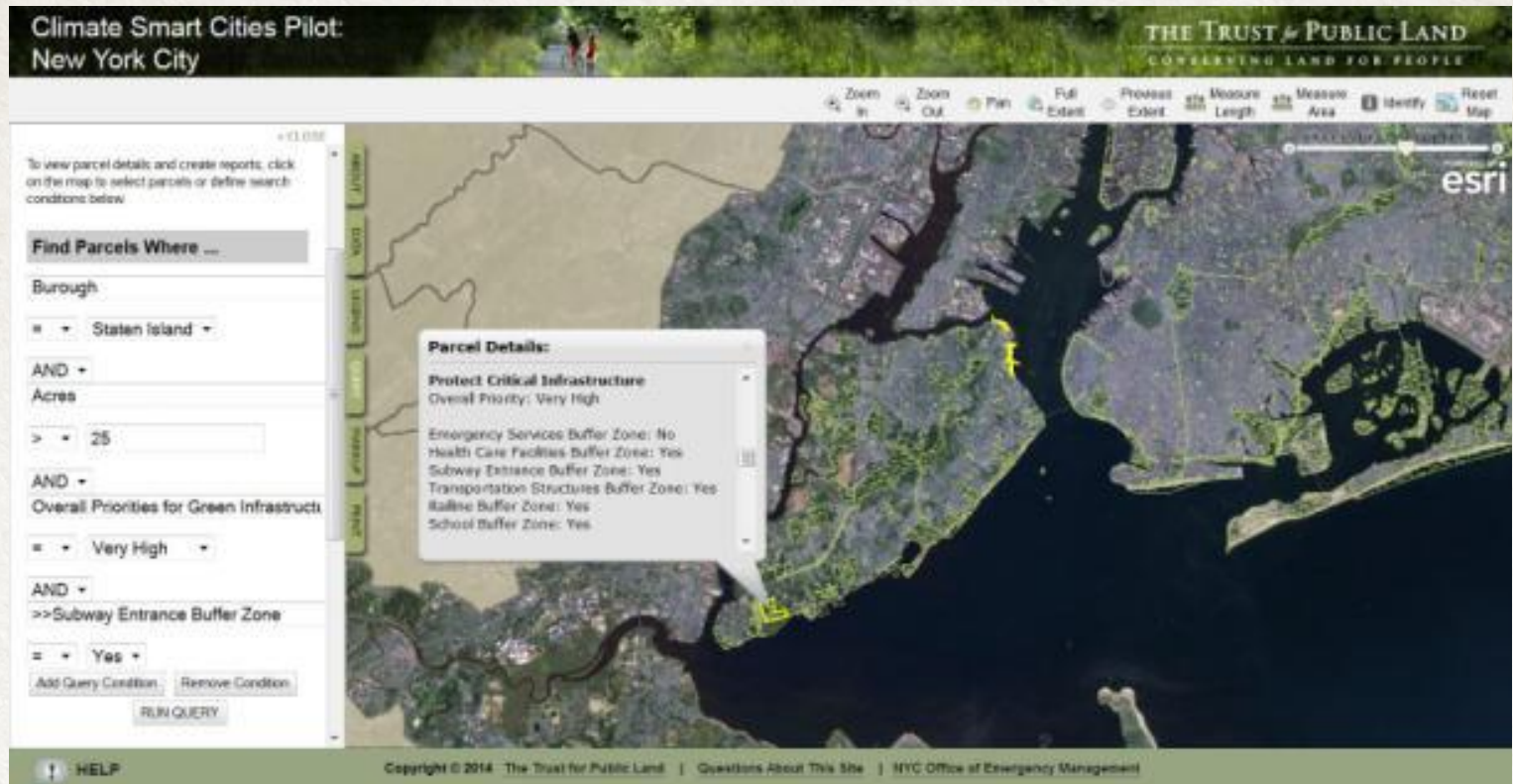


**GIS: Design  
Connected  
Network**



**DEMONSTRATION:**  
Connect + Absorb

# Climate-Smart Cities Pilot: Green Shorelines to *Protect* NYC Waterfront



**RESEARCH:** Assess Past Performance of Green Buffers

**GIS MAPPING:** Target Highest Value Sites

**DEMONSTRATION:** Innovative Designs on Priority Sites

THE TRUST For Our LAND

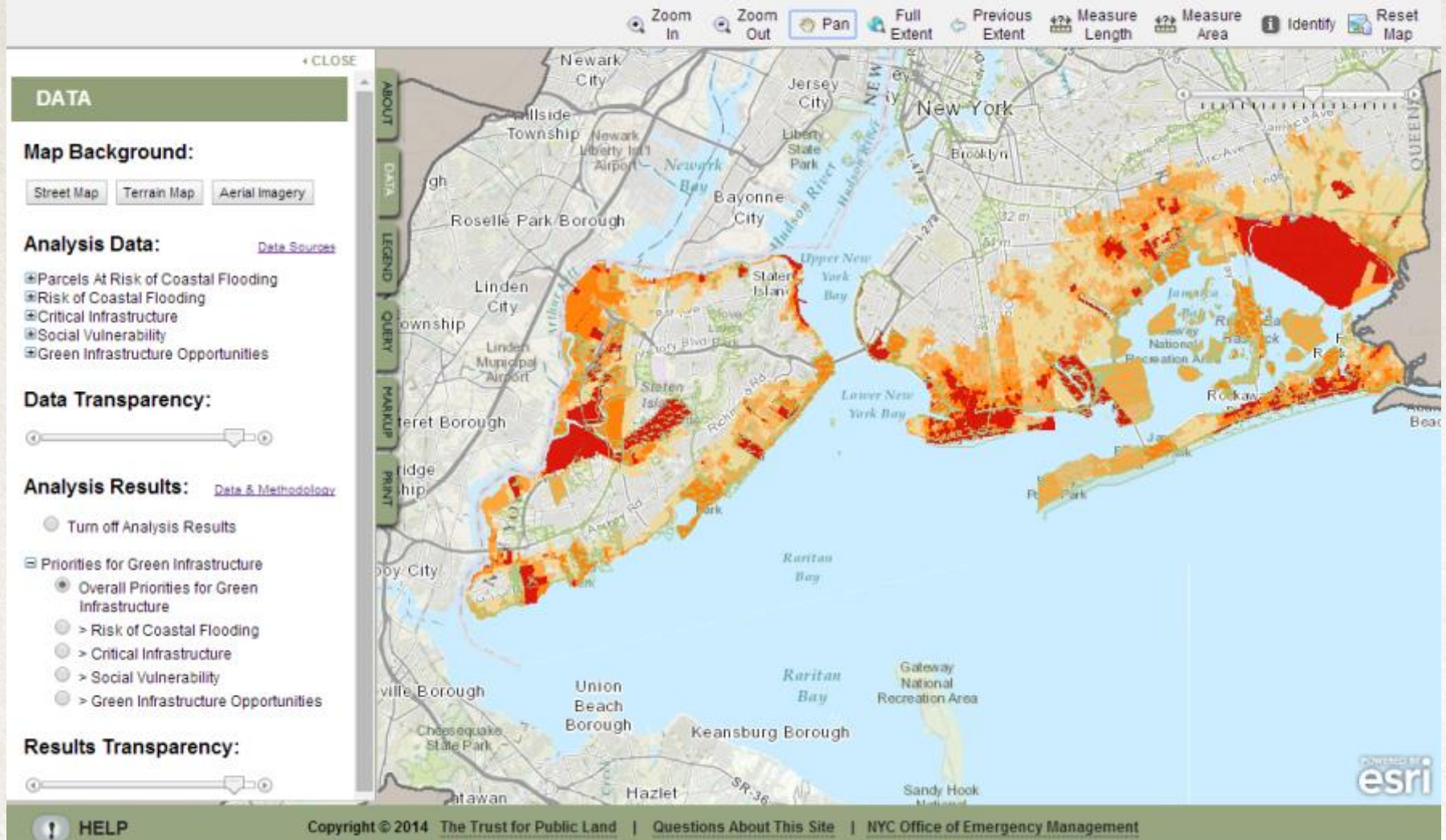
- THE TRUST For Our LAND



- THE TRUST For Our LAND

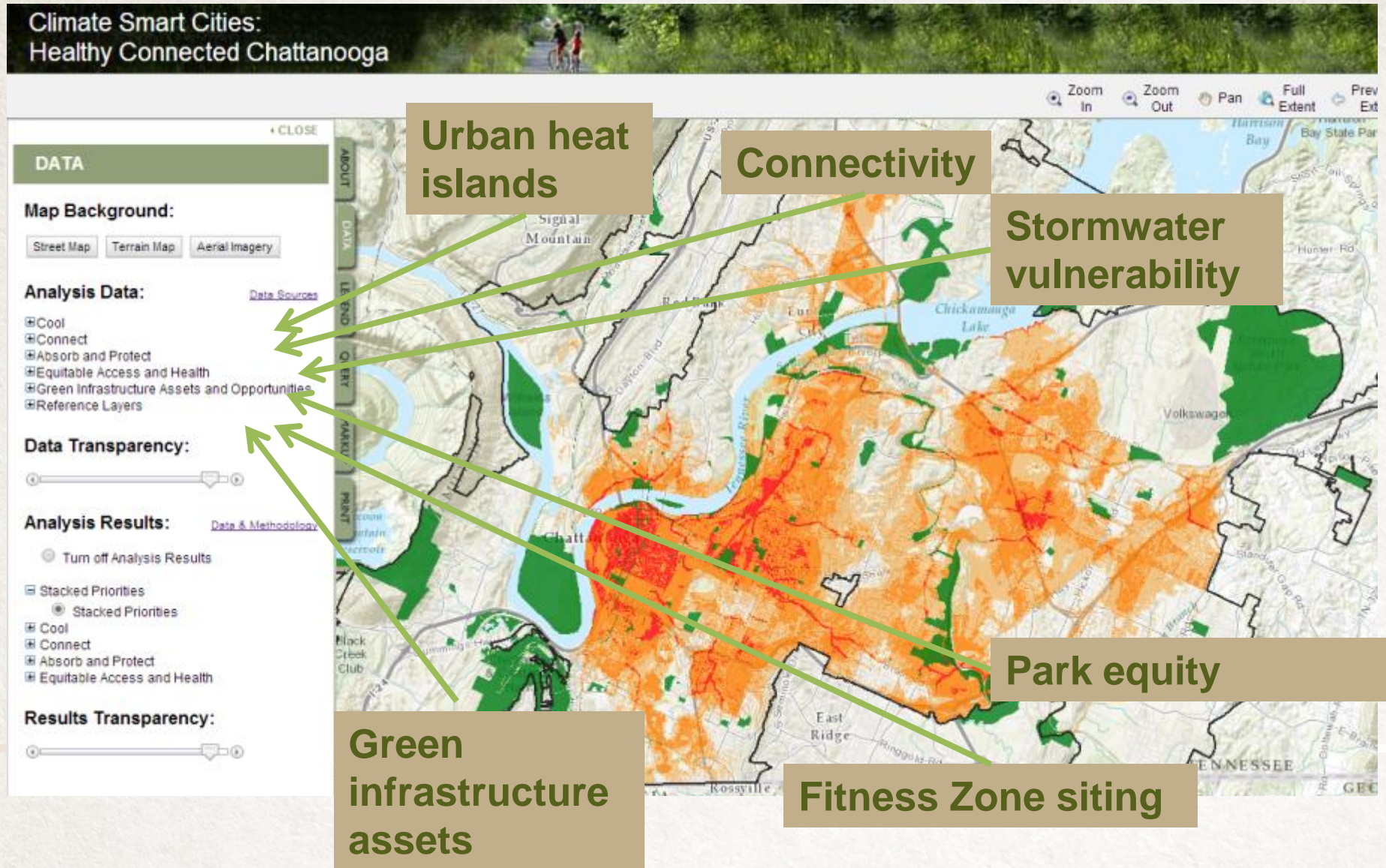
# Climate Smart Cities Pilot: New York City

THE TRUST for PUBLIC LAND  
CONSERVING LAND FOR PEOPLE



TPL's Custom Online GIS Platform (Portal) Applies Data and Planning to Specific Locations for Analysis

# The Online Decision Support Tool Integrates All Relevant Data and Completed Modeling





# Climate Smart Cities: Healthy Connected Chattanooga

THE TRUST for PUBLIC LAND  
CONSERVING LAND FOR PEOPLE

Zoom In Zoom Out Pan Full Extent Previous Extent Measure Length Measure Area Identify Reset Map

## Find Parcels Where ...

Overall: Stacked Priorities - has priority acre

= Yes

AND

>>Combined Sewer System Areas

= Yes

AND

Goal: Equitable Access and Health - has pri

= Yes

AND

>>Vacant

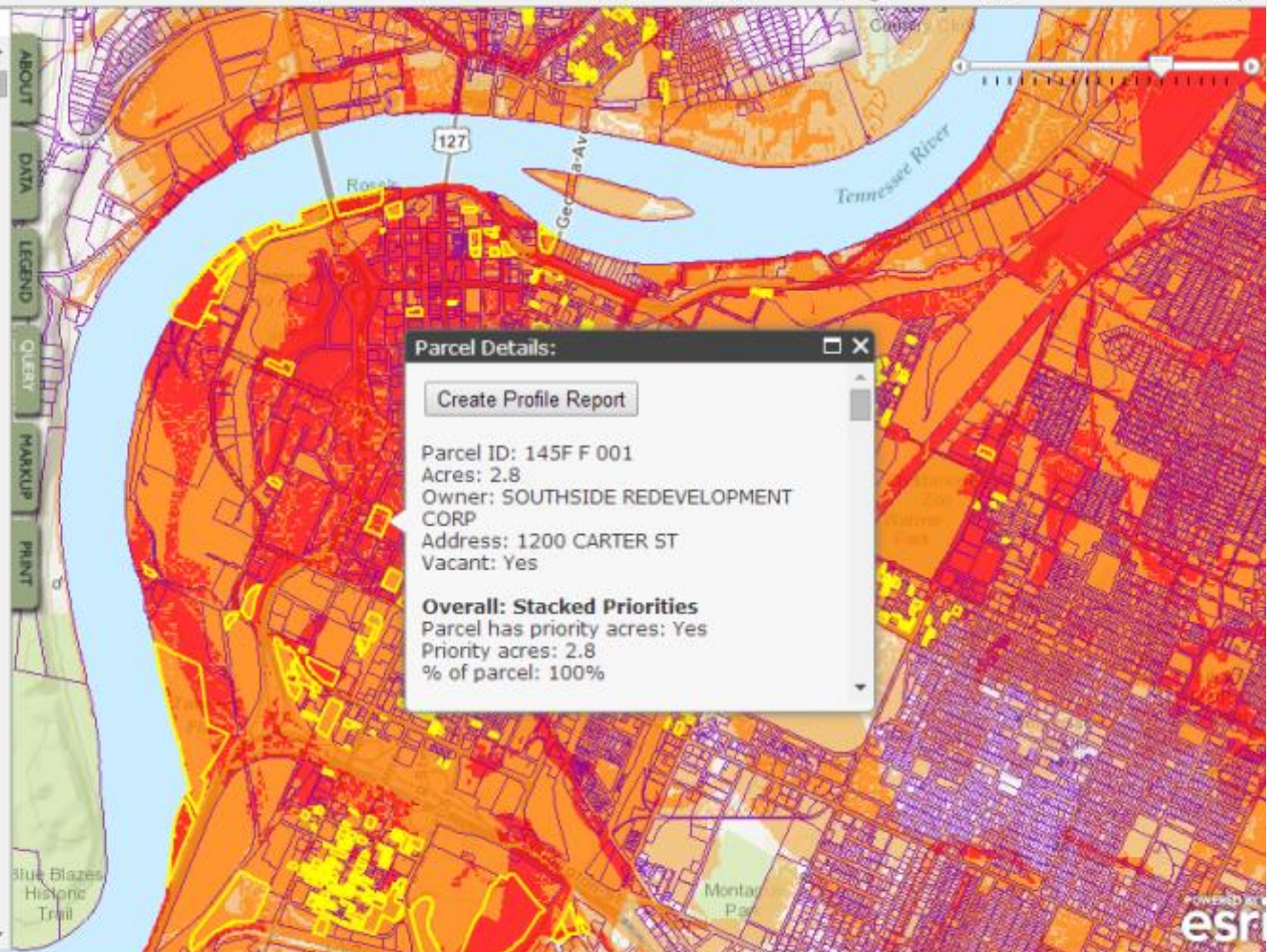
= Yes

Add Query Condition

Remove Condition

RUN QUERY

## Query Results



! HELP

Copyright © 2014 The Trust for Public Land | Questions About This Site | Benwood Foundation

## Climate Smart Cities: Healthy Connected Chattanooga Parcel Report

Parcel ID: 136C B 001

Owner: CINCINNATI NEW ORLEANS & TEXAS

Acres: 26.0

### LEGEND

#### Reference Data

- City Limits
- Parcels
- Parks
- Vacant Parcels

#### Analysis Results

##### Stacked Priorities

- High Priority
- Moderate To High Priority
- Moderate Priority



### Overall: Stacked Priorities

PARCEL HAS PRIORITY ACRES: Yes  
PRIORITY ACRES: 17.4  
PERCENT OF PARCEL: 100%

### Goal: Cool

PARCEL HAS PRIORITY ACRES: Yes  
PRIORITY ACRES: 17.4  
PERCENT OF PARCEL: 100%

	PARCEL HAS PRIORITY ACRES	PRIORITY ACRES	PERCENT OF PARCEL
Daytime Heat Island Hot Spots	Yes	17.4	100%
Nighttime Heat Island Hot Spots	Yes	17.4	100%
Areas of High Impervious Surface	Yes	17.4	100%

This report was created on June 12, 2014 using the Climate Smart Cities: Healthy Connected Chattanooga site.  
2014 The Trust for Public Land. TPL, The Trust for Public Land, and The Trust for Public Land logo are trademarks of The Trust for Public Land. <http://www.tpl.org>

## Climate Smart Cities: Healthy Connected Chattanooga Parcel Report

Parcel ID: 136C B 001

Owner: CINCINNATI NEW ORLEANS & TEXAS

Acres: 26.0

### Goal: Priority Connections and Adjacent Properties

PARCEL HAS PRIORITY ACRES: No  
PRIORITY ACRES:  
PERCENT OF PARCEL:

	PARCEL HAS PRIORITY ACRES	PRIORITY ACRES	PERCENT OF PARCEL
--	---------------------------	----------------	-------------------

### Goal: Absorb and Protect

PARCEL HAS PRIORITY ACRES: Yes  
PRIORITY ACRES: 17.4  
PERCENT OF PARCEL: 100%

	PARCEL HAS PRIORITY ACRES	PRIORITY ACRES	PERCENT OF PARCEL
Estimated Runoff Volume	No		
Wetness Index	Yes	17.4	100%
Floodways and Flood Zones	Yes	17.4	100%
Stream Corridor Evaluation (SCORE) for Riparian Buffers	No		
Wetland and Pond Buffers	No		
Combined Sewer System Areas	No		
Illicit Discharge Potential (IDP) Scores by Subbasin	Yes	17.4	100%

### Goal: Equitable Access and Health

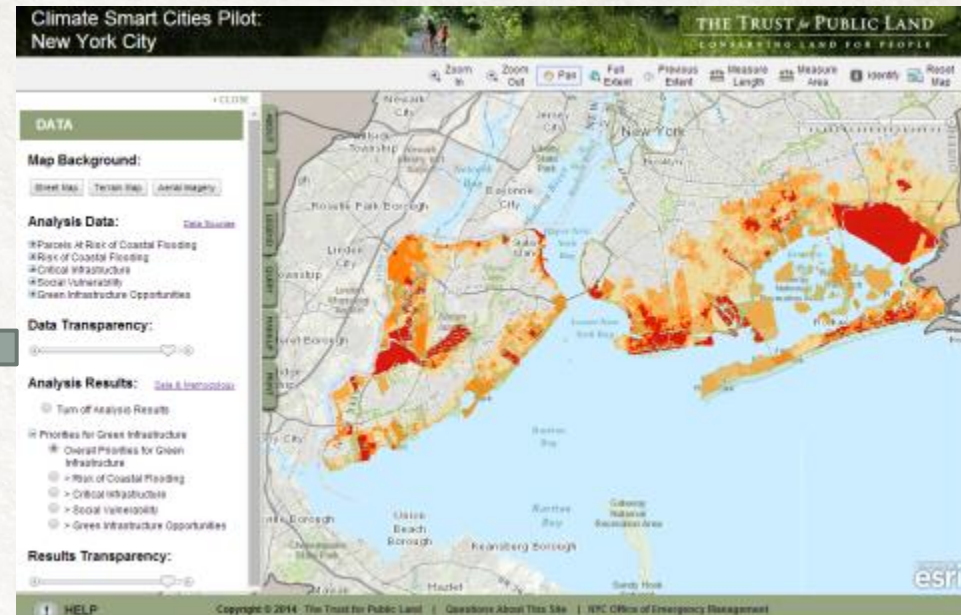
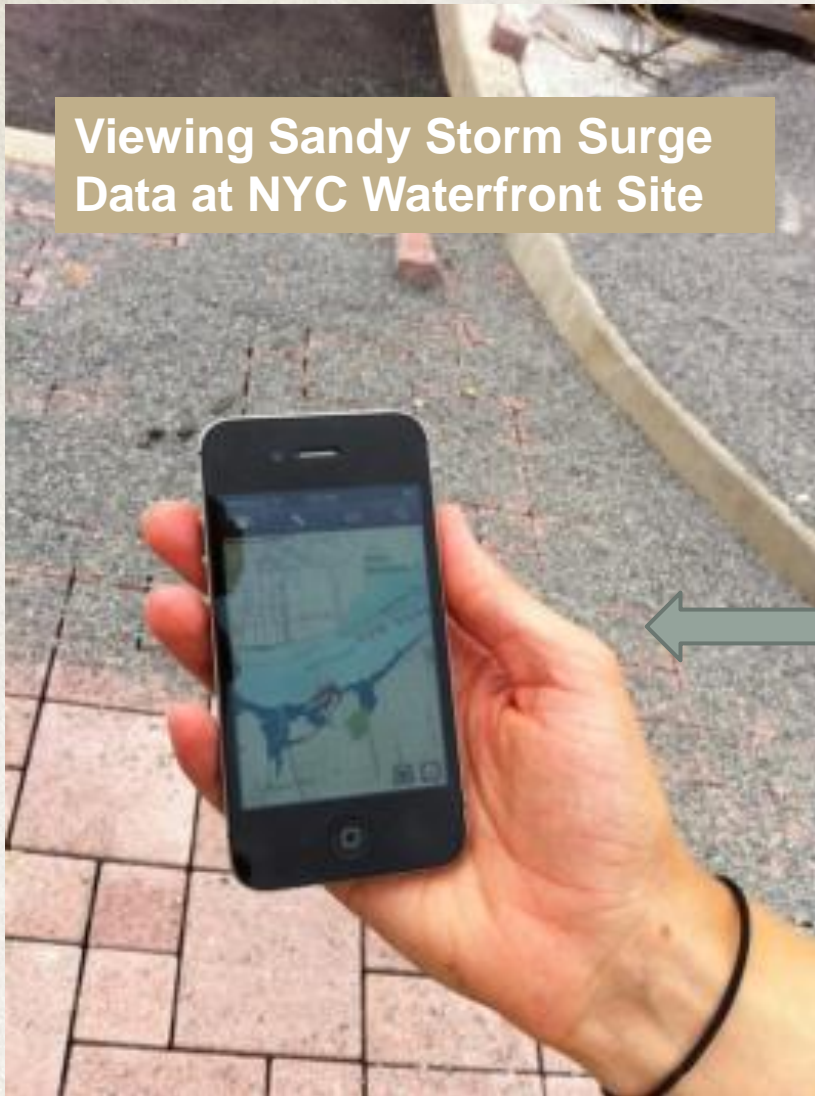
PARCEL HAS PRIORITY ACRES: Yes  
PRIORITY ACRES: 17.4  
PERCENT OF PARCEL: 100%

	PARCEL HAS PRIORITY ACRES	PRIORITY ACRES	PERCENT OF PARCEL
% Obese Teens	Yes	17.4	100%
Likelihood of Obese or OverWeight Adults	Yes	17.4	100%
Likelihood of Adults not meeting Physical Activity	Yes	17.4	100%
Likelihood of Heart Disease	Yes	17.4	100%
Likelihood of Diabetes	Yes	17.4	100%
Likelihood of Suicide	No		
Likelihood of Respiratory Disease	Yes	17.4	100%
Likelihood of Stroke	Yes	17.4	100%
Population Density	No		
% Kids 19 and under	Yes	17.4	100%
% Seniors 65 and older	Yes	17.4	100%
% Low Income households	No		
Access to Recreation Facilities	Yes	17.4	100%

This report was created on June 12, 2014 using the Climate Smart Cities: Healthy Connected Chattanooga site.  
2014 The Trust for Public Land. TPL, The Trust for Public Land, and The Trust for Public Land logo are trademarks of The Trust for Public Land. <http://www.tpl.org>

Funding: Show Rationale for Projects w/ 1-Click Parcel Reports

## Viewing Sandy Storm Surge Data at NYC Waterfront Site



Being Online Means Users Can Take Data to the Field



**Green Infrastructure Playground  
P.S. 261, Brooklyn**





Rocky Mountain Land Use Institute Conference  
March 12 – 13, 2015

**Climate Smart Cities:  
Using GIS for Climate Resiliency and  
Scenario Planning**

Breece Robertson  
*National GIS Director*

THE TRUST *for* PUBLIC LAND

LAND FOR PEOPLE



Introducing

**#NedZero**

*and How to Use It*

# A Presentation for

**WESTERN PLACES**

BUILDING FAIR & RESILIENT COMMUNITIES

**WESTERN SPACES**

hosted by

**RMLUI**

ROCKY MOUNTAIN  
LAND USE INSTITUTE



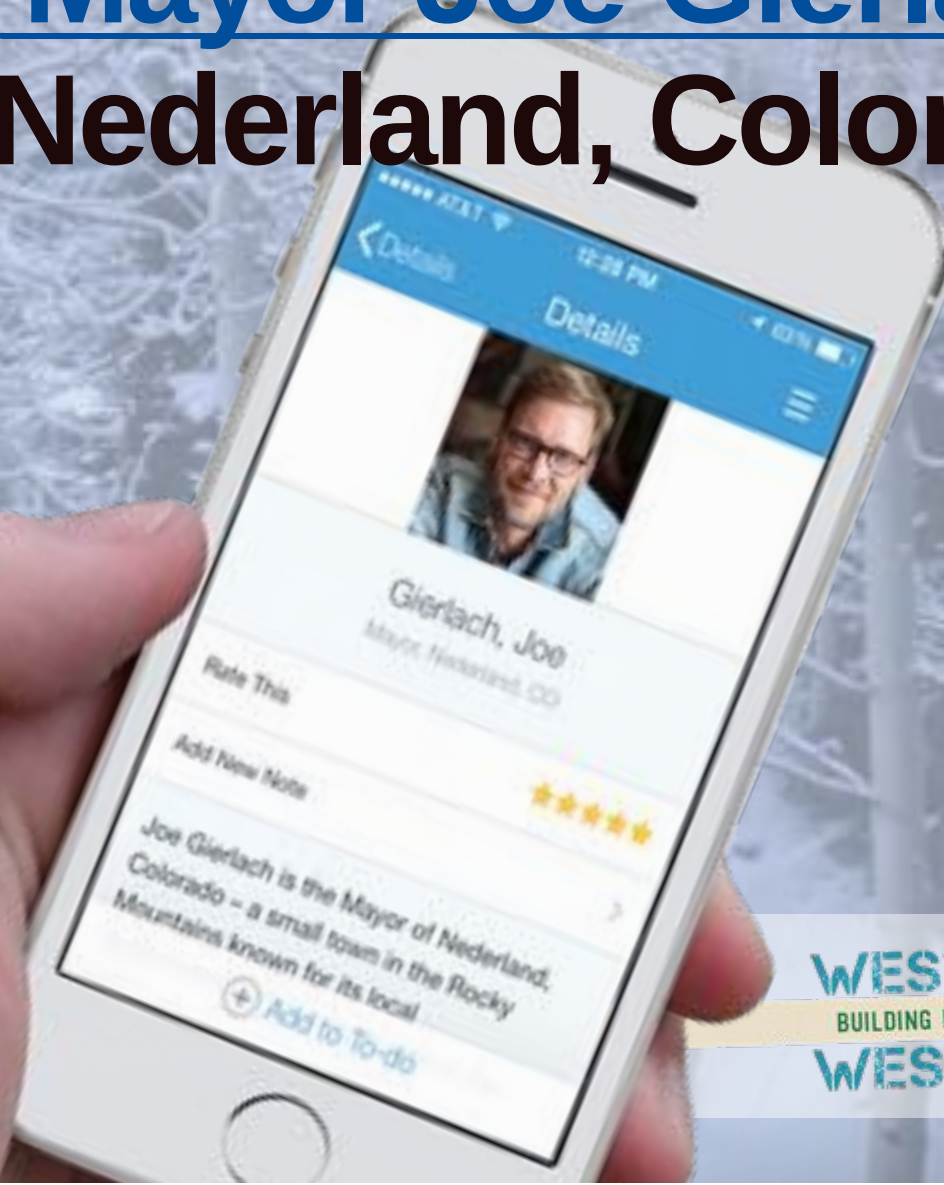
UNIVERSITY *of*  
**DENVER**

STURM COLLEGE OF LAW

# A Presentation by

## Mayor Joe Gierlach

### Nederland, Colorado



**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

# #NedZero

**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**  
STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

# Vision

**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**  
STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

**The idea of #NedZero  
began as the culmination  
of many major  
planning documents**



*Starting in 2010 ...*

**The Nederland  
Board of Trustees  
decided to gather input  
from our citizens  
to create a vision  
for the future of our town.**



*a Year and a Half Later ...*



**The Nederland  
Board of Trustees  
◦ adopted Envision 2020 ◦  
as our guiding document.**





Guess  
What?

**The Nederland  
Board of Trustees  
adopted Envision 2020  
as our guiding document.**



Guess  
What?

The Nederland  
Board of Trustees  
adopted Envision 2020  
as our guiding document.





**The Nederland  
Board of Trustees**  
**adopted Envision 2020.**  
**as our guiding document.**

*...if you want to.*



# A poster of Envision 2020 hangs on the wall of our main meeting room.



## Envision 2020 Nederland, CO

*In Nederland, our greatest assets are our residents – the diverse people who live, work, play and contribute to all aspects of our unique mountain community.*

*Nederland is a complete community guided by a shared vision reflecting community values and priorities. It is a place where our children thrive and people connect, neighbors know and care for one another, and community members are proud of their town, their deep and rich history, and a quality of life that is both deliberate and second to none.*

*Our Community proudly maintains its small-town feel and distinct identity—a small town is beautiful, less is more. As the town grows, our town has grown in a way that is true to our origins while maintaining a sense of sustainability in a way that comes from a healthy economy and a healthy environment is essential for both.*

In 2020, Nederland is a Town Recognized for its Trails, Natural Areas and unwavering commitment to the Environment. Open Spaces are abundant and balanced with Active Recreation Areas and Opportunities. Nederland's Surrounding Wilderness Area and other sensitive Natural Areas are Restored, Protected and Preserved.

In 2020, Nederland continues to focus planning and economic development activities on efforts that address:

- Alternative Energy Sources to fossil fuels for Transportation
- Alternatives for building and the use of Sustainable Material
- Non-Motorized Travel in Town
- Clean Air, Clean Water and Water Conservation in and around Nederland
- Connections to the Outdoor Environment providing Active, Healthy Lifestyles for people of All Ages
- Minimal/Reduced Light and Noise Pollution

In 2020, Nederland's Elected Leaders are Qualified, Competent and Representative of the Entire Community. They are committed to Open and Clear Communication with Town Staff and All Citizens. They Actively Encourage Connections between Residents, Service Providers, Businesses and Government. Critical Information is Easily Accessible to All, and residents Feel Included and have a Sense of Responsibility and Ownership in the Governance Process.

In 2020, Nederland provides Arts and Culture, Education and Community Activities that include the Entire Community and provide Opportunities for Youth.

In 2020, Every Student in Nederland Schools is afforded the Opportunity to Succeed Regardless of Ability. Nederland's Education System is Strong, has High Levels of Parental Involvement and Higher than Average Youth Retention Rates.

In 2020, Nederland has an Accessible Social Service System for Community Members. The Community ensures that its Aging Population remains Healthy, Fully Integrated and an Active Part of the Community.

In 2020, Nederland's Economy is Local, Community Based, Self-Sufficient and is Characterized by Diverse and Essential Products, Services and Jobs that both Support the Local Community and are Mindful of Potential Impacts on the Environment.

In 2020, Nederland encourages and Welcomes New, Non-Traditional Businesses, Services and Tourism, and the Community Consistently recognizes and supports the Mutual Relationship between Residents and Businesses.

In 2020, Nederland Supports its Local Businesses and Works to Attract New Businesses that Enhance Local Services while Supporting Local Values, Qualities and the 2020 Vision.

**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
DENVER

STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

# Planning

**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**  
STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

Over the next several years  
(in the same meeting room)  
the following major  
planning documents were  
debated, created and approved.



In a town known for  
applauding individualism,  
and honoring new ideas.

**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**  
STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

... even celebrating  
our cryogenically frozen  
dead resident.



**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**  
STURM COLLEGE OF LAW



**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

... even celebrating  
our cryogenically frozen  
dead resident.  
March 13-15, 2015

FRIDAY THE 13TH  
in  
March 2015



RMLUI

ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY OF  
DENVER

STURM COLLEGE



WESTERN PLACES

BUILDING FAIR & RESILIENT COMMUNITIES

WESTERN SPACES

back to those...

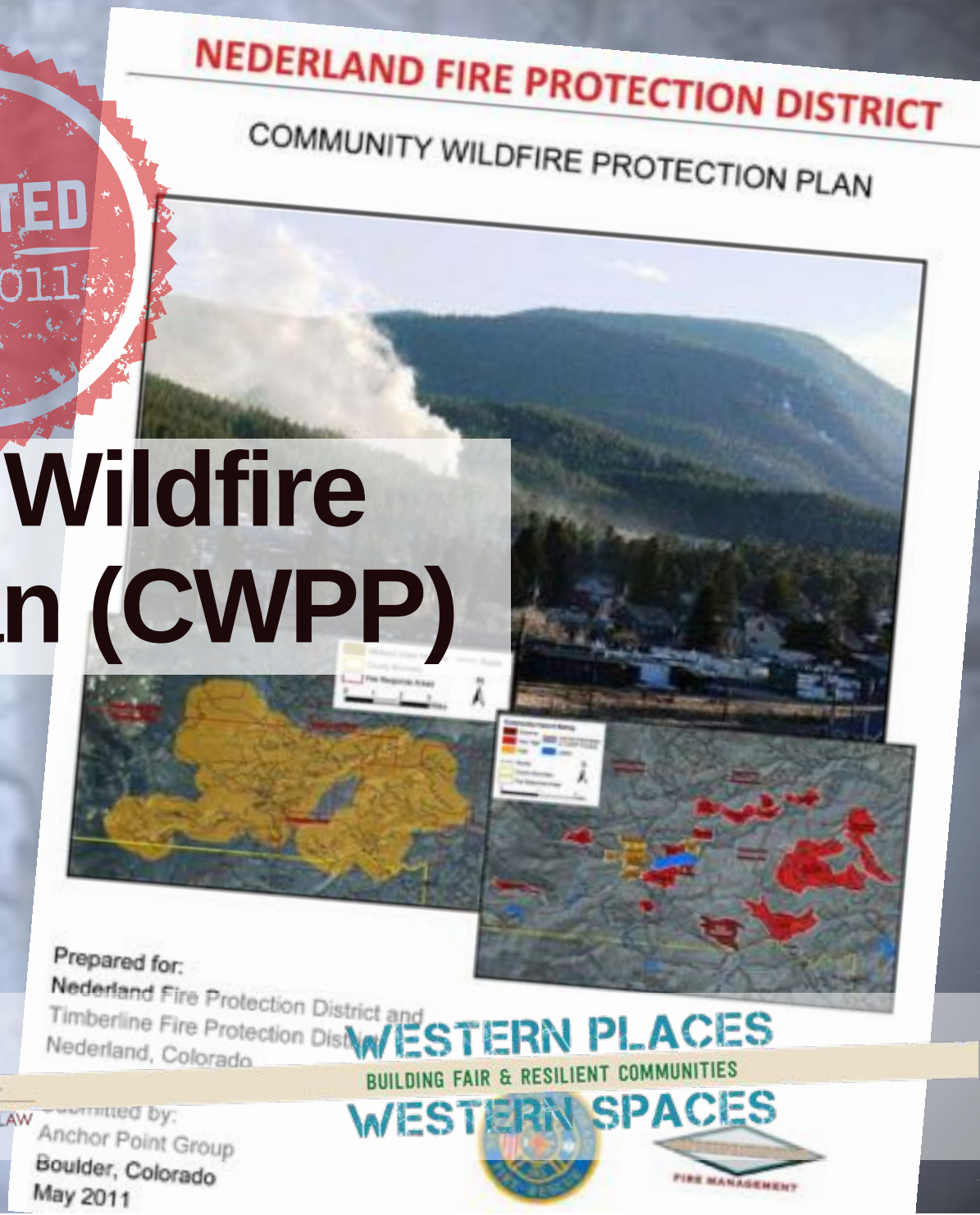
**planning documents**

**Debated, Created, & Approved:**





# Community Wildfire Protection Plan (CWPP)



**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**

STURM COLLEGE OF LAW

Submitted by:  
Anchor Point Group  
Boulder, Colorado  
May 2011

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**





boulder county  
**zerowaste**  
action plan

*Nederland Signed On*

# The Boulder County Zero-Waste Action Plan



As directed by Boulder County's 2005 Zero Waste Resolution, this plan sets forth a vision for attaining Zero Waste "or darn near" throughout Boulder County, including unincorporated area as well as municipalities, by 2025.

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**



# Parks, Recreation, Open Space, and Trails Master Plan

NEDERLAND AREA  
PARKS, RECREATION, OPEN SPACE,  
AND TRAILS MASTER PLAN  
FEBRUARY 2013



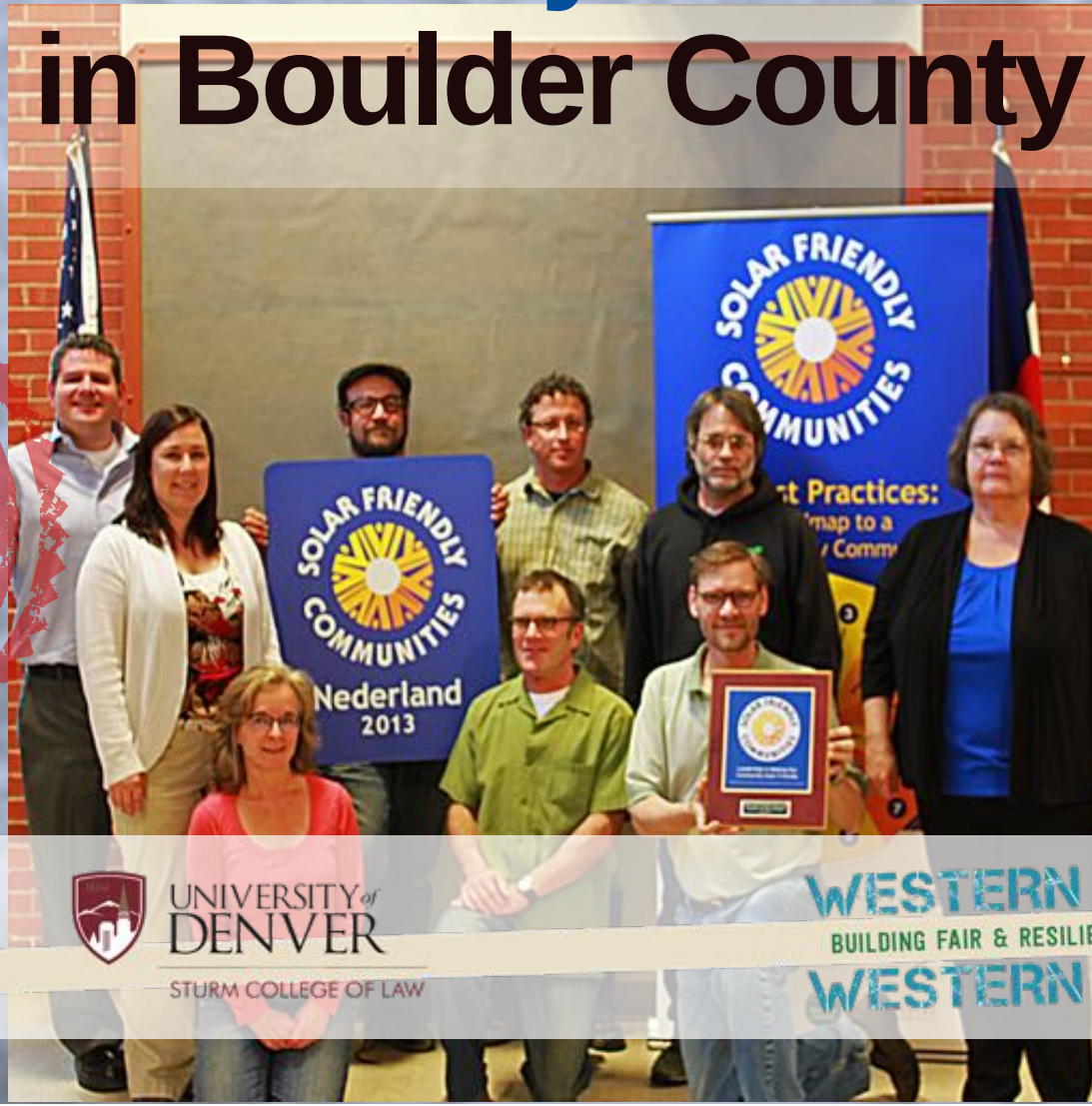
**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**  
STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

# Nederland became the first Solar Friendly Community in Boulder County



**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**

STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

# Increased our resiliency from Earth, Wind and Fire



**RMLUI**

ROCKY MOUNTAIN  
LAND USE INSTITUTE



**WILDFIRE PARTNERS**

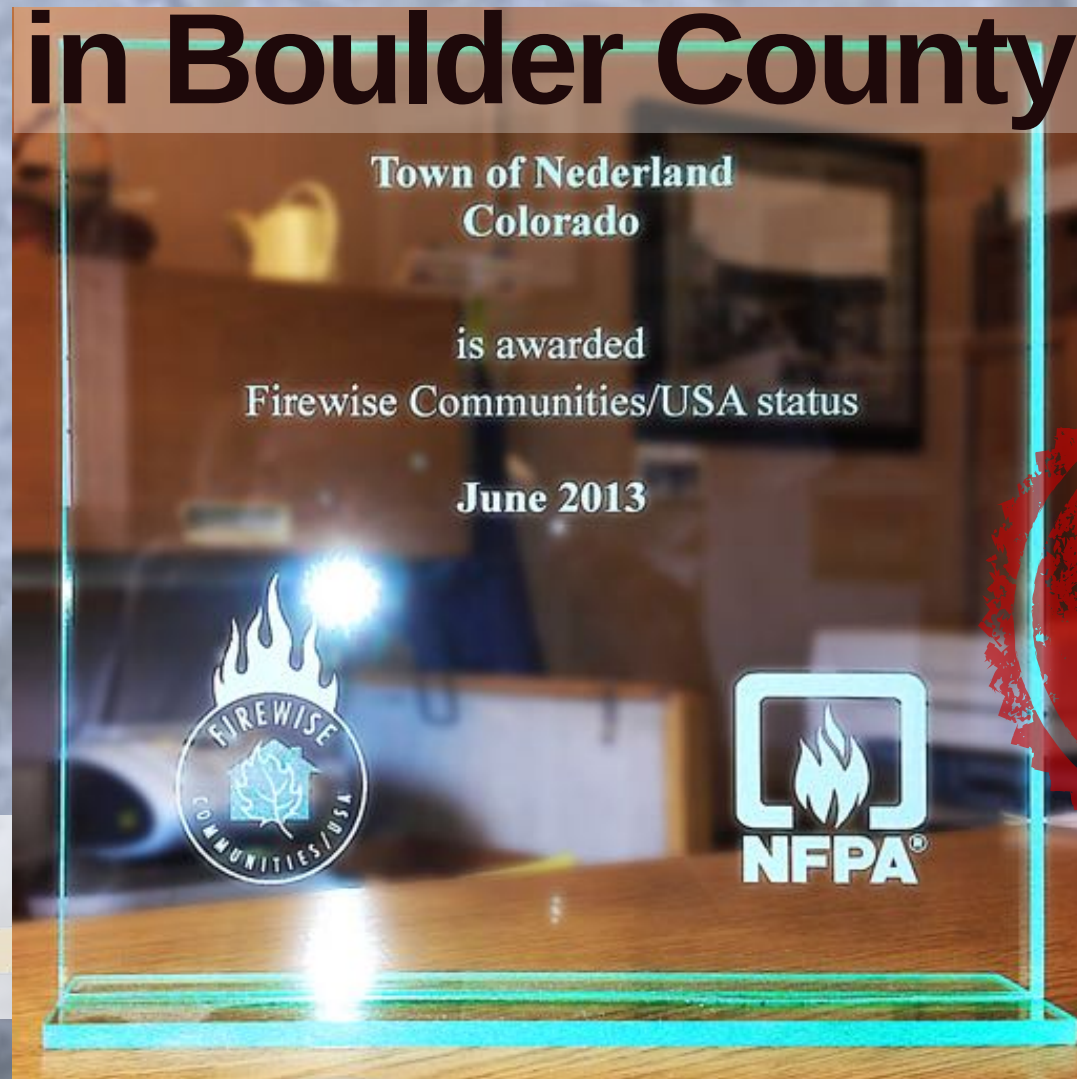
**PLACES**  
NT COMMUNITIES  
**SPACES**

... even if they  
recorded in Nederland



# Nederland became the first **Firewise Community**

## in Boulder County



# The Award-Winning 2013 Comprehensive Plan

ADOPTED  
in  
Nov 2013



**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**  
STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**



# Nederland selected for the Leadership STAR Community Program (smallest town in U.S.)





# Master Infrastructure Plan for the Town of Nederland

our first

# Master Infrastructure Plan



JVA, Inc.  
1319 Spruce Street  
Boulder, CO 80302  
phone: 303-444-1951  
fax: 303-444-1957

JVA Project No. 2122c

APRIL 30, 2014

**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
DENVER

STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

## Sustainability Action Plan Nederland Colorado

ADOPTED  
in  
Sept 2014

# Nederland's first Sustainability Action Plan



**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**  
STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

ADOPTED  
in  
Jan 2015

# Community Center Site Master Plan



**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**  
STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

Nederland Noxious Weed List  
2014

Canada Thistle  
*Cirsium arvense* (Renee)



Description: 2-4 ft tall. Flowers pink, purple, 1/2-3/4" wide. Clusters of 1-5 small flowers per branch. Stem erect, hollow, lower covered with fine hairs. Leaves lance shaped, spine tipped lobes, hairless or fine hairs. Rosette at bottom is spiny tipped with wavy leaves. Roots extensive, fleshy, creeping, forming colonies.

Blooms: Rosette every spring. Flowers June-October.

Controls: Reproducts from seed or root. Needs chemical control. (CO List B).

Common Tansy  
*Tanacetum vulgare*



Description: 1 1/2-4 ft tall. Leaves alternate, deeply divided into narrow toothed segments. Stems often purplish-red, heavily branched towards top. Foliage is strong-smelling when crushed. Toxic for animals or humans to ingest.

Blooms: Flowers July-September

Controls: Reproduces from seed or root. Needs chemical control. (CO List B).

Diffuse Knapweed  
*Centauria diffusa*



Description: 1 1/2-2 ft tall. Flowers white or lavender, solitary or on clusters on each branch tip. Yellow-brown spiny bracts with pronounced tip and fringed edges. Young leaves covered with fine hairs. Leaves finely-divided, becoming reduced as the plant matures. Becomes a tumbleweed in winter. Rosette at base. Taproot.

Blooms: Seeds germinate in spring or late summer. Plants bolt in mid-spring. Flowers June-August

# The Noxious Weed Management Plan



# Nederland is selected for the EPA's program: **Building Blocks for Sustainable Communities**

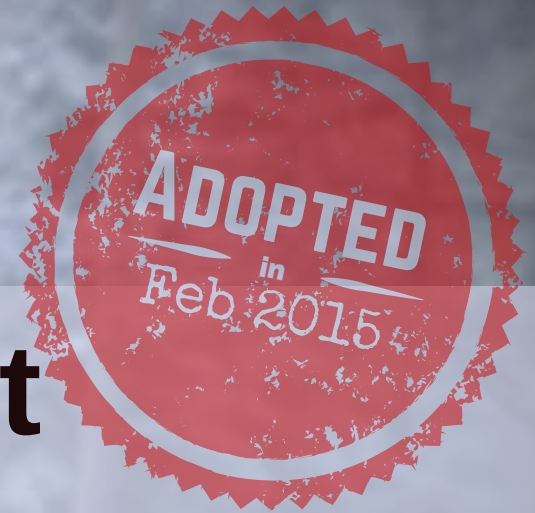


Town of Nederland  
Source Water Protection Plan – **Final Draft**

Boulder County, Colorado  
**December 2014**



# Nederland's first Source Water Protection Plan



Written by: Mark Weritz, P.E.  
Project Manager  
Town of Nederland

Coordinated by: Dylan Eiler  
Source Water Specialist  
Colorado Rural Water Association

For the Community Water Provider:  
Town of Nederland  
PWSID: CO0107538

**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**  
STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

# Need for Action

**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**  
STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

**All of those Master Plans  
are sitting on a shelf.**



# Where else would you put them?

**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**  
STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

Furthermore,  
**while those plans  
were being written ...**



# The Mountain Pine Beetle Epidemic



**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**  
STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

# The Fourmile Canyon Fire



# The 2013 Boulder Flood



...along with drought and other  
climate change events ,

**...have all impacted  
Nederland**

**... highlighting the  
importance of adopting  
a Sustainability Action Plan.**



**#NedZero needed to be a  
dynamic, living, action plan  
that would grow organically.  
*...and adapt to our changing needs.***



For example:  
The 2013 Flood closed our major  
road to Nederland, illustrating the  
**need for a localized economy.**



**Resiliency has shifted  
from an idealistic vision,  
to an urgent need.**



# Need for Crowd-Sourcing

**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**  
STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

what? ...

**Crowd-Sourcing is  
Distributed Problem Solving.  
...and here's why we need it.**



**We cannot afford to allow these  
master plans to sit on a shelf.**



**...or drop the ball on some items  
in favor of others.**



# Why can't we expect Town Hall to do it for us?



# We're already arm-wrestling over limited resources



*(and Resiliency is loosing)*



**We created #NedZero  
as a vehicle to leverage  
our greatest asset.**

So,

**#NedZero is a tool for our  
community of volunteers,  
companies and organizations.**



*So,*

**#NedZero is a tool for our  
community of volunteers,  
companies and organizations.**

*to facilitate and synthesize  
Distributed Problem Solving*

# Tracking Progress

**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**  
STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

**All too often,  
we hear small town's say...**



**"We're too busy putting out fires  
with duct tape and bailing wire,  
to be 'wasting our time'  
tracking and measuring."**

# hogwash

**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**  
STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

**As the smallest town  
selected for the Leadership  
STAR Communities Program  
Nederland will lead the way  
in developing a tracking system.**

**Using #NedZero,  
crowd-sourced tracking  
requires minimal  
paid staff time.**



**#NedZero also provides  
an accessible feedback loop.**



*We have a big goal ...*  
**To be the most sustainable  
small town in the U.S.**



It is a  
"We choose to go to the Moon".  
type of goal.



**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
DENVER

STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

# Your Turn

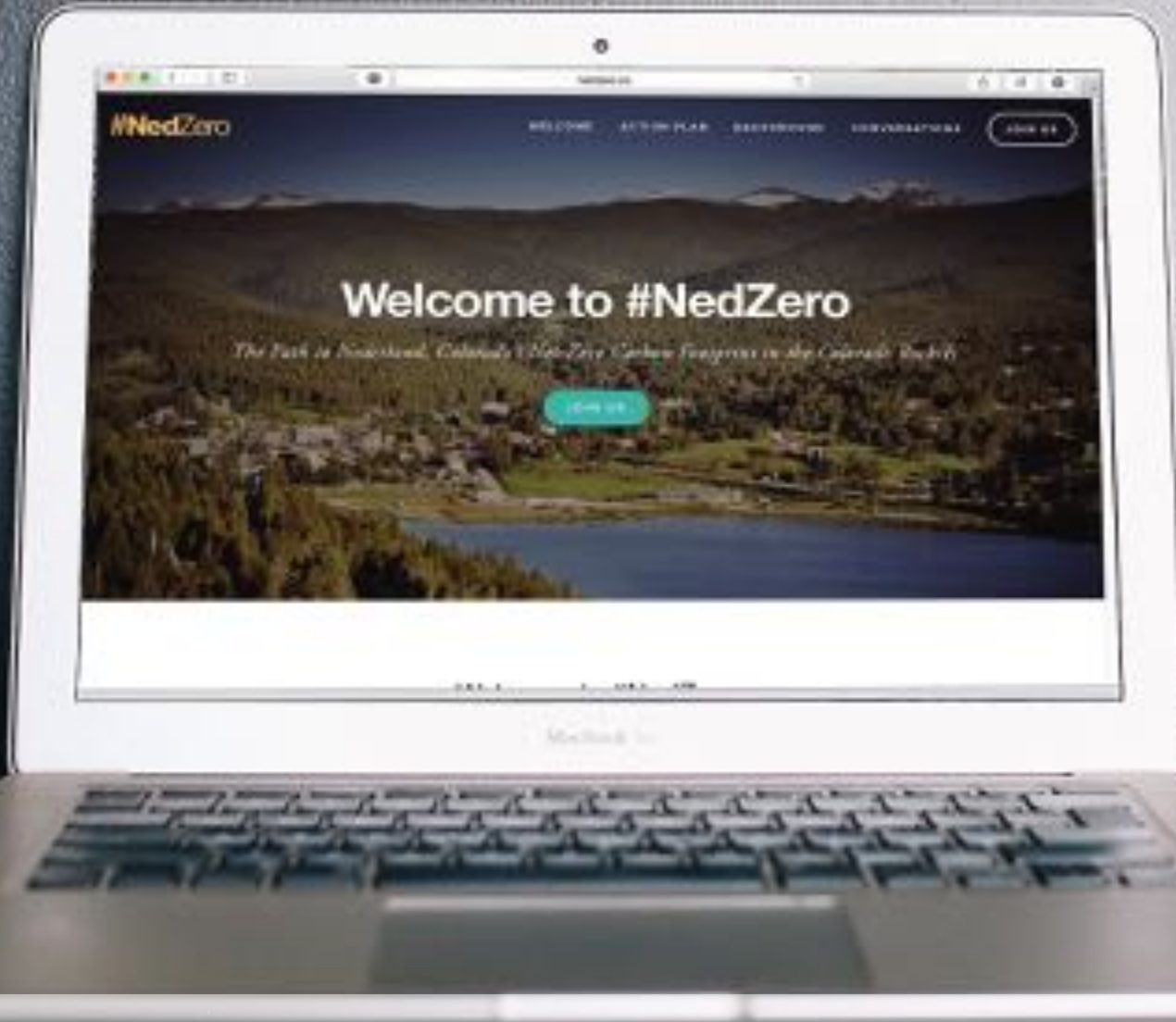
**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



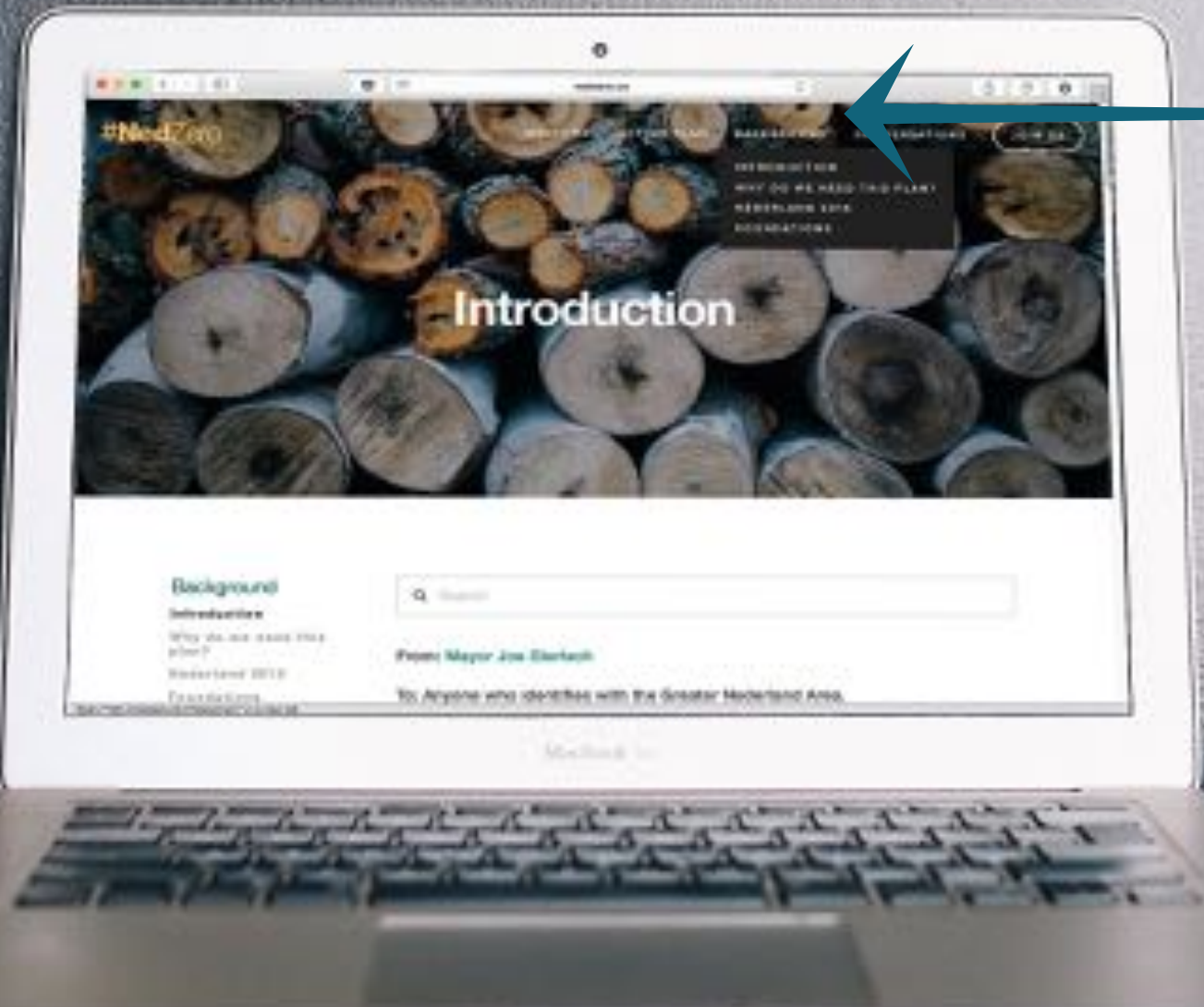
UNIVERSITY of  
**DENVER**  
STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

Go to: <http://nedzero.co>



# the Background tab



Explains  
how we  
got here

# There are 8 Categories in the Action Plan



Check out Search

Scroll down  
for the  
Relationship  
to other  
Master Plans

# Aspirational Goals then Action Items (which are clickable)

## Relationship to Existing Plans/Initiatives:

The actions in this section relate to the 2020 goals of the planning and are designed to be integrated with the existing plans and initiatives from various boards and committees.

## Aspirational Goals:

- Move Nederland to a no-carbon energy supply model.
- Provide practical opportunities for carbon sequestration options.
- Move Nederland to a low or no-carbon energy supply model.
- Provide real-time information on community-wide carbon emissions and actions for community members to take.
- Achieve carbon neutrality for all.

## Action Items:

### B. Community Billing - #NoZero #CommunityBilling

- BQ-81: Convene an Energy Transition Advisory Board to plan for the next opportunity to review the town's lease with Electricity Providers and help shift the energy supply to lower to no-carbon-based.

### C. GIS Database & Land Use Data - #NoZero #GIS

- BQ-81: Consider options for purchasing land within the downtown district for parking POCG in conjunction with the Town's parking plan.
- BQ-82: In conjunction with the Land Use element of the Comprehensive Plan,

So, for example ...

**If we select 6R-02  
"EV Charging Stations."**



# It Explains

- Organizations Involved
- Who is the Champion
- How it is Funded
- Links to Updates



*Further down are...*

- **Remaining tasks to be completed**
- **How to get involved**
- **Subscribing to get updates**



# Underneath it There are 26 Columns



...and a hashtag in the header of each column.

A top-down view of a person lying on a bed with a grey sheet and a red fuzzy blanket. They are wearing blue jeans. A white tablet is on the bed, displaying a photo of two people walking. A white cup of coffee is next to it. A white charging cable is plugged into the tablet.

# We're really busy mining hashtags

**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**  
STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

# These 26 Conversations are listed in #NedZero



**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**  
STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

**You can subscribe to  
any feed that interests you.**



**You can also contribute  
to the conversation.**

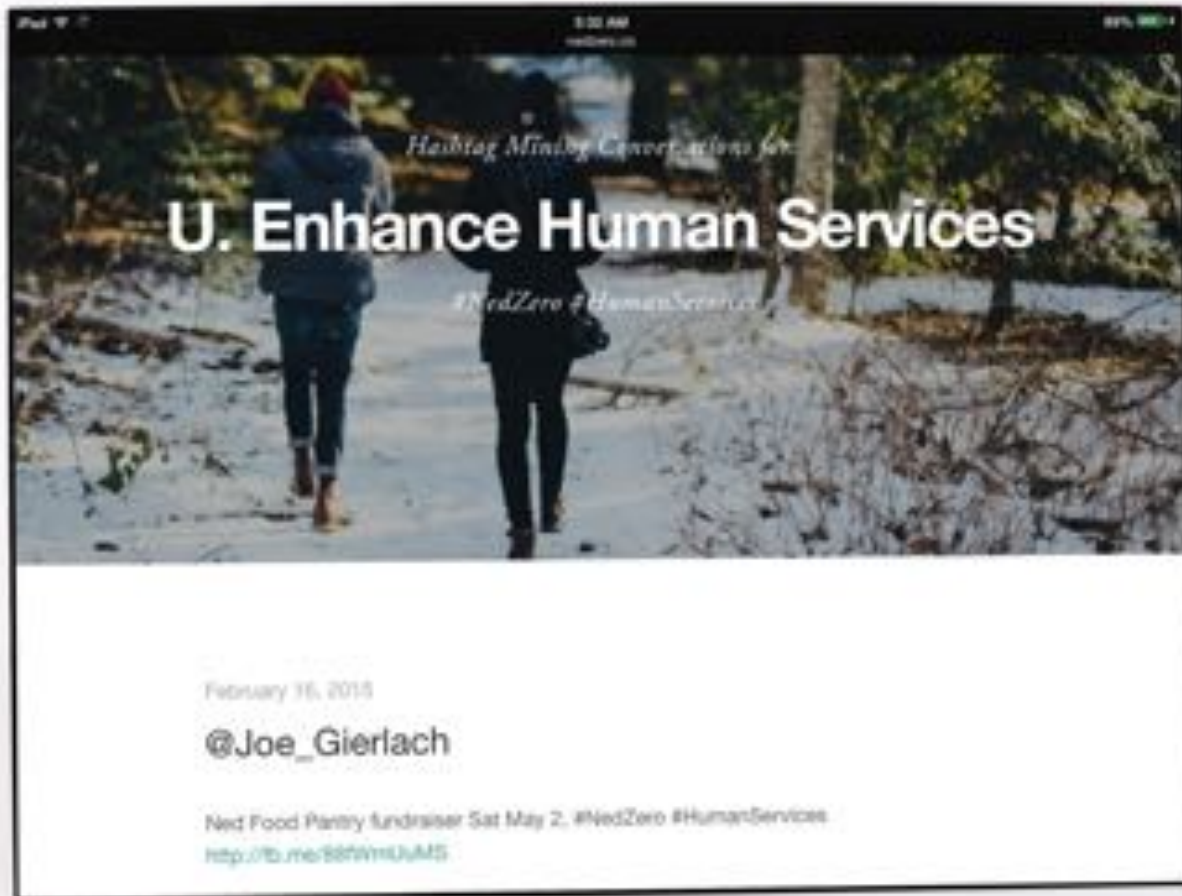


# If you type: #NedZero #HumanServices on Facebook



ES  
FAIR & RESILIENT COMMUNITIES  
ERN SPACES

# We'll put it on: U. Enhance Human Services



ON PLACES  
MENT COMMUNITIES  
SPACES

# Distributed Problem Solving

**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**  
STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

# This link on #NedZero #HousingNeeds



Hashtag Mining Conversations for:  
**A. Housing Needs**  
#NedZero #HousingNeeds

March 9, 2015

@jseav19

: What is the most sustainable way to solve Nederland's #housingneeds that will be in alignment with its sustainability vision? #nedzero from <http://ift.tt/1z9K5gG>  
<http://ift.tt/1Hk0Cvk>

...came from Twitter

# another from the Action Plan



RMLUI

ROCKY MOUNTAIN  
LAND USE INSTITUTE

ERN PLACES  
& RESILIENT COMMUNITIES  
ERN SPACES

# Pulling from across all sorts of social media

**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**

STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

**It also aggregates  
borrowed tools  
from other apps.**

*For Example ...*



go to #NedZero  
click on the menu

# Suppose you pick

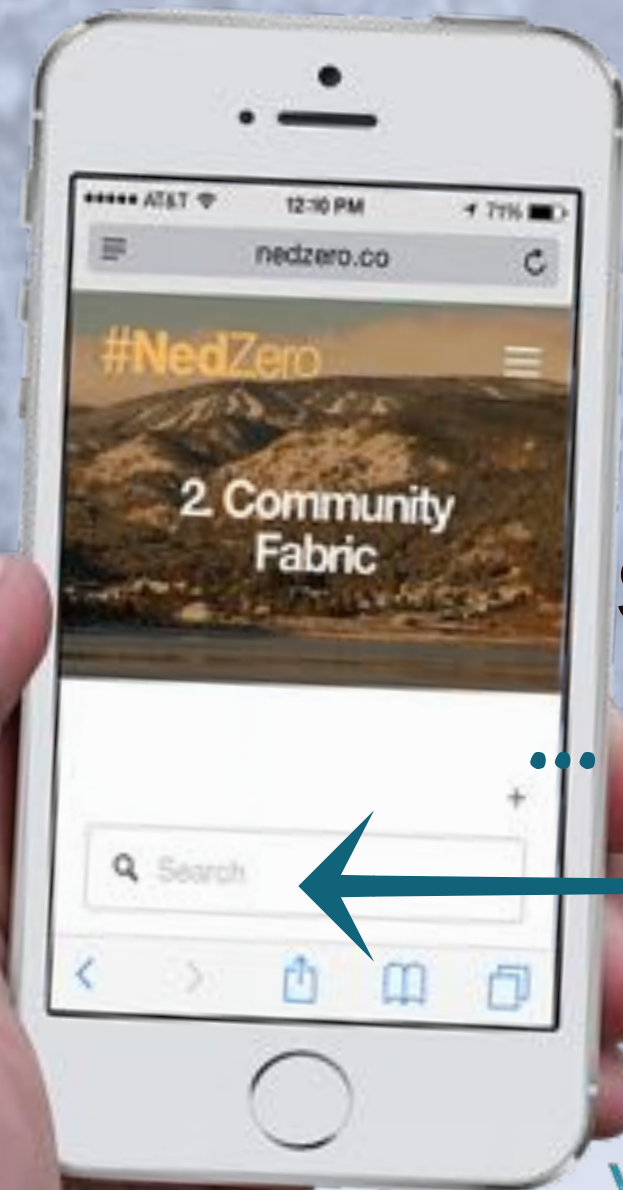
## 2. Community Fabric

*Second major category*



**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

OF LAW

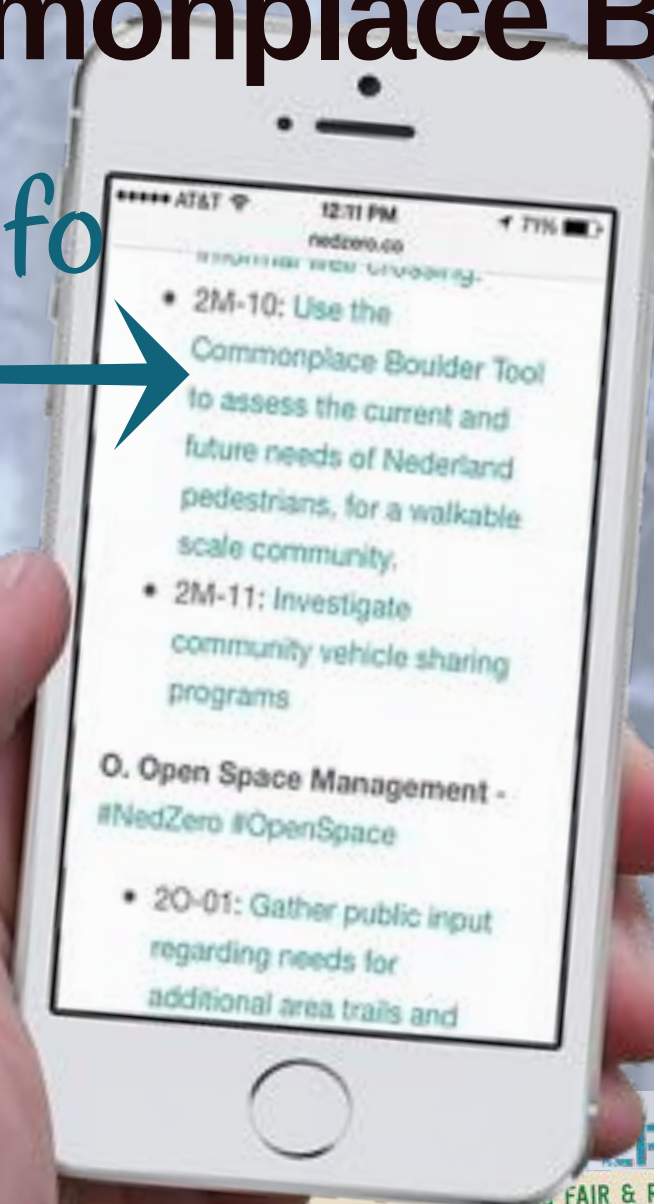


**scroll down**  
*... or use search*

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

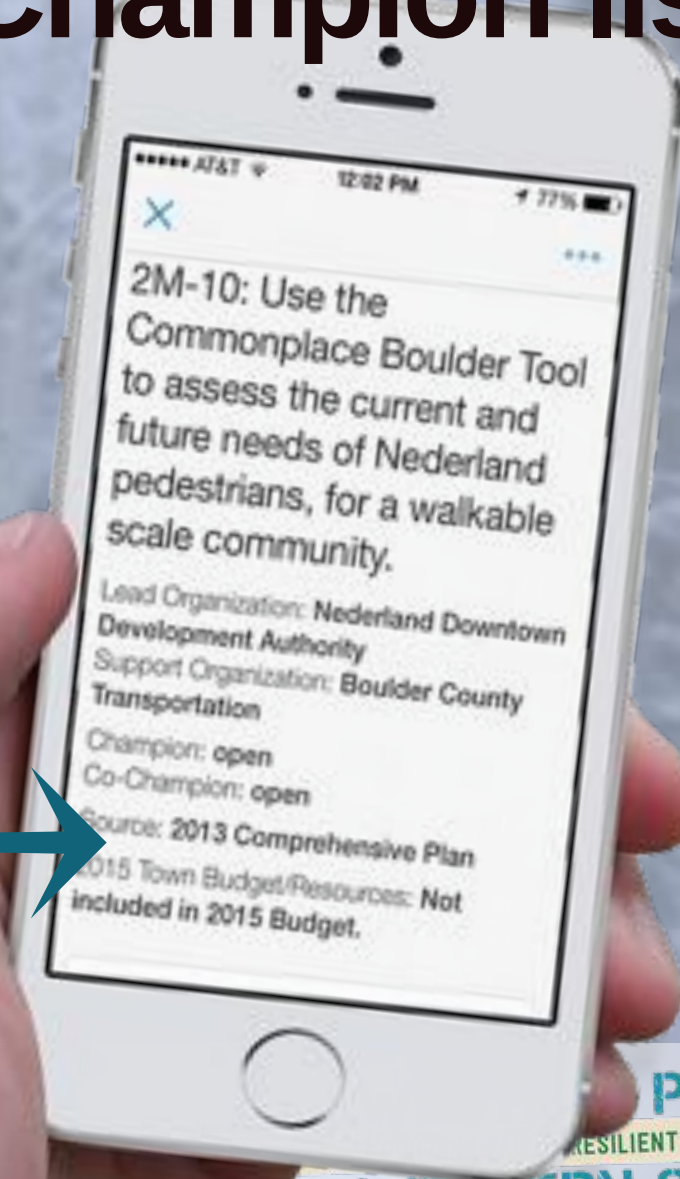
# 2M-10 Commonplace Boulder

Click for more info



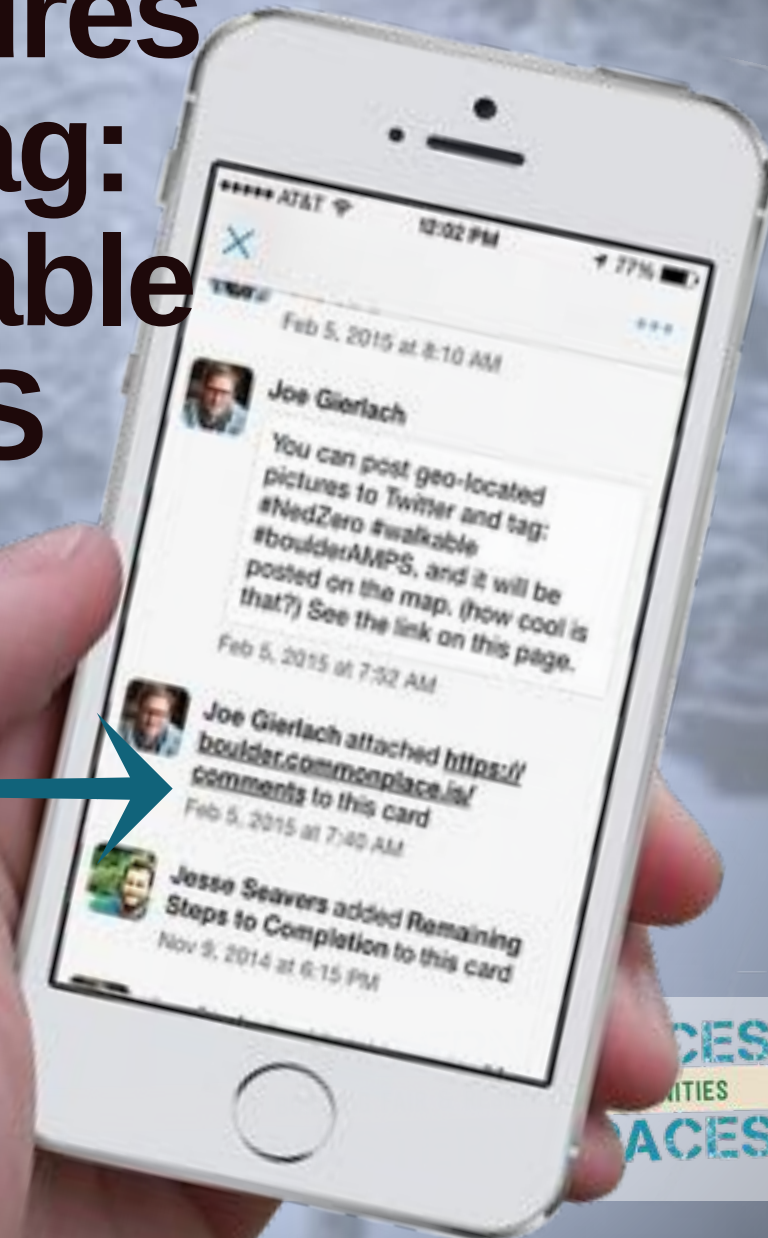
Notice that  
there is no Champion listed

It's also not included  
in the 2015 Budget



**You can post  
geo-located pictures  
to Twitter and tag:  
#NedZero #walkable  
#boulderAMPS**

Here's the link ...



# The Boulder Commonplace App pops up.

*Someone already  
posted a photo*



**Voilà!**  
(french for 'boom')



**Be a part of the solution.**

**#NedZero #CommunityDialogue**

**RMLUI**  
ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**  
STURM COLLEGE OF LAW

**WESTERN PLACES**  
BUILDING FAIR & RESILIENT COMMUNITIES  
**WESTERN SPACES**

Thanks!  
MADE IN  
Canva

WESTERN PLACES

BUILDING FAIR & RESILIENT COMMUNITIES

WESTERN SPACES

<http://www.slideshare.net/joegierlach>



slideshare

**RMLUI**

ROCKY MOUNTAIN  
LAND USE INSTITUTE



UNIVERSITY of  
**DENVER**

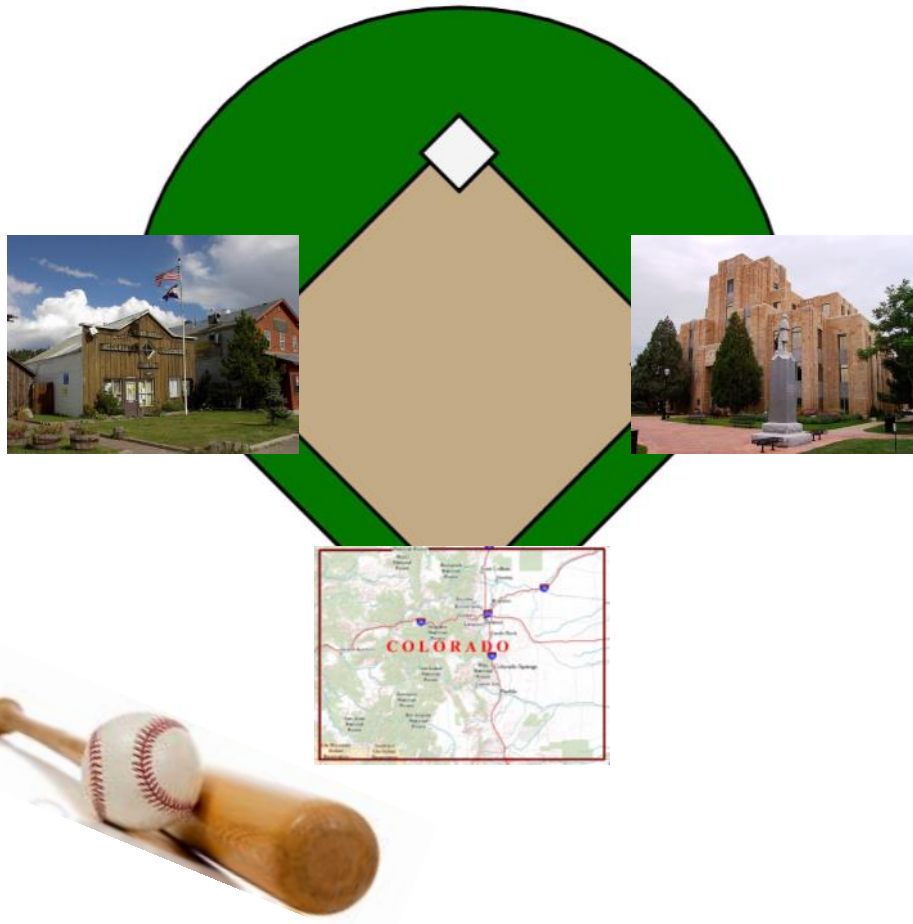
STURM COLLEGE OF LAW

# Pre-disaster Checklist (post-2013):

- ✓ Continuity of Operations Plan
- ✓ Multi-hazard Mitigation Plan
- ✓ Make sure procurement standards are consistent with Federal guidelines
- ✓ Begin public dialog pre-disaster
- ✓ Plan for post-disaster public dialog
- ✓ Start training on FEMA/CDBG-DR programs
- ✓ Incorporate disaster recovery into your Land Use/ Zoning regulations (temporary moratoriums, non-conforming uses, resiliency!)
- ✓ Refocus and integrate existing authority
- ✓ Evaluate technical data needs
- ✓ Employ social media



# BRINGING IT ALL HOME: QUESTIONS AND DISCUSSION



**Kristin Cisowski, Associate**

Clarion Associates

*kcisowski@clarionassociates.com*

**Joe Gierlach, Mayor**

Town of Nederland

*joeg@nederlandco.org*

**Breece Robertson, GIS Director**

The Trust for Public Land

*Breece.Robertson@tpl.org*

**Abby Shannon, Planning Manager**

Boulder County Land Use

*ashannon@bouldercounty.org*

**Brian Wilkerson, Director**

Revolution Advisors LLC

*bwilkerson@revolution-advisors.com*