

1913 **2012**

**How Can Planners Mitigate the Effects of
Climate Change ?**



“Climate change is now affecting every country on every continent. It is disrupting national economies and affecting lives, costing people, communities and countries dearly today and even more tomorrow.” United Nations Sustainable Development Platform



People all over the world are experiencing the negative effects of changing weather patterns, rising sea level and more extreme weather events.

Here is what we know based on the findings of climate scientists and summarized in the United Nations Intergovernmental Panel on Climate Change.

Here are the facts:

- From 1800 to 2012 average global temperature increased by 0.85°C. For each 1 degree of temperature increase grain yields decline by about 5 percent.
- Oceans have warmed, the amounts of snow and ice have diminished and sea level has risen. From 1902 to 2010 the global average sea level rose by 19cm as oceans expanded due to warming and ice melted.
- Given current concentrations and on-going emission of greenhouse gases, it is likely that by the end of this century, the increase in global temperature will exceed 1.5°C compared to 1850 to 1900 for all but one scenario.

How can we address climate change in our own unique jurisdictions and have the support of the citizens of the community ?

First, talk to people about how climate change will affect them in their own lives, not how it will affect polar bears. For example, discuss the problems that flooding, droughts, forest fires can have on people's homes and businesses.

Second, answer people's questions about climate change with short succinct answers. Such as:

- How much trouble are we in?

For future generations, big trouble based on actions we are taking now such as emissions.

- Is there anything I can do?

Fly less, drive less, waste less.



What is the most optimistic scenario? Several things have to break our way.

The Earth turns out to be less sensitive to greenhouse gases than currently believe; plants and animals manage to adapt to changes that have already become inevitable, human society develops much great political will to bring emissions under control and major technological breakthroughs occur that help society both to limit emissions and to adjust to climate change.



What is the worst-case scenario?

Scientists are urging that emissions be cut; they want to limit the possibility of any worst-case scenario happening. The greatest fear is a collapse of food production, accompanied by escalating prices and mass starvation. Other worst cases would be disintegration of the polar ice sheet, leading to fast-rising seas that would force people to abandon many of the world's great cities and leading to the loss of trillions of dollars of property and assets.



IMPORTANT QUESTIONS TO CONSIDER MOVING FORWARD

Will a tech breakthrough help us?

How Much Will the Seas Rise?

Are the predictions reliable?

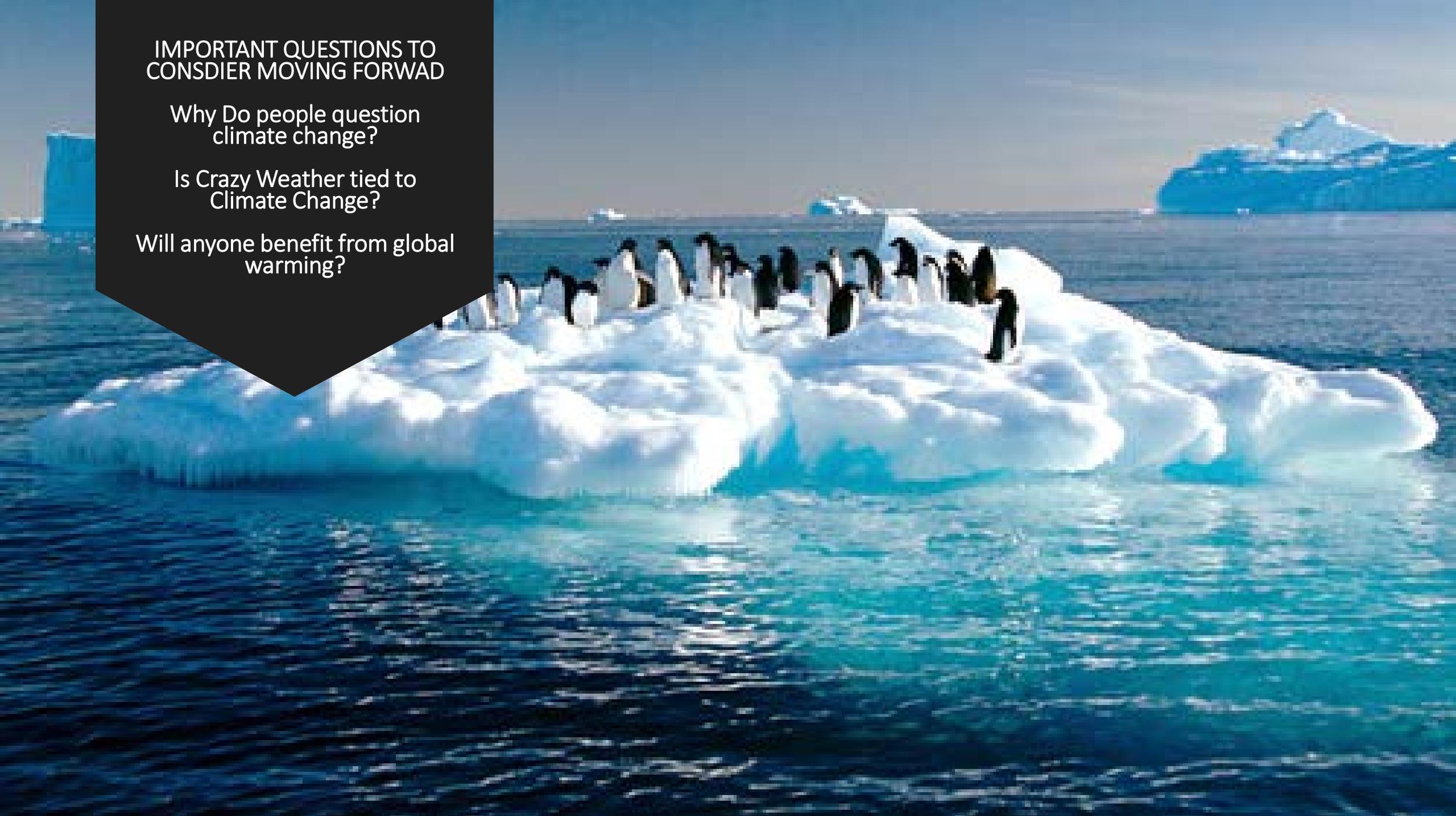


**IMPORTANT QUESTIONS TO
CONSIDER MOVING FORWARD**

**Why Do people question
climate change?**

**Is Crazy Weather tied to
Climate Change?**

**Will anyone benefit from global
warming?**



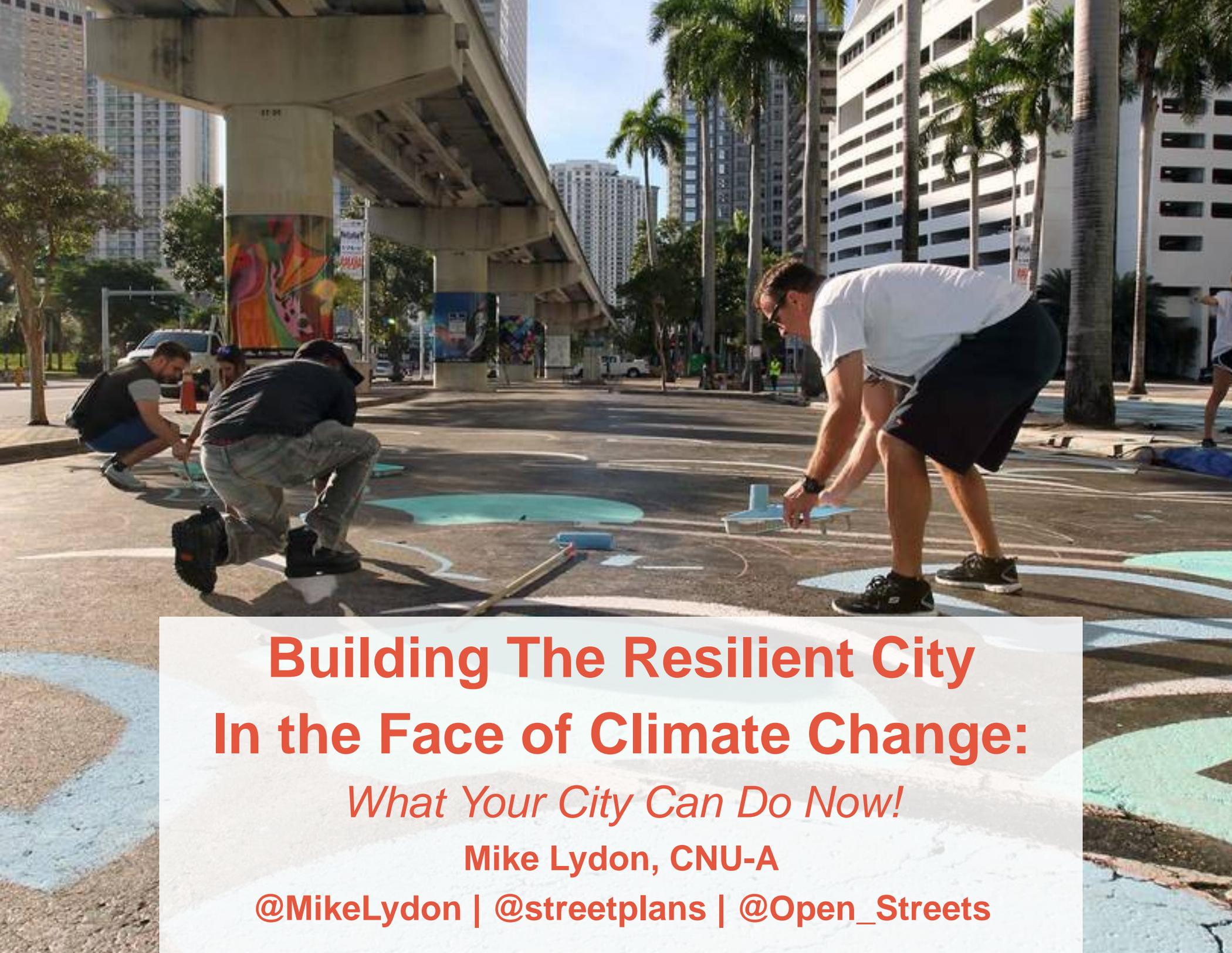
Today's Speakers

Mike Lydon

Principal of the Street Plans Collaborative, an international award-winning planning, design and research-advocacy firm based in Miami, New York City and San Francisco.

Mitchell Silver

As NYC Parks Commissioner Mitchell has overseen several major initiatives bringing equity, innovative design, and cutting-edge placemaking techniques to New York City's 30,000-acre park system. Since he became Commissioner in May 2014, he has led the launch of the Community Parks Initiative, which is bringing \$285 million in capital overhauls more than 60 historically underserved parks across New York City; Parks without Borders, a new design approach to activate park borders and edges and a \$150 million effort to rebuild five historic Anchor Parks, one in each borough.



Building The Resilient City In the Face of Climate Change:

What Your City Can Do Now!

Mike Lydon, CNU-A

@MikeLydon | @streetplans | @Open_Streets

STREETPLANS

MIAMI

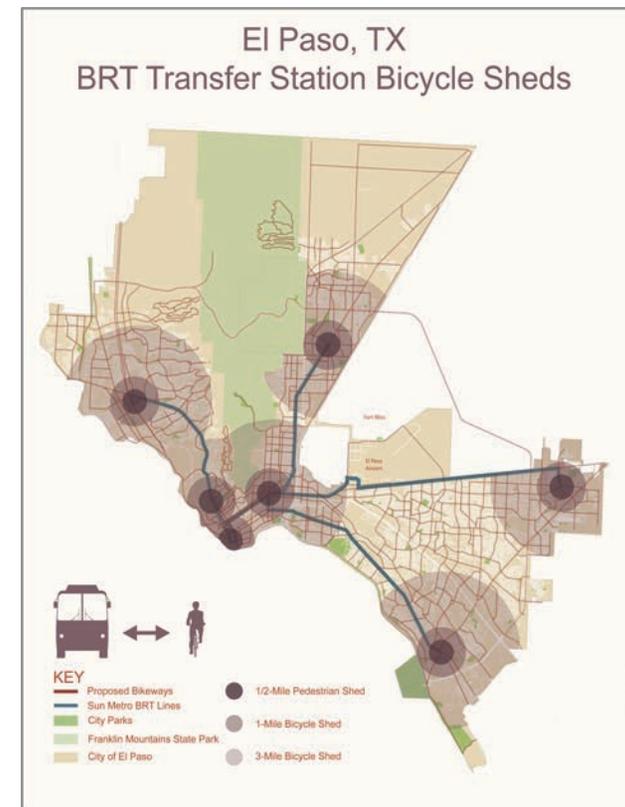
SAN FRANCISCO

NEW YORK

WE'RE A PLANNING, DESIGN, AND RESEARCH-ADVOCACY FIRM

Better Streets, Better Places

- Bicycle/Pedestrian Planning + Design
- Placemaking + Tactical Urbanism
- Urban Design and Land Use Policy
- Urban + Architectural Design
- Public Outreach + Web Design
- Education + Training
- Research-Advocacy



Welcome to the 21st Century

Earth Sets a Temperature Record for the Third Straight Year

By JUSTIN GILLIS JAN. 18, 2017

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Ice in the Arctic Ocean's Chukchi Sea region. "What's going on in the Arctic is really very impressive; this year was ridiculously off the chart," said Gavin A. Schmidt, the head of NASA's Goddard Institute for Space Studies. Esther Horvath

RELATED COVERAGE



Climate Change News That Stuck With Us in 2016 DEC. 19, 2016



Spiking Temperatures in the Arctic Startle Scientists DEC. 21, 2016



Scientists Warn of Perilous Climate Shift Within Decades, Not Centuries MARCH 22, 2016

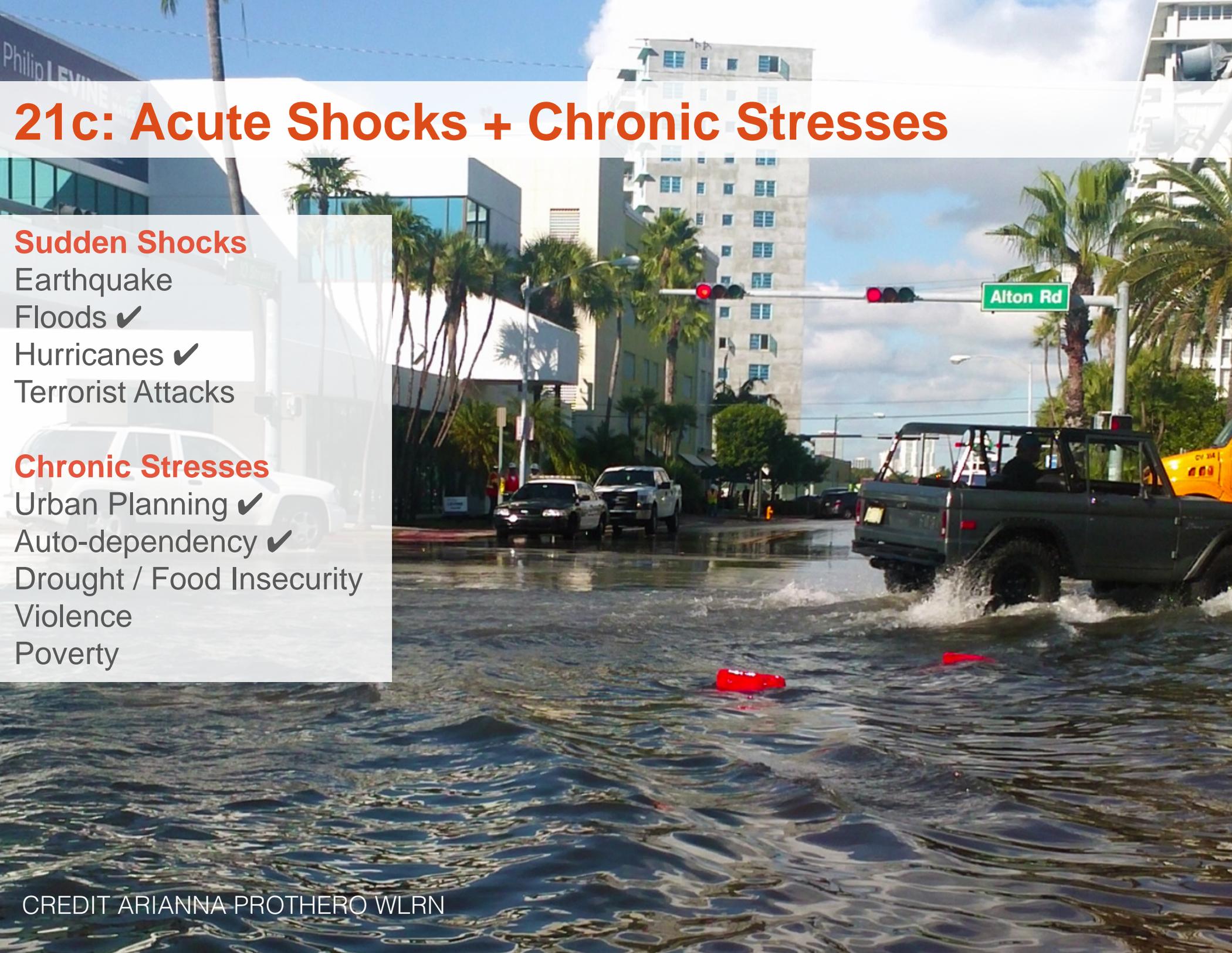


2015 Was Hottest Year in Historical Record, Scientists Say JAN. 20, 2016

Climate Change is A Matter of Urban Resilience

Urban Resilience: the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience.

- 100 Resilient Cities



21c: Acute Shocks + Chronic Stresses

Sudden Shocks

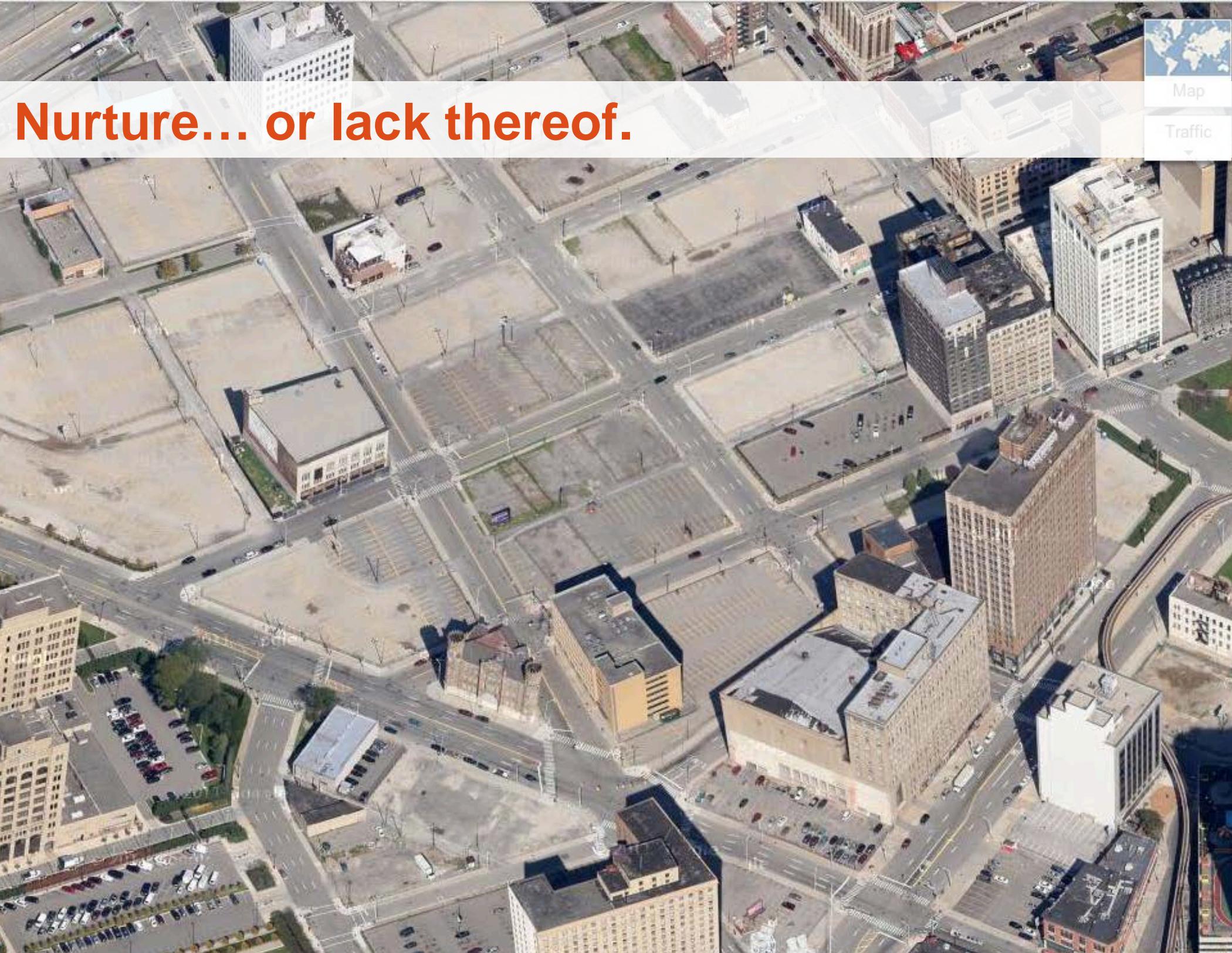
- Earthquake
- Floods ✓
- Hurricanes ✓
- Terrorist Attacks

Chronic Stresses

- Urban Planning ✓
- Auto-dependency ✓
- Drought / Food Insecurity
- Violence
- Poverty

Shocks/Stress Induced in 2 Ways: Nature vs...





Map

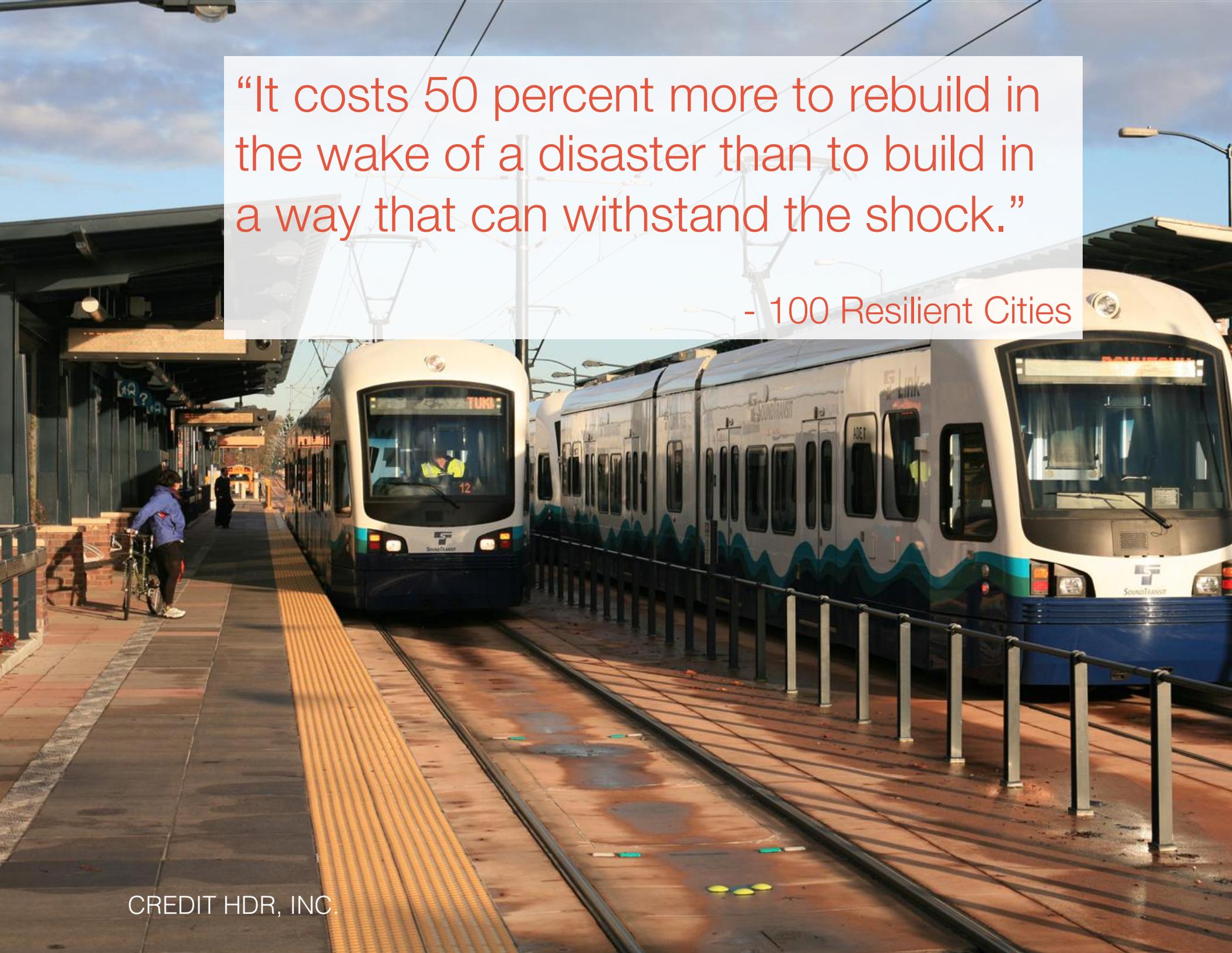
Traffic



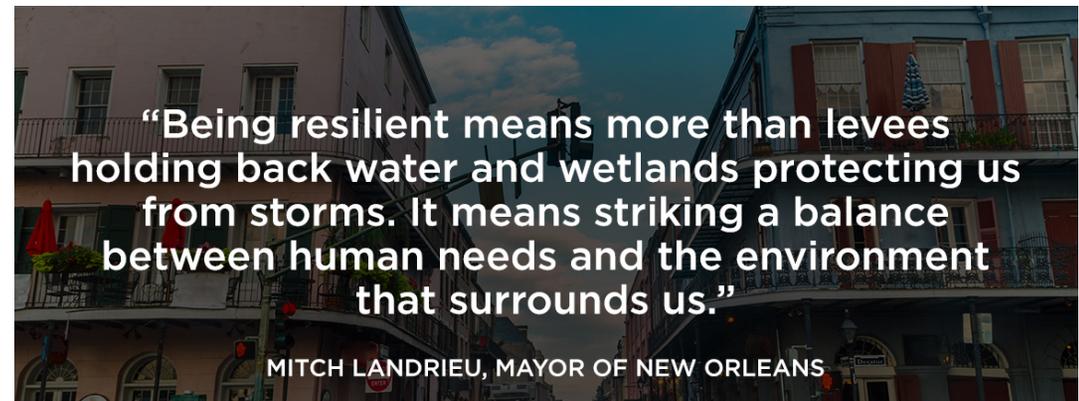
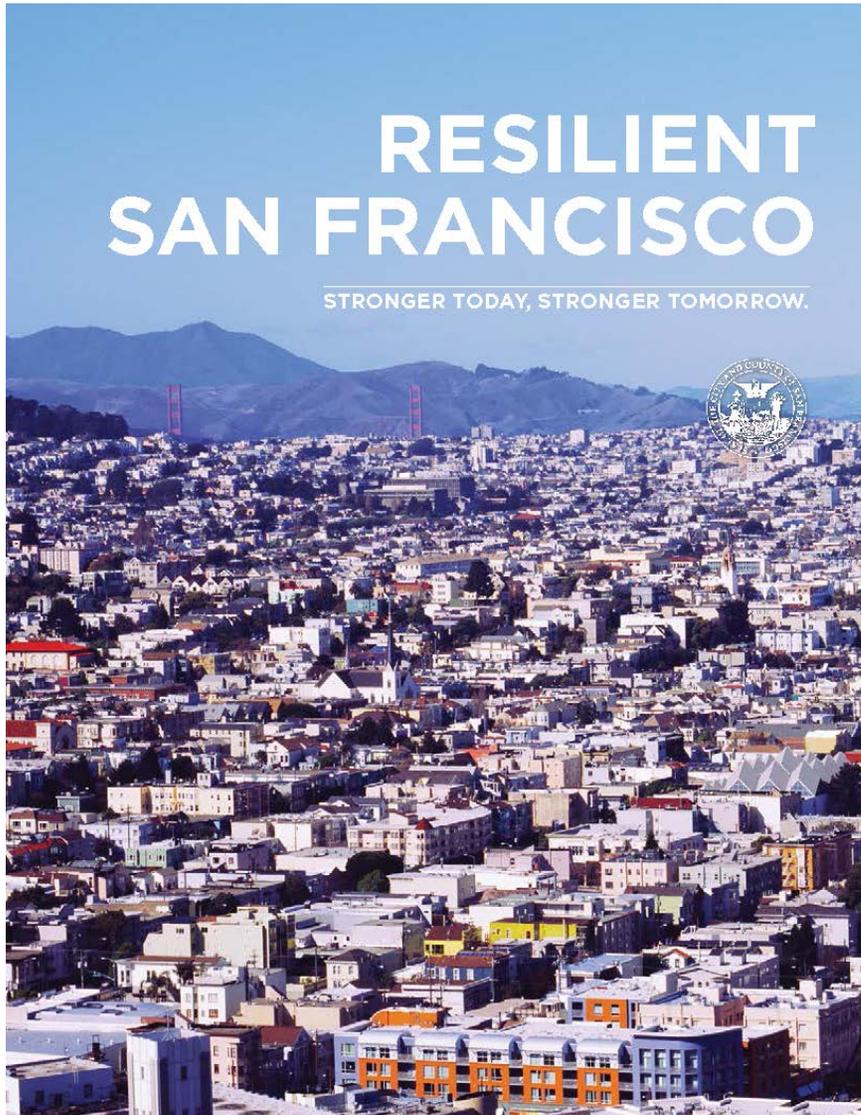
Nurture... or lack thereof.

“It costs 50 percent more to rebuild in the wake of a disaster than to build in a way that can withstand the shock.”

- 100 Resilient Cities



Let's (Action) Plan!



Dealing with Climate Change is Really Expensive

MIAMI
New Times

READING | MIAMI BEACH'S \$400 MILLION SEA-LEVEL RISE PLAN IS UNPRECEDENTED, BUT NOT EVERYONE IS SOLD



Miami Beach's \$400 Million Sea-Level Rise Plan Is Unprecedented, but Not Everyone Is Sold

BY JESSICA WEISS

TUESDAY, APRIL 19, 2016 AT 8:05 A.M.



And it Will Require More Political Will

36% of Americans are concerned 'a great deal'



Source: Pew Research Center

“So even if public attitudes get closer to the science, it's unclear if or when that will translate into the kind of grassroots mobilization and lobbying that's needed to shift the political discourse.”

– John Sutter

Inaction Means Our Costs Will Only Increase

ENVIRONMENT

As Waters Rise, Miami Beach Builds Higher Streets And Political Willpower

May 10, 2016 · 4:39 PM ET

Heard on [All Things Considered](#)



“The real challenge is to build the political will to address climate change and slow the rising sea levels before elevated structures, pumps and seawalls are no longer enough.”

Louis Fernandez walks along a flooded Collins Avenue in Miami Beach in September 2015. The city is tackling sea-level rise by rebuilding roads and installing new storm sewers and pumps.

Lynne Sladky/AP

Miami Beach is one of the nation's cities most vulnerable to climate change — and its

In Summary: We Know Change is Hard!



**80% of Plans
Are Never
Implemented!**

- Kaplan et. Al. (2005), Harvard

An aerial photograph of a city skyline, likely New York City, featuring numerous skyscrapers and a large green park area in the foreground. The image is semi-transparent, allowing the text to be overlaid. Large red quotation marks are positioned on the left and right sides of the text.

“

*...city planning lacks **tactics** for building cities that work like cities...*

”

- Jane Jacobs
Author: *The Death and Life of Great American Cities*

**We Need to Develop
New Methods for
Building Resilient
Cities and
Combating Climate
Change... *Together.***



Our Response? Go Local.



**What is
Tactical
Urbanism?**

Tac·ti·cal

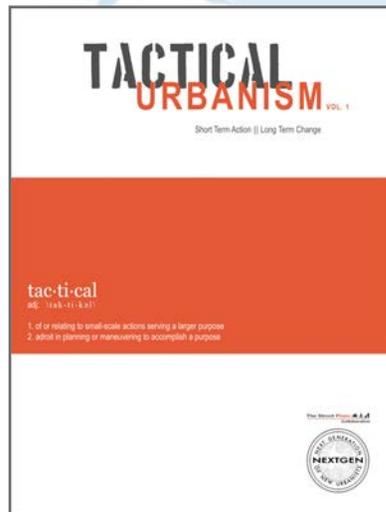
Adj: \tak-ti-keɪ\

1. of or relating to small-scale actions serving a larger purpose
2. Adroit in planning or maneuvering to accomplish a purpose

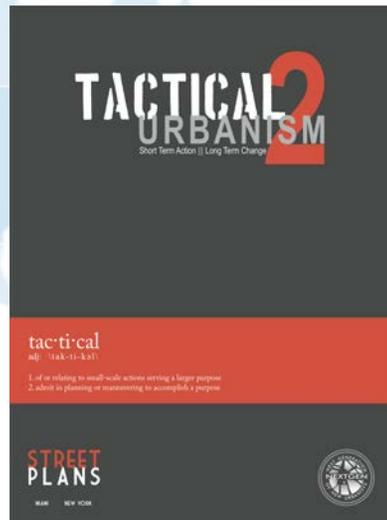
Tactical Urbanism: A city, organizational, and/or citizen-led approach to neighborhood building using short-term, low-cost, and scalable interventions intended to catalyze long-term change.

Tactical Urbanism Vol. 1 – 4, Island Press Book

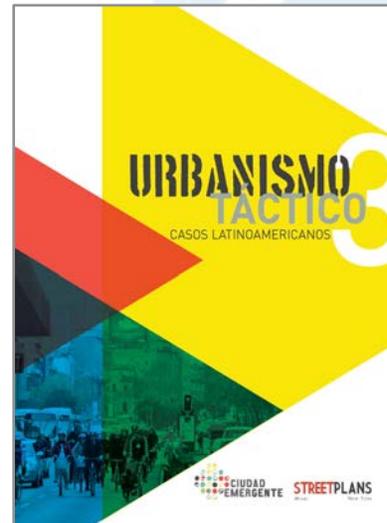
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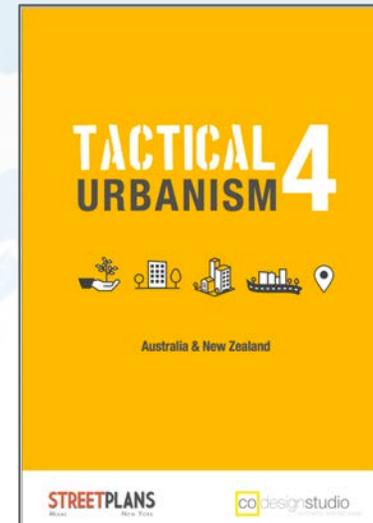
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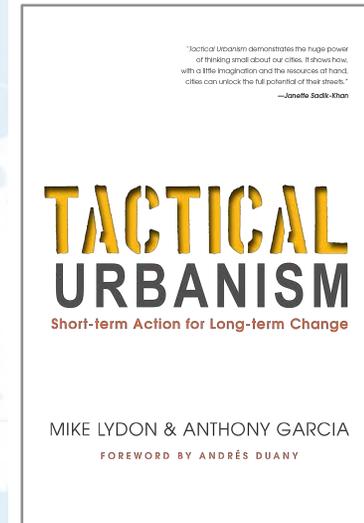
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2013

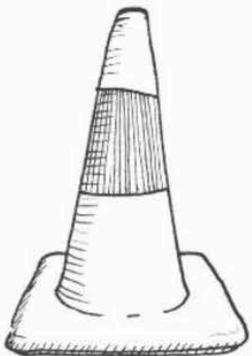
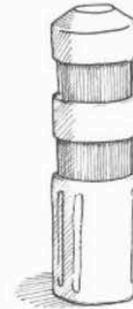
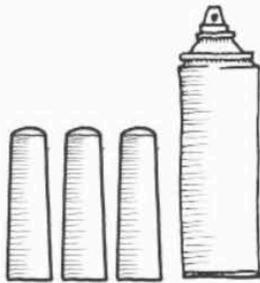
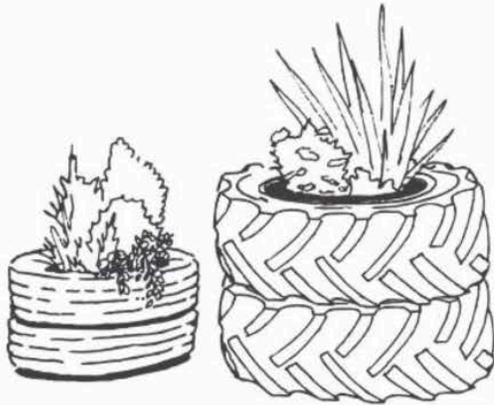


2014



2015

Vol. 5 Coming Soon!



TACTICAL URBANIST'S GUIDE TO MATERIALS AND DESIGN **VERSION 1.0**

DECEMBER 2016 | CREATED BY THE STREET PLANS COLLABORATIVE, WITH FUNDING FROM THE JOHN S. AND JAMES L. KNIGHT FOUNDATION

Tactical Urbanism Is What You Can Do Today!



To Build Momentum for Improving Tomorrow



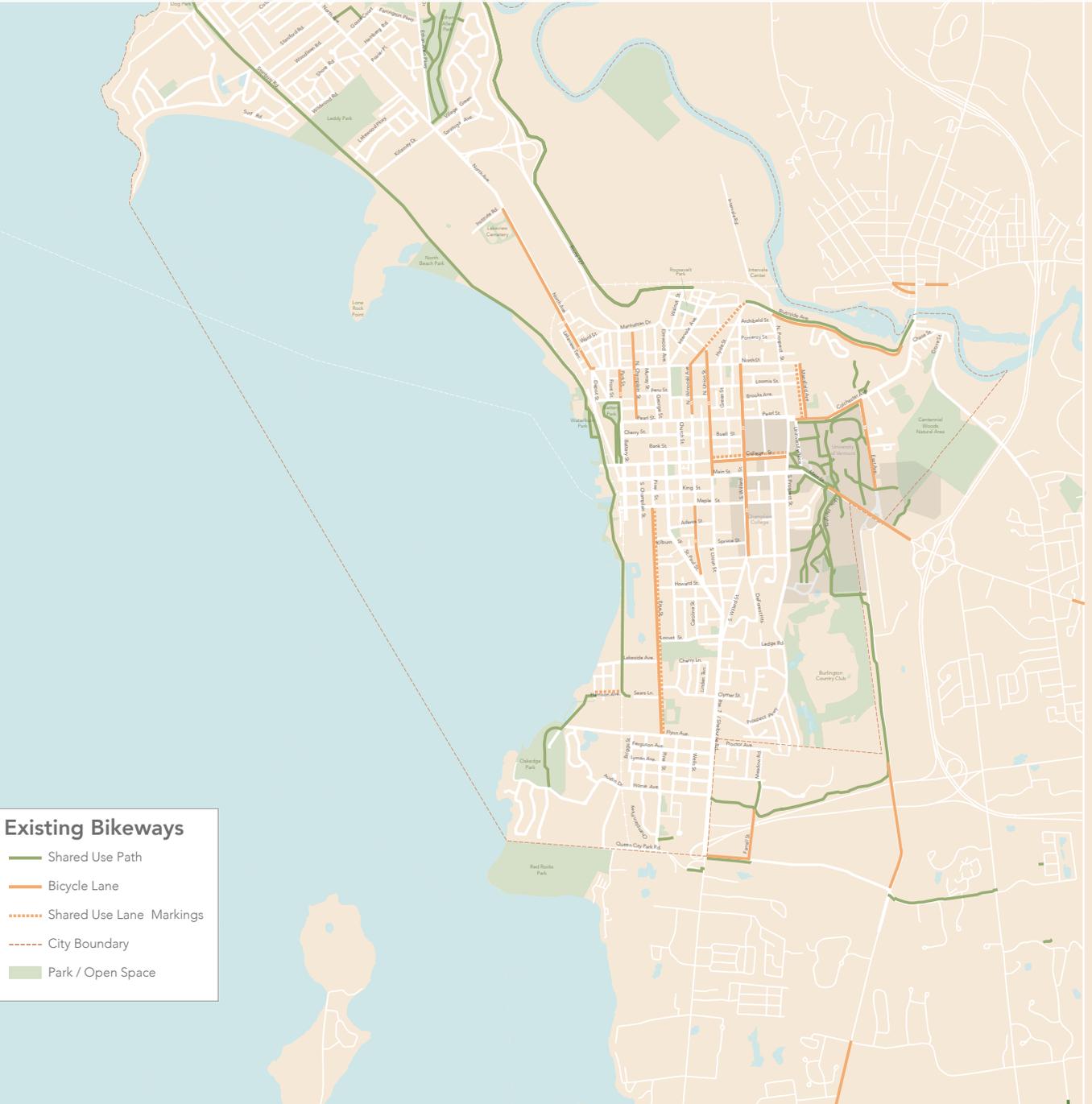
**How Do We
Incorporate
Tactical Urbanism
Into the Urban
Planning Process?**

Change City Software to Get Better Hardware

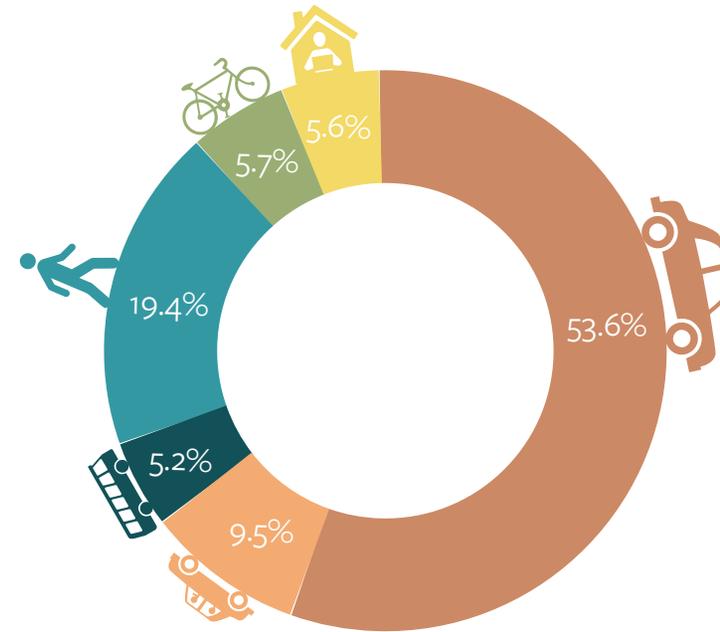


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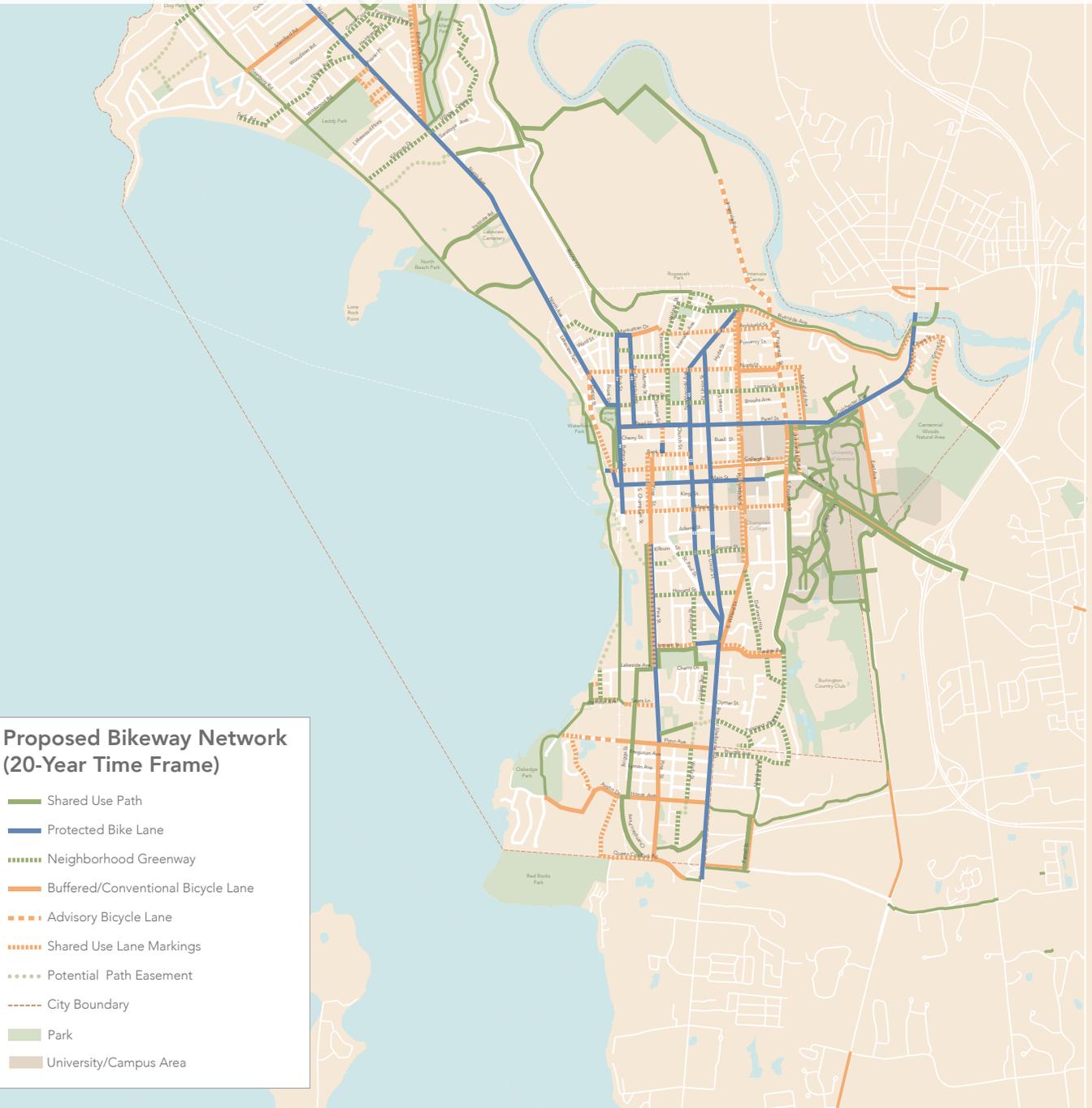
Burlington, VT: Existing Cycling Network



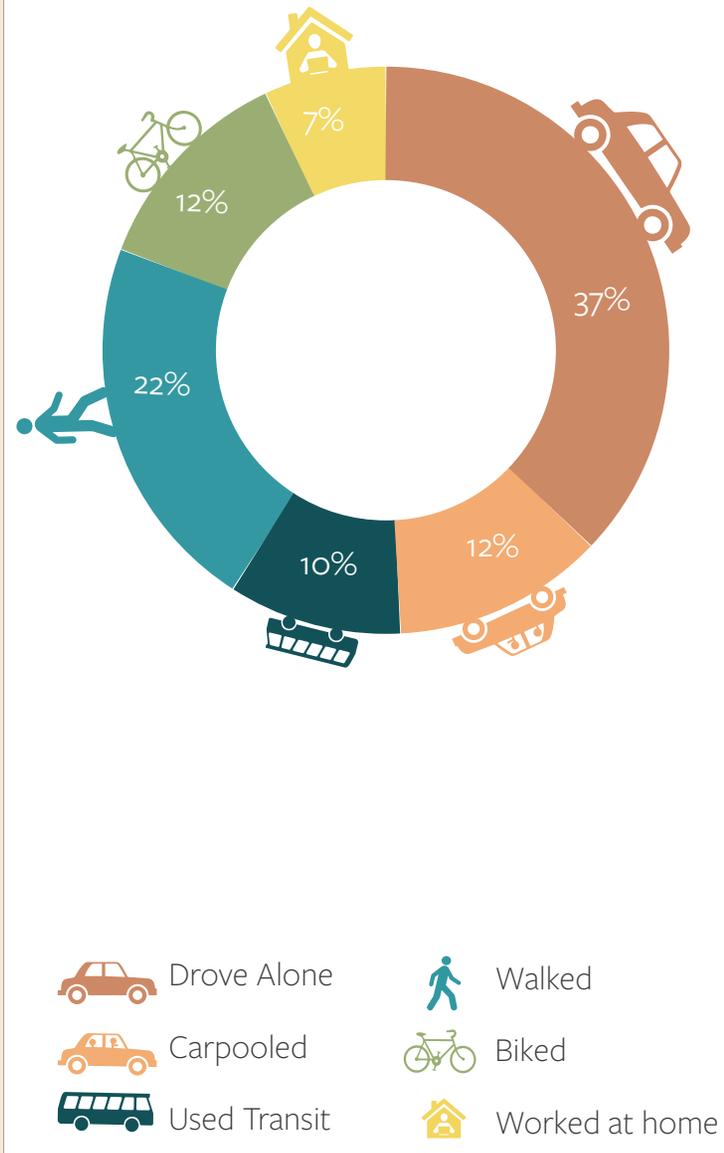
2013



Vision: 2025 Network



2026 Mode Share Goal



Remember: Change is Hard (And Expensive)





JOEL BANNER BAIRD/FREE PRESS

Guarded: Vicki Oftedal-Leary, at right, alerts motorists to a school-bound bicyclist's passage across South Union Street at Maple Street on Thursday morning in Burlington.

ONE-DAY BIKE LANE PROPOSED

'Pop-up' event would grant bicyclists more space on South Union Street



"We're hoping it would give people — bicyclists as well as drivers — a chance to feel what it's like."

PEGGY O'NEILL
SOUTH END RESIDENT



JOEL BANNER BAIRD
FREE PRESS STAFF WRITER

Could a one-day traffic switcheroo nudge Burlington motorists, bicyclists and pedestrians into behavior that is more civil, efficient and safe?

That notion is behind a "pop-up" bike lane on South Union Street proposed for May 29. The idea will undergo a final city review Tuesday.

The proposed event would afford bicyclists a high-visibility, two-way passage from Shelburne Street to Edmunds Middle School — a protected "cycletrack."

Motorists would be restricted to a single, northbound lane for the day, separated from bicycles by caution cones, from 5:30 a.m. to 8:30 p.m. The street typically allows vehicle drivers north- and southbound passage.

"We're hoping it would give people — bicyclists as well as drivers — a chance to feel what it's like," South End resident Peggy O'Neill said.

O'Neill, a key organizer for the demonstration, has for the past month lobbied city officials and dozens of neighbors to give the pop-up a try.

The mother of three children, O'Neill is an avid cyclist, a frequent walker and a



JOEL BANNER BAIRD/FREE PRESS

Sharing the road: A school-bound bicyclist negotiates the intersection of South Union and Maple streets Thursday morning in Burlington.

See BIKES, Page 3C



JOEL BANNER BAIRD/FREE PRESS

Guarded: Vicki Oftedal-Leary, at right, alerts motorists to a school-bound bicyclist's passage across South Union Street at Maple Street on Thursday morning in Burlington.

ONE-DAY BIKE LANE PROPOSED

'Pop-up' event would grant bicyclists more space on South Union Street



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FREE PRESS STAFF WRITER

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PEGGY O'NEILL
SOUTH END RESIDENT

See BIKES, Page 3C





Guarded: Vicki Oftedal-Leary, at right, alerts motorists to a school bus on South Union Street at Maple Street on Thursday morning in Burlington. JOEL BANNER BAIRD/FREE PRESS

ONE-DAY BICYCLE LANE PROPOSAL

'Pop-up' event would grant bicyclists more space on South Union Street



JOEL BANNER BAIRD
FREE PRESS

Could a one-day "pop-up" bicycle lane on South Union Street afford bicyclists a high-visibility, two-way passage from Shelburne Street to Edmunds Middle School — a protected "cycletrack" — and pedestrians into behavior that is more civil, efficient and safe?

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PEGGY O'NEILL
SOUTH END RESIDENT

See **BIKES**, Page 3C



Learning from History





Implementation: Proactively Harness Civic Energy

We want to create a short-term pilot for traffic calming measures at a dangerous intersection in our neighborhood.

- How can we get city approval? This type of work does not fall within existing permitting structures.
- What is the best way to design the temporary facility?
- What are the best materials for our project and budget?

We like the idea and the spirit. But...

- What materials are safe to approve?
- What level of design is needed, and what are the standards?
- What are the protocols for safe installation and removal?
- What are our evaluation metrics?



A Policy for Citizen-Led Demonstration Projects!

COMMUNITY-LED DEMONSTRATION PROJECT POLICY + GUIDE

City of Burlington, VT | April 2016



Pilot Project:

A temporary traffic or parking project led by the Department of Public Works that lasts less than 30 days. Authorized under the Pilot Project Policy - Article 1, Chapter 20, Section 3.



Demonstration Project:

A short-term, community-led street design project that lasts less than 7 days. Evaluated and permitted by city agencies through the structure designed in this guide.

Why Use This Approach?

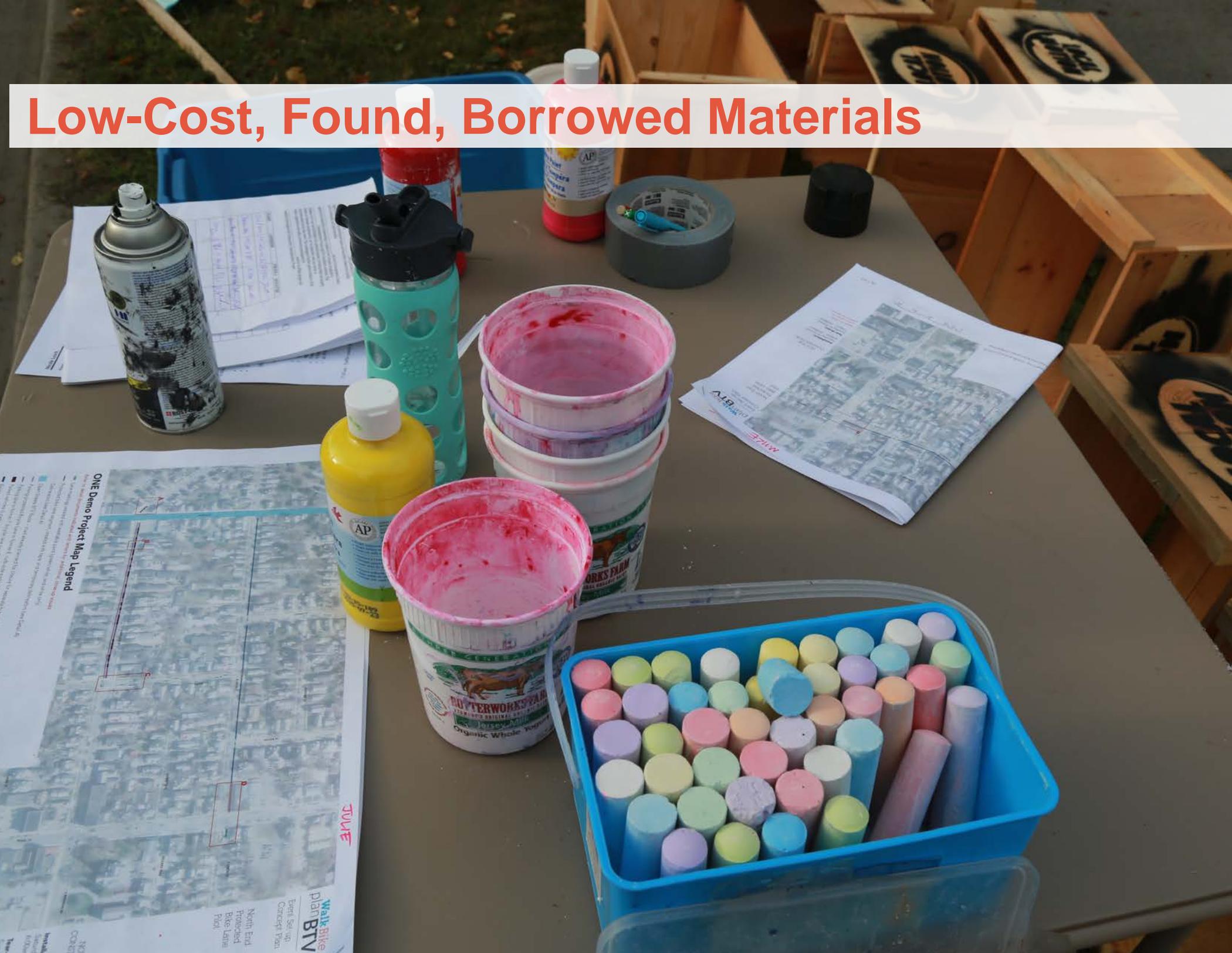
Depending on the form the project takes, municipal authorities, organizations, and everyday citizens use short-term projects as a tool to:

- Deepen their understanding of user need;
- Draw attention to perceived shortcomings in policy and physical design;
- Widen public engagement;
- Tests aspects of a project or plan before making large political or financial investments;
- Expedite project implementation;
- Gather data from the real-world use of streets and other public spaces; and/or
- Improve collaborative partnerships between residents, local non-profits, and government agencies

This approach is not completely new to Burlington. In [year], the [City Council?] approved a new City Ordinance to allow the Department of Public Works to implement temporary traffic and parking projects on all public streets (Article 1 Chapter 20 Section 3). The ordinance creates a pathway for DPW to use short-term or "pilot projects" to evaluate the merits and impacts of proposed street design projects. Pilot projects as defined in the ordinance may be in place for up to 30 days.

This guide and policy builds off of the pilot project ordinance. It breaks the process into even smaller segments, making it easier for everyday residents, advocacy organizations, and community groups to spearhead short-term projects alongside DPW and other agencies. Ideally, the community-led "demonstration projects" that this guide describes (to last from 1 to 7 days) will help inform the city-led efforts authorized by the pilot project ordinance.

Low-Cost, Found, Borrowed Materials



Two Goals: Community Engagement



Test Draft Plans / Demonstration Policy







[REDACTED]

Please visit at
skirack.com

WWW.GOODFOOD





N. Winooski Avenue: Parking Protected Bike Lane



Image: Julie Campoli



DID YOU ENJOY USING THIS

**PROTECTED
BIKE LANE?**

TEXT 'BETTERBYBIKE' TO 38470!



**BETTER
BY BIKE**



N. Union Street Protected Bike Lane



Image: Julie Campoli

Image: Nic Anderson

Grant Street Neighborhood Greenway

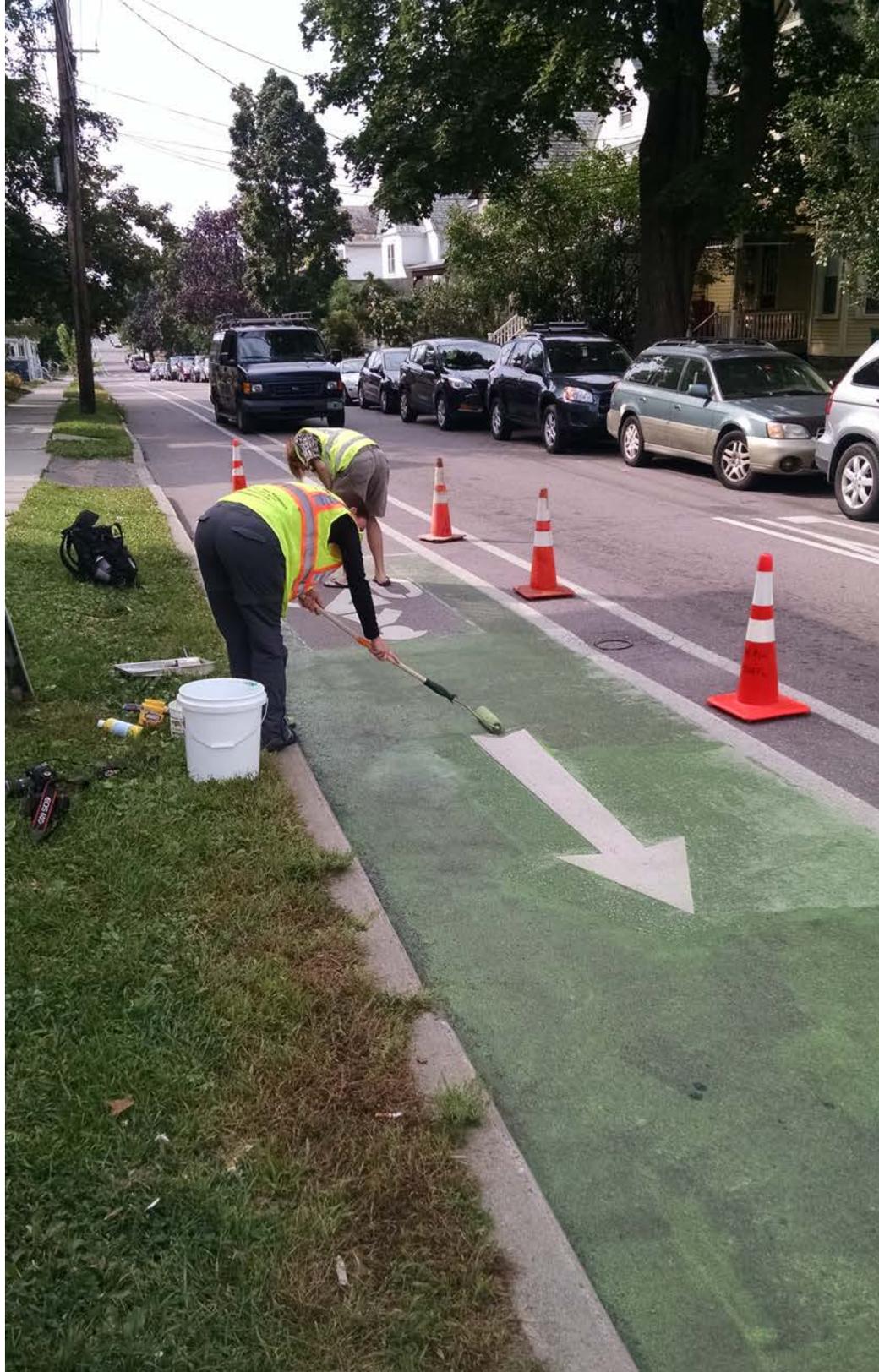




Testing Emergency Response



Image: Julie Campoli



What We Learned



SPEEDING ON N. WINOOSKI AVE.

NORMAL CONDITIONS

■ ~1 in 4 vehicles (28%) did not observe the speed limit



WITH THE DEMO IN PLACE

■ Speeding dropped to 6% of vehicles counted



SPEEDING ON N. UNION ST.

NORMAL CONDITIONS

■ ~1 in 4 vehicles (23%) did not observe the speed limit



WITH THE DEMO IN PLACE

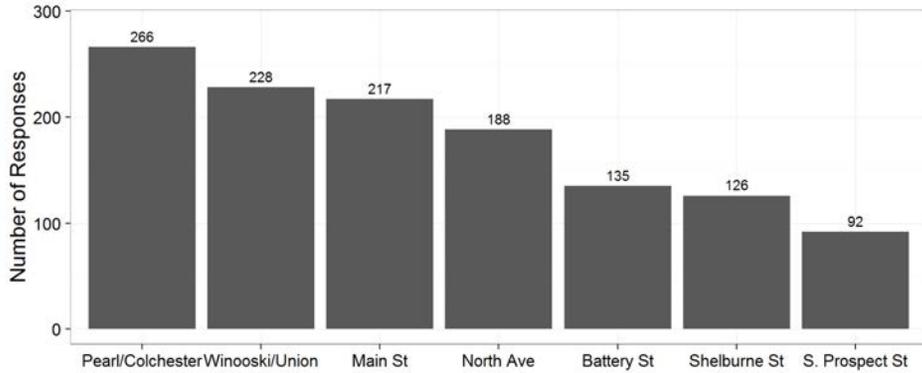
■ Speeding dropped to 6% of vehicles counted



Image: Julie Campoli

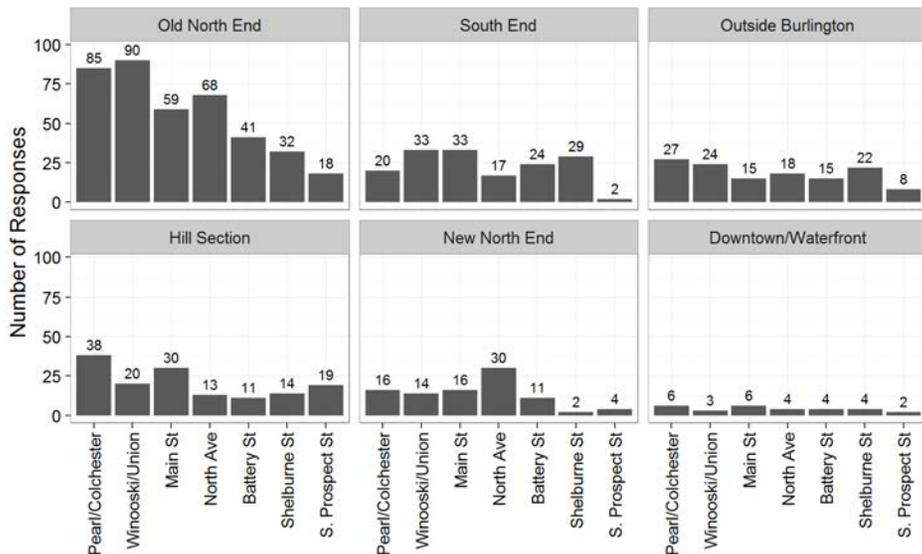
Local Demand is Real

Top Priority Streets



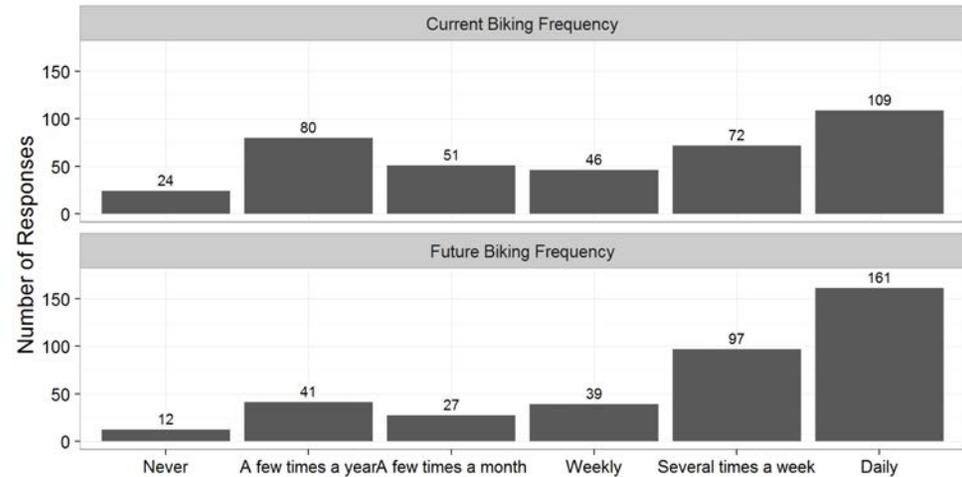
Priority Streets by Respondent Neighborhood

Note that while the overall priority between streets is shown above, there are some sensible differences in priority per the neighborhood of the respondent. For example, people in the Old North End preferred Battery Street at a higher rate than the rest of the city. Likewise for people outside Burlington and Shelburne St, people in the South End and Winooski/Union, and people in the New North End with North Ave.



Current and Future Biking Frequency

How often do you bike with kids or other "vulnerable" bicyclists, with the streets as they are today (Current) and if all selected priority streets had protected bike lanes (Future)

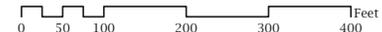
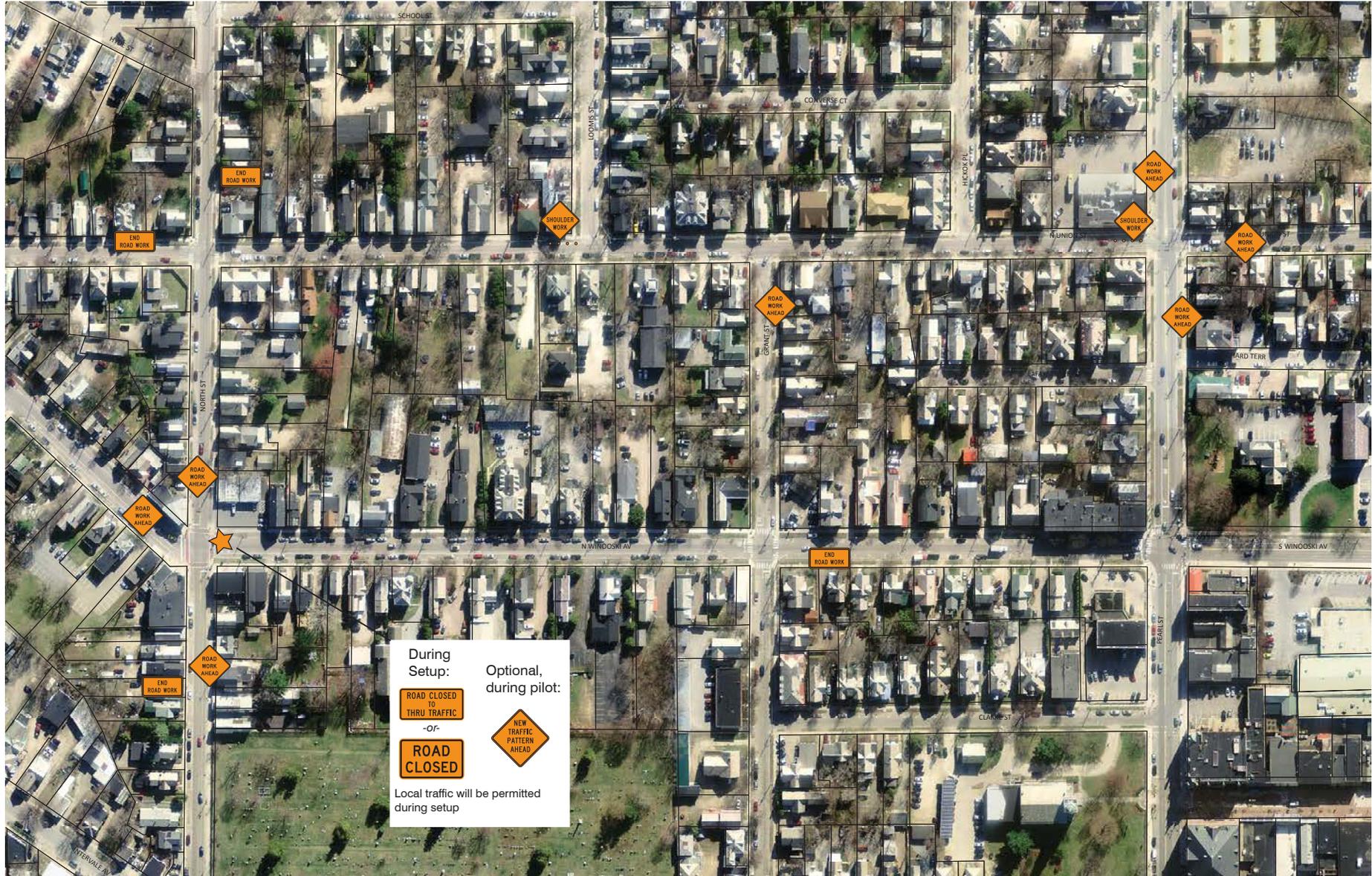


Note that among people with valid current and future responses, the number that said they would bike less, the same amount, or more if selected priority streets had protected bike lanes is as follows:

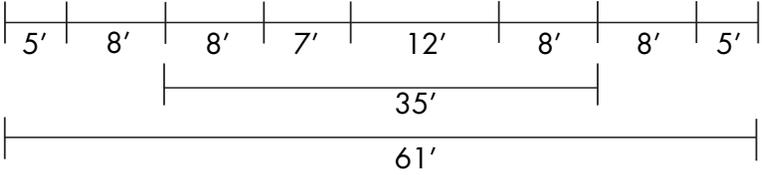
- Less Frequent 7
- Same 209
- More Frequent 156

Source: Local Motion

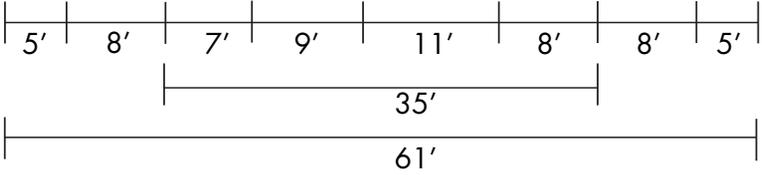
Community Pain Point: Traffic Management Plans



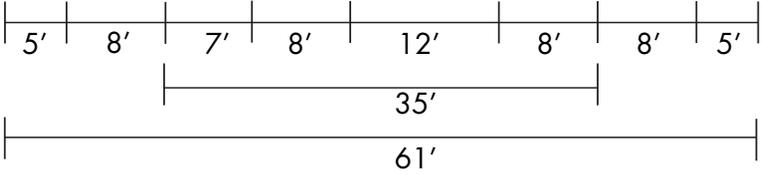
North Winooski Avenue - Existing



North Winooski Avenue – Phase 1



North Winooski Avenue – Phase 2



What the City Learned



North Avenue Pilot: Testing Materials + Design



What Advocates Learned: Need for a Toolkit



[OUR WORK](#) [YOUR COMMUNITY](#) [NEWS & EVENTS](#) [ABOUT](#) [GET INVOLVED](#) [DONATE](#) [Q](#)

[Take the Bike Ferry](#) [Rent a Bike](#) [Get Out and Ride](#)

[HOME](#) / [OUR WORK](#) / [SAFE AND COMPLETE STREETS](#) / [GET ASSISTANCE](#) /
[RUNNING A POP-UP DEMONSTRATION PROJECT](#)

Running a Pop-up Demonstration Project

**Demonstration
Projects
Toolkit**



Pop-ups and pilots are all ways of temporarily demonstrating the value of a walk-bike project in your community without having to commit to it long term. Pilots typically last for at least one year and pop-ups for a shorter amount of time, typically a week or less. Both use low cost, non-permanent materials such as planters, flexible bollards, spray chalk and cones to temporarily reconfigure the street. Survey and observational data can be collected before and after the demonstration to help decision-makers understand project benefits and impacts.

[Sign in with Facebook](#)

[Sign in with Twitter](#)

[Sign in with Email](#)

Email address

[JOIN](#)

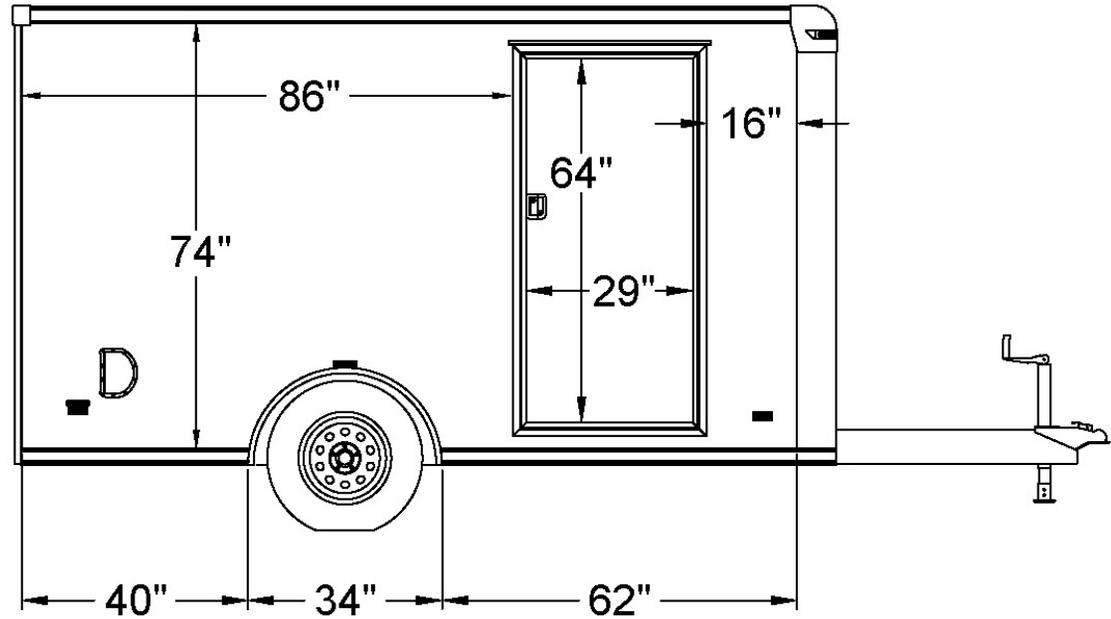
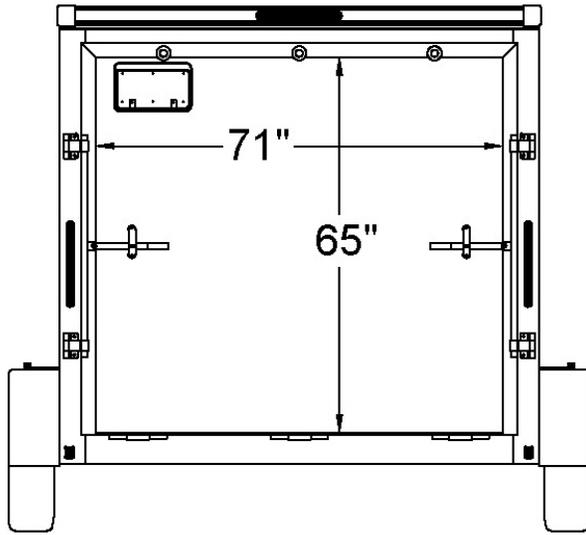


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Pop-Up Project Trailer



LOCAL MOTION

Pop-up Project
Mobile Support Unit

Bring a pop-up walk/bike project
to your community!

Learn more at: www.localmotion.org/popup

Special thanks to our partners and sponsors:

Trailer Designed by **STREETPLANS**

LOCAL MOTION Pop-up Project
Mobile Support Unit

BETTER BY BIKE
VERMONT

Learn more at:
www.localmotion.org/popup

SPECIAL SERIES

boundbreakers: people who make a difference



3:25

+ Queue

Download

Embed

With Citizens' Help, Cities Can Build A Better Bike Lane — And More

September 15, 2016 · 4:47 AM ET

Heard on [Morning Edition](#)

LAUREL WAMSLEY



How Can Tactical Urbanism Mitigate Climate Change?

Norfolk, Virginia



Image: WTKR

Resilient Norfolk

Milan * New York City * Quito
Melbourne * Rome * Thessaloniki
Rotterdam * Athens * Paris
Dakar * Juarez * Boston
Dallas * Vejle * Norfolk, Virginia
Medellín * Bangkok * Rio de
Janeiro * Barcelona * Los Angeles
Rome * Chicago * Da Nang
New Orleans * Kigali * Huangshi
Singapore * Lisbon * Mexico City
Cali * Santiago de los Caballeros
Belgrade * Ramallah * Glasgow
Montreal * Mandalay * Accra
London * El Paso * Bangalore
Surat * Jacksonville * San Juan
Durban * Sydney * Pittsburgh
Amman * Semarang * Enugu
Porto Alegre * San Francisco
Deyang * Santiago, Metropolitan
Region * Ashkelon * Wellington
City * St. Louis * Toyama * Byblos
Arusha * Christchurch * Tulsa
Chennai * Oakland * Bristol
Santa Fe * Berkeley * Boulder

Goal 1: Design the Coastal
Community of the Future

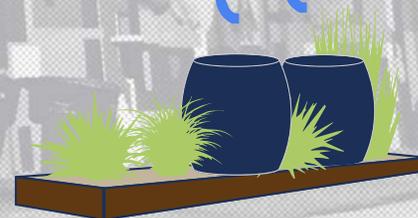
Goal 2: Create Economic Opportunity
by advancing efforts to grow existing
and new industry sectors

Goal 3: Advance initiatives to connect
communities, deconcentrate poverty,
and strengthen neighborhoods

Strategies:

- Improve citizen access to information and services.
- Use technology to support and enhance community-building efforts.
- Connect people and facilitate dialogue that advances community-building efforts

RETAIN YOUR RAIN



Boxes, Barrels & Brew

Planter boxes, rain barrels and rain gardens – small-scale projects can have a **big impact** by holding water and helping to **reduce rainwater flooding**.

Learn how you can build these easy projects at the Norfolk DIY Project Party. Mingle with friends at the **pop-up beer garden** and check out the demonstration projects!

We're a city of **makers and doers** and working together **all of us can help Retain the Rain**.

SATURDAY JUNE 4TH
3:00–5:00PM

DIY PROJECT PARTY & BEER GARDEN

The Cofer Lot: 142 W. Olney Rd.
(at W. Olney & Wilson) | Norfolk, VA

More info at: bit.ly/NorfolkDIYProjectParty

Questions? Want to learn more? Contact Denise Thompson: Denise.Thompson@norfolk.gov | (757) 664-4032



June 4th, 2016 Workshop



Lot | Street | Block



One Workshop Precedent: Depave



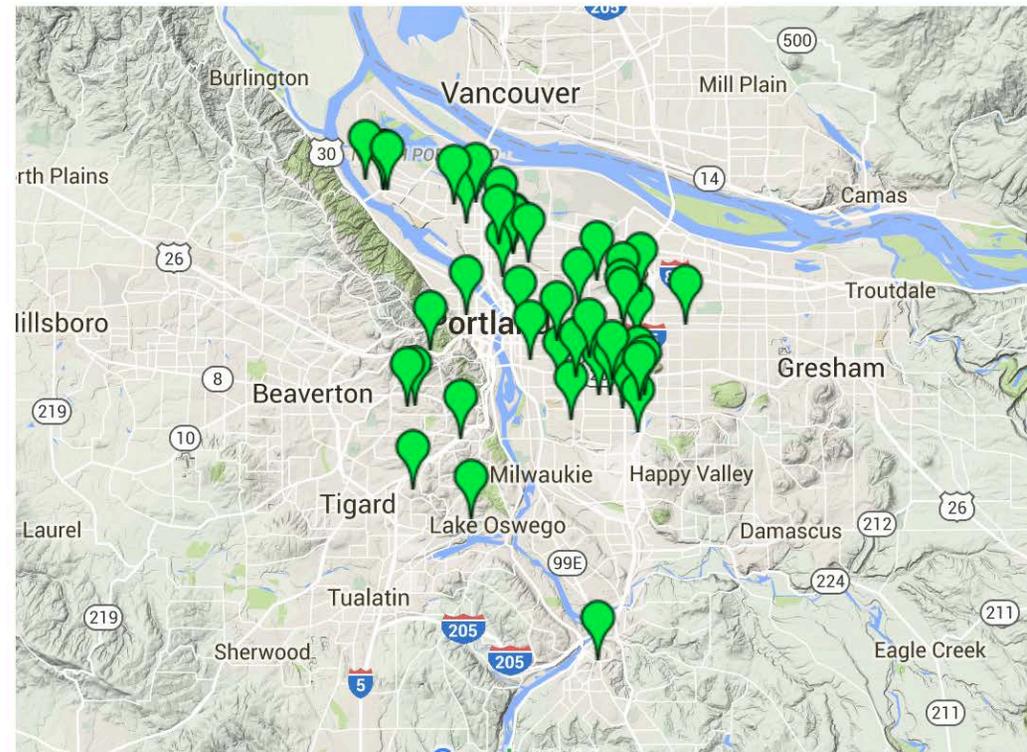




Scaling “Tactical Resilience”

- Over **135,000** square feet of asphalt depaved (almost exclusively by hand!) to create nearly 50 new green spaces in Portland since 2008
- Over **3,250,000** gallons of stormwater diverted from storm drains annually due to these projects
- Over **2,750** volunteers engaged in depaving and re-greening activities so far

MAP OF PROJECTS



Willamette River: Now Open for Swimming!



Back in Norfolk: Magazine Lane





MAGAZINE LANE RAIN BARRELS





HI. I'M A RAIN BARREL . THIS IS WHAT I DO :

I rest under the downspout and wait for that first rainwater runoff from a rooftop. I help reduce the flooding on yards, streets, and the stormwater system by collecting the rainwater runoff. I also reduce the amount of pollutants in our watershed. I am painted and placed in a way that helps to improve your natural landscape!

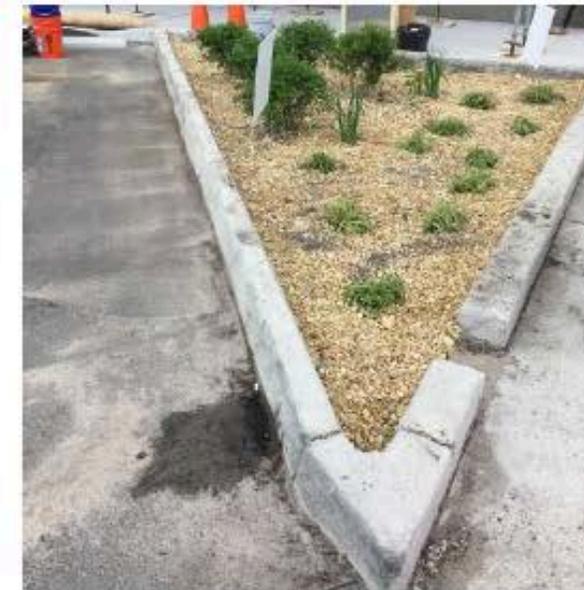
Fun Facts:

You can use what I collect for many things...

COFER LOT SIDEWALK



WORK | RELEASE PARKING LOT RAIN GARDEN



RETAIN YOUR RAIN EVENT
Master Gardeners

Ask a Master Gardener

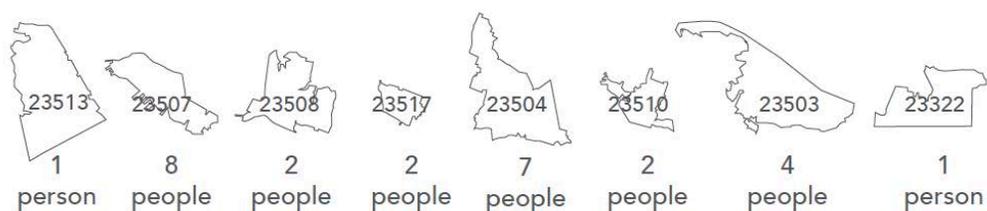
Norfolk Master Gardener Association
www.nmgv.org
Virginia Cooperative Extension
www.ext.vt.edu





Results

27 Survey Respondents came from 8 zipcodes



83%

Said they feel inspired/capable of delivering a small-scale project in their neighborhood

- 1. PROJECT COST
- 2. NAVIGATING PERMITS

Are the two largest perceived barriers to delivering citizen-led, parcel-level stormwater mitigation projects

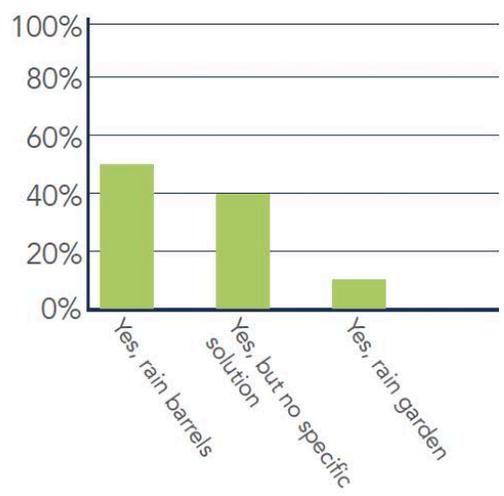
92%

Said yes, building resilience should be a high priority for the City of Norfolk

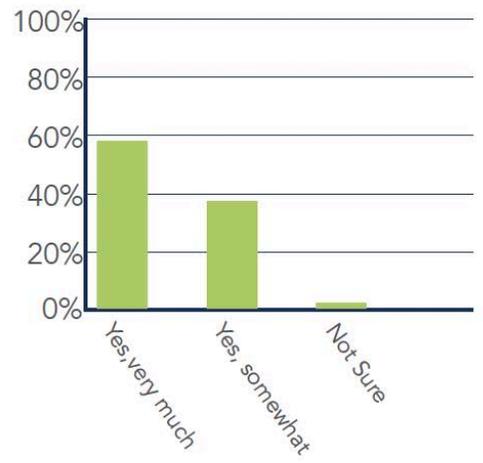
54%

Said hands-on planting was their favorite part of the workshop

Are there any flood mitigation solutions that you see yourself using at home or at work?



Did attending the workshop increase your understanding of flood mitigation solutions?



81%

Would you like to attend hands-on workshop on other topics, such as:

- Tactical Urbanism
- Trail Building
- Living Shorelines
- Disaster Recovery
- Disaster Preparedness
- Home Resilience
- Water Aquifers
- Pervious Pavement
- Solar and Wind Power
- Streetscape Improvement
- Flooding
- Gardening
- Wetlands Management
- Neighborhood Resilience Pavilion
- Construction
- Green Roofs, Green Walls

1. PROJECT COST

2. NAVIGATING PERMITS

Are the two largest perceived barriers to delivering citizen-led, parcel-level stormwater mitigation projects

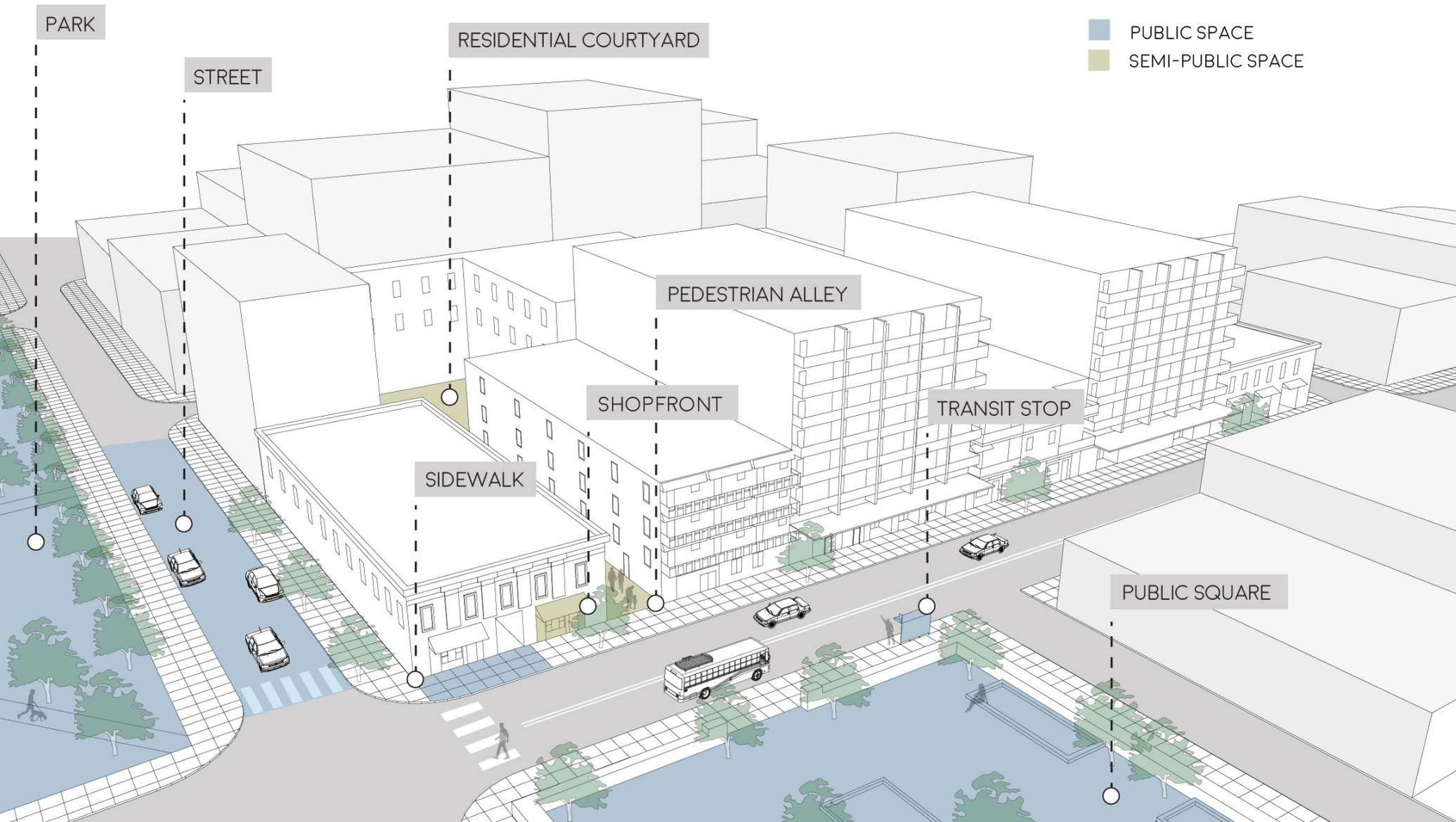
KEY TACTICAL RESILIENCE RECOMMENDATIONS

Resilient neighborhoods make a resilient city. Thus, the following recommendations are based on the outcomes of *Norfolk's Retain Your Rain: Boxes, Barrels, and Brew* workshop and intended to guide Norfolk's citizen and city leaders developing a truly resilient city.

- 1 Develop *Norfolk's Citizen's Guide to Implementing Green Infrastructure projects*; Support with policy that streamlines parcel-level, citizen-led resilience infrastructure commit a modest amount of city funding that can be matched by neighborhood or business groups using the ioby (ioby.org) crowd-resourcing platform.
- 2 Activate the *Norfolk's Citizen's Guide to Implementing Green Infrastructure projects* by offering hands-on workshops quarterly, to which neighborhood or business groups can apply; expand the topic offerings where/when relevant/feasible to include a range of desired topics (see page 05 for a list of possibilities).
- 3 Develop metrics and a simple evaluation methodology and public data dashboard that tracks the successes and failures of parcel-level green infrastructure projects citywide.
- 4 Consider hosting an annual Retain Your Rain-scale event drawing together neighborhood leaders who have installed green infrastructure or who are interested. The event could move to various neighborhoods and serve as an opportunity to share the results of the past-years citizen-led green infrastructure projects.



What's Next for Tactical Resilience? Public Space in Thessaloniki, Greece



What We've Learned

1. Government planning processes, policies, and programs struggle to deliver projects responding to 21st century challenges.
2. Cities and citizens want to be engaged in new ways; People are really hungry for opportunities to be hands on in their neighborhoods. However, they need a much more supportive environment (design, materials, policy, and process that enable place/change-making etc.)

Albion Square, Lyttleton, New Zealand



Andrew Givela

The Resilience Dividend

After the devastation of
the Canterbury earthquakes,
the people of Lyttelton gathered
on this site to support each other,
and began to rebuild their future.
Informal use of this site as a civic
open space led to the development of
Albion Square,
opened on 8 November 2014.

Resilience Should be Joyful and Inclusive.



Five Principles

1. Embed Tactical Urbanism into the Project Delivery Process
2. Pilot Test Existing and Proposed Projects + Plans
3. Open Up The Project Delivery Process to Work With as Many Partners as Possible
4. Take Advantage of Existing Initiatives To Find Multipliers
5. Scale Down, to Scale Up



FEELS

GOOD

TO GET

SOME

STUFF

DONE



Z





THINK
SCULPTURE



Thank You!

Mike Lydon, CNU-A
street-plans.com

@MikeLydon | @streetplans | @Open_Streets

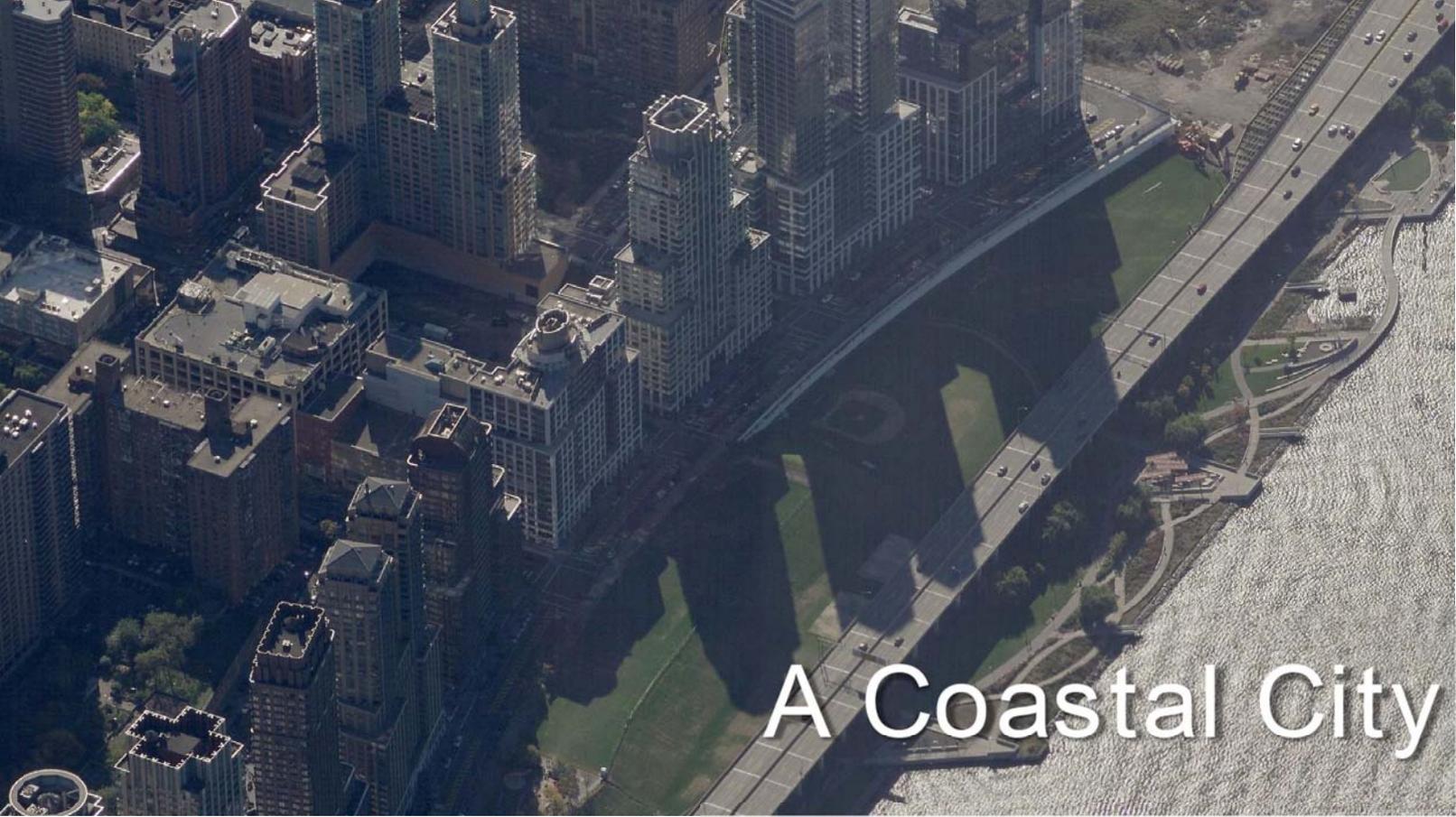


Parks

Resilience and NYC Parks

Mitchell Silver, FAICP
NYC Parks Commissioner

Photo: NYC Parks



A Coastal City



520 miles of coastline



155 miles of coastline in parklands



14 miles of public beach

Superstorm Sandy

- Caused over \$725M of damage to 392 Park sites
- Two-thirds of the most vulnerable population live with ½ mile of flood zones

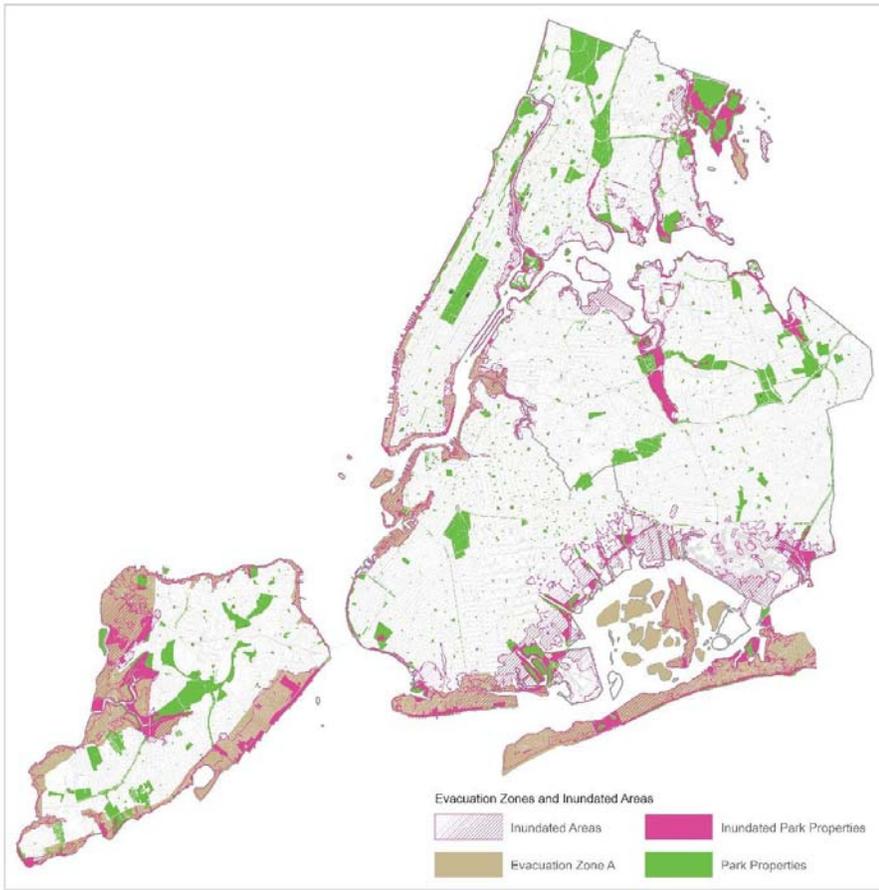


NYC Parks

Photo: isglobalwarmingreal.org; dailynews.com



NYC Parks





Parks

Resiliency & Sustainability

Photo: NYC Parks



New Reality: Climate Change

- NYC Parks is working with EDC, DDC and the Army Corps.
- 4M cubic yards of sand returned to beaches
- \$274M Rockaway boardwalk reconstruction is underway
- Other reconstruction projects planned and underway



NYC Parks

Photos: NYC Parks





FLOOD HAZARD ZONES

- **ZONE A** - 1% annual-chance flood event. No Base Flood Elevation (BFE) exists.
 - **ZONE AE** - 1% annual-chance flood event. BFE exists.
 - **ZONE AO** - 1% annual-chance shallow flooding.
 - **VE** - Areas along coasts subject to inundation by the 1% annual-chance flood event with additional hazards associated with storm-induced velocity wave action. BFE exists.
 - **FLOODWAY** - watercourse reserved to discharge base flood.
 - **ZONE X** - Moderate risk areas within the 0.2% annual-chance floodplain.
- ▲ **LIMIT OF MODERATE WAVE ACTION**



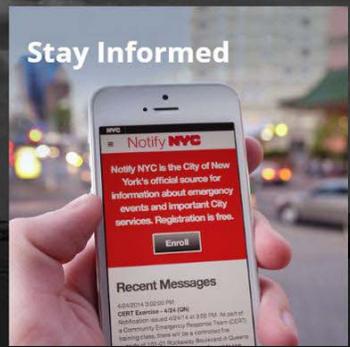
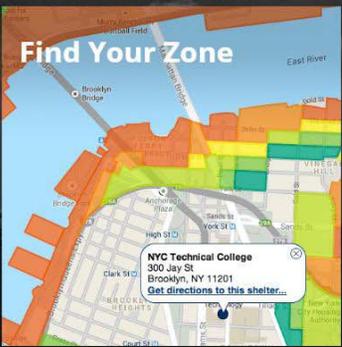
CONCH PLAYGROUND | Flood Risk

NTS



KNOW YOUR ZONE is your destination for everything you need to know about hurricanes in New York City. You'll find information about the city's hurricane evacuation zones, the hazards you may face from a hurricane, and what to do to prepare.

#knowyourzone



Agency Partnerships

- Department of Environmental Protection
- Department of Transportation
- Department of Design and Construction
- Mayor's Office for Recovery and Resiliency



Photo: NYC Parks

Green Infrastructure



NYC Parks

Green Infrastructure



Stormwater

NYC Parks



Planted Greenstreet with stormwater capture

Vision 4: Resilient City

- Neighborhoods
- Buildings
- Infrastructure
- **Coastal Defense**



Resilient City: OneNYC Initiatives

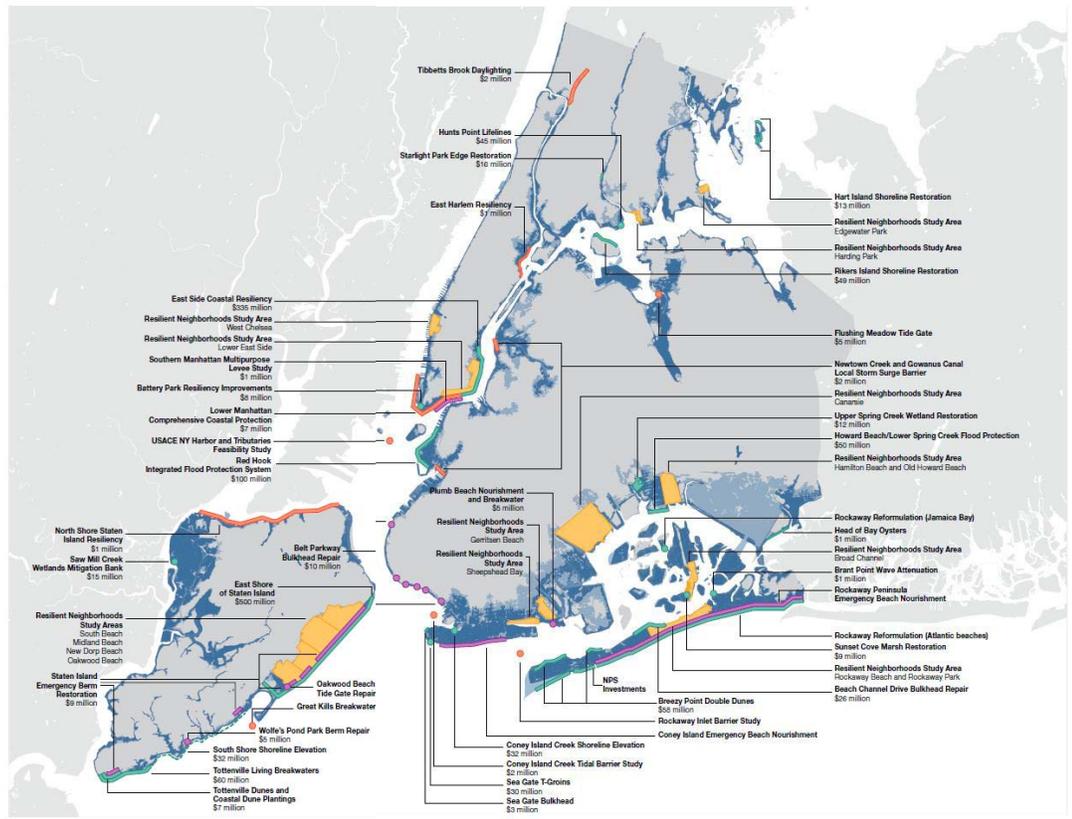
- Strengthen the city's coastal defenses
- Attract new funds for vital protection projects
- Adopt policies to support coastal protection
- nyc.gov/OneNYC



NYC Parks

A Resilient City Coastal Protection Project Status

- Completed
- Study Funded
- Project Funded
- DCP Resilient Neighborhoods Study Areas
- 2013 100-Year Floodplain
- 2050s 100-Year Floodplain



NYC Parks

Floodplain Source: FEMA (Current Floodplain) NPCC 2015 (2050s Floodplain)
 Note: NPCC Floodplain is a high-end projection (90th percentile).
 All costs are rounded estimates. Not all projects shown.



Lessons learned