



TAKING THE HIGH ROAD

A Systematic Approach to Integrating Social Values
into Infrastructure Investment



Renewable Natural Resources Foundation
Creating a Sustainable Path Forward for America's Infrastructure
August 10, 2020



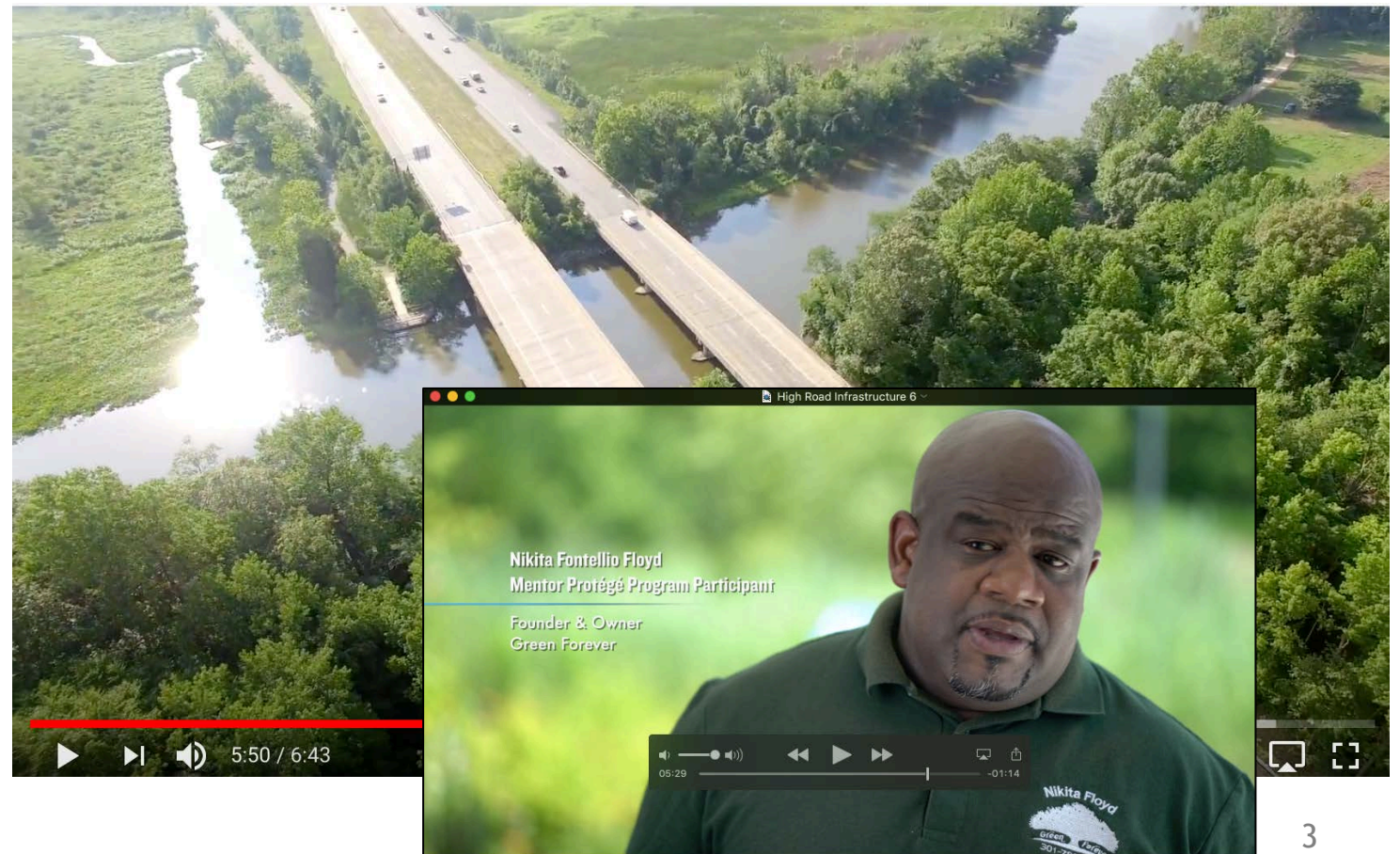
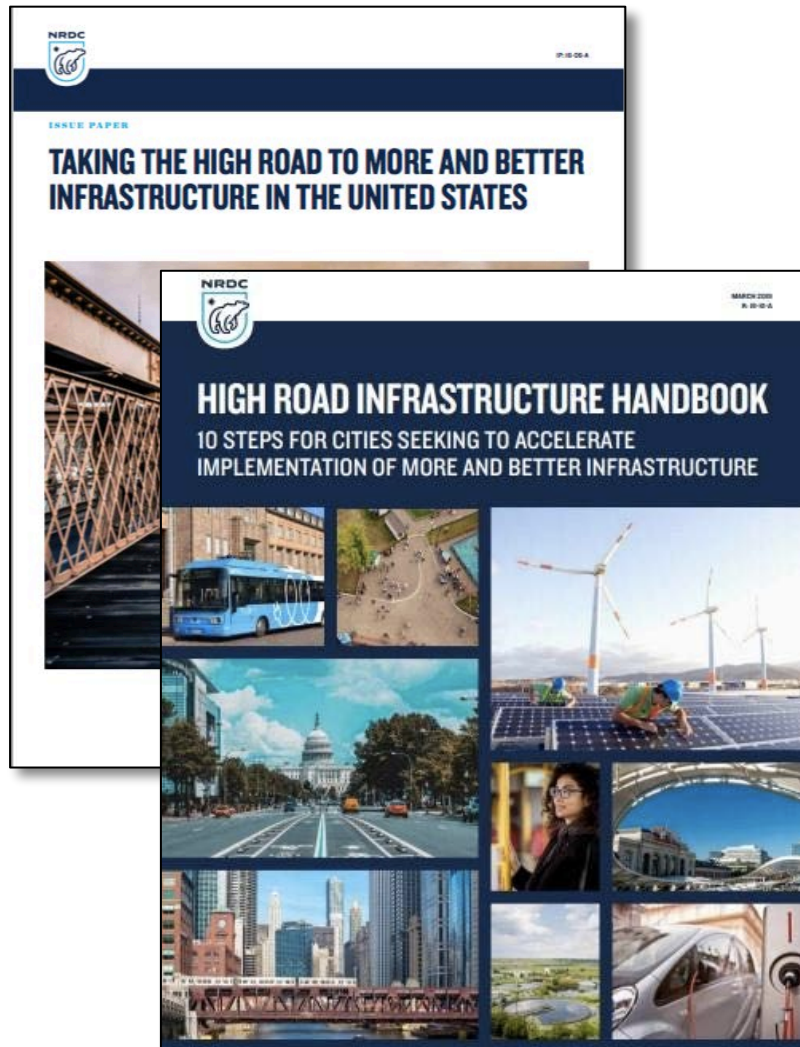
Doug Sims
Green Finance Center
Natural Resources Defense Council
(dsims@nrdc.org)

About NRDC

- The Natural Resources Defense Council is an international nonprofit environmental organization with more than 3 million members and online activists
- Since 1970, we have worked to protect the world's natural resources, public health, and the environment.
- Fighting climate change, increasing access to clean energy for all and building clean energy jobs are all among NRDC's top institutional priorities
- We have about 700 staff and consultants around the United States, Beijing and New Delhi

Download the papers and see the video at nrdc.org

<https://www.nrdc.org/sites/default/files/taking-high-road-more-and-better-infrastructure-ip.pdf>



What is High Road Infrastructure?

FULFILLS CORE FUNCTION



**DELIVERS RESILIENCE AND ENVIRONMENTAL
AND SOCIAL BENEFITS COST EFFECTIVELY**

High Road applies broader standards to infrastructure predevelopment

- Elevates the highest value projects
- Raises resilience, lowers carbon
- Preserves natural resources, improves the quality of life
- Strengthens economic vitality by creating quality jobs
- Builds community consensus
- Ensures “biggest bang for the buck”

Which screens/standards? Why are they needed?



Environmental and resilience standards account for true costs and benefits (water, air, carbon, natural disaster preparedness)



Social standards ensure value added rather than extracted (jobs, affordability, transparency, community engagement)



Financial and efficiency standards ensure viability and value for money (ROI, NPV, life cycle analysis, contract risk allocation)

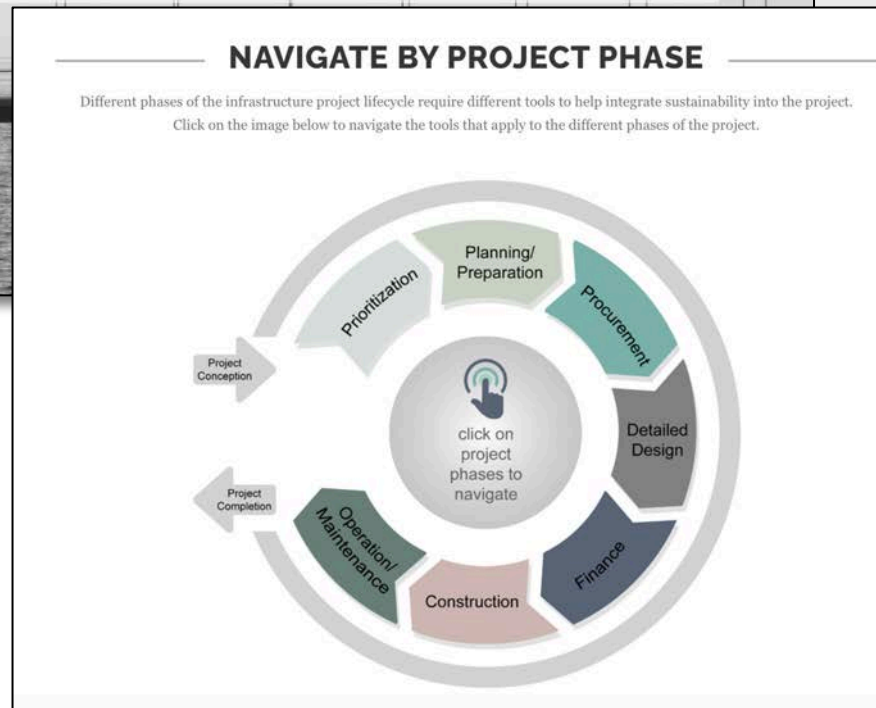
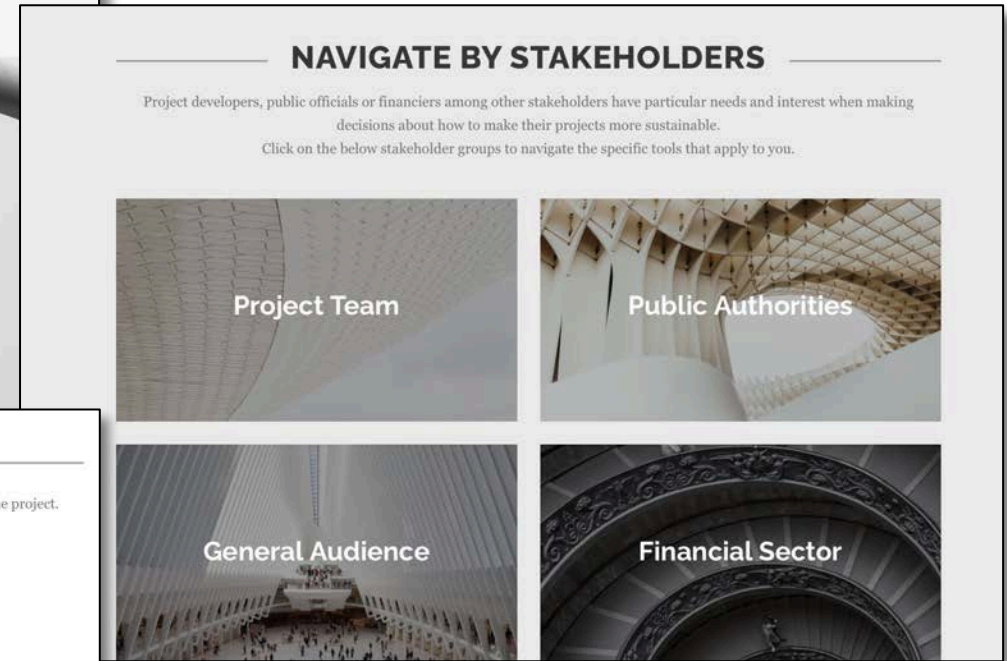
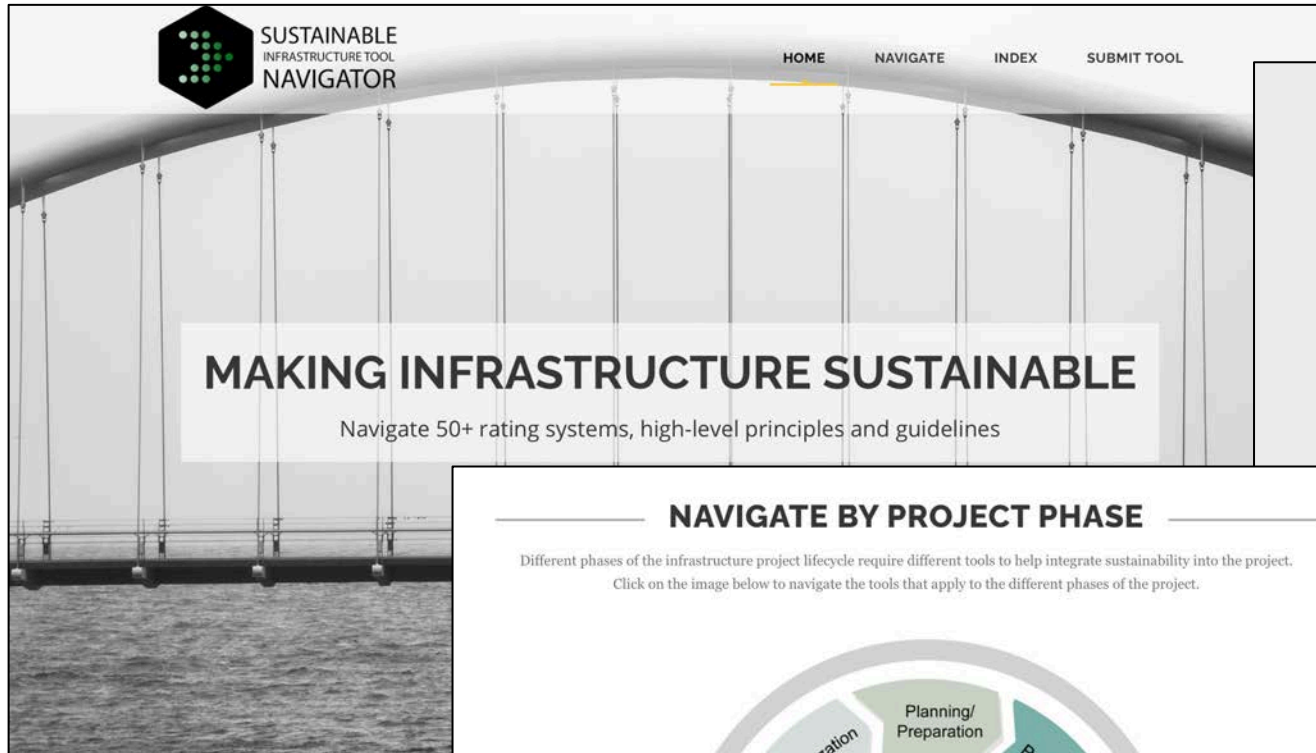


Standards signal long term value to investors (ESG screens, climate/natural disaster hedge, growth promotion)

COVID-19 accelerates the need for High Road Infrastructure

- Government balance sheets are lacking capacity, revenues are down, borrowing up. In 2019, private investors made record \$ allocations to infra but lack projects
- Infrastructure needs, already dire, are increasing, as are new COVID-related spending requirements
- Infrastructure *should* be a foundational part of stimulus with emphasis on low carbon solutions. De-prioritize airports and roads; focus on digital and smart mobility; resilience
- Equity is front and center in many places; focus on POC and frontline and fenceline communities. A “just transition” is also sought in fossil fuel-reliant communities
- Transparency, public participation and accountability are key for policy to pass and for projects to move

There's a growing body of tools for all stakeholders



<https://sustainable-infrastructure-tools.org>

High Road includes new and emerging sub-sectors

Environment focus (distributed)

- Solar, EV charging
- Energy Efficiency
- Water quality

Resilience focus (distributed)

- Green infrastructure
- Hardening
- Microgrids

Social and Community focus

- TOD, affordable housing
- Parks, green space
- Food hubs, health clinics
- Public buildings

Geographic focus

- Low and moderate income economic development
- Connectivity

High Road is also traditional infrastructure “done right”

Clean energy

District heating/cooling

Ports, airports

Water and wastewater

Transit

Bridges, tunnels

Waste and recycling

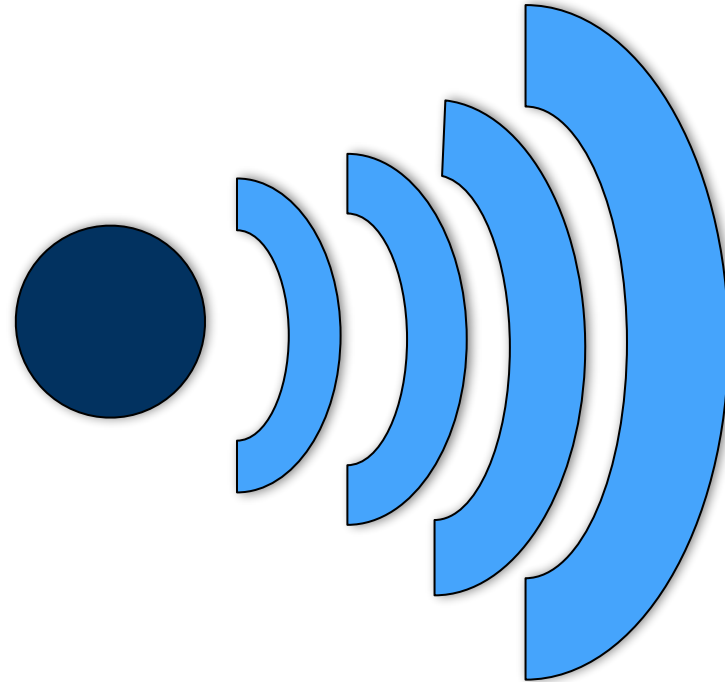
“MUSH” market

The High Road Goal

Define projects to include a diverse set of outcomes that amplify benefits and save money in the long run

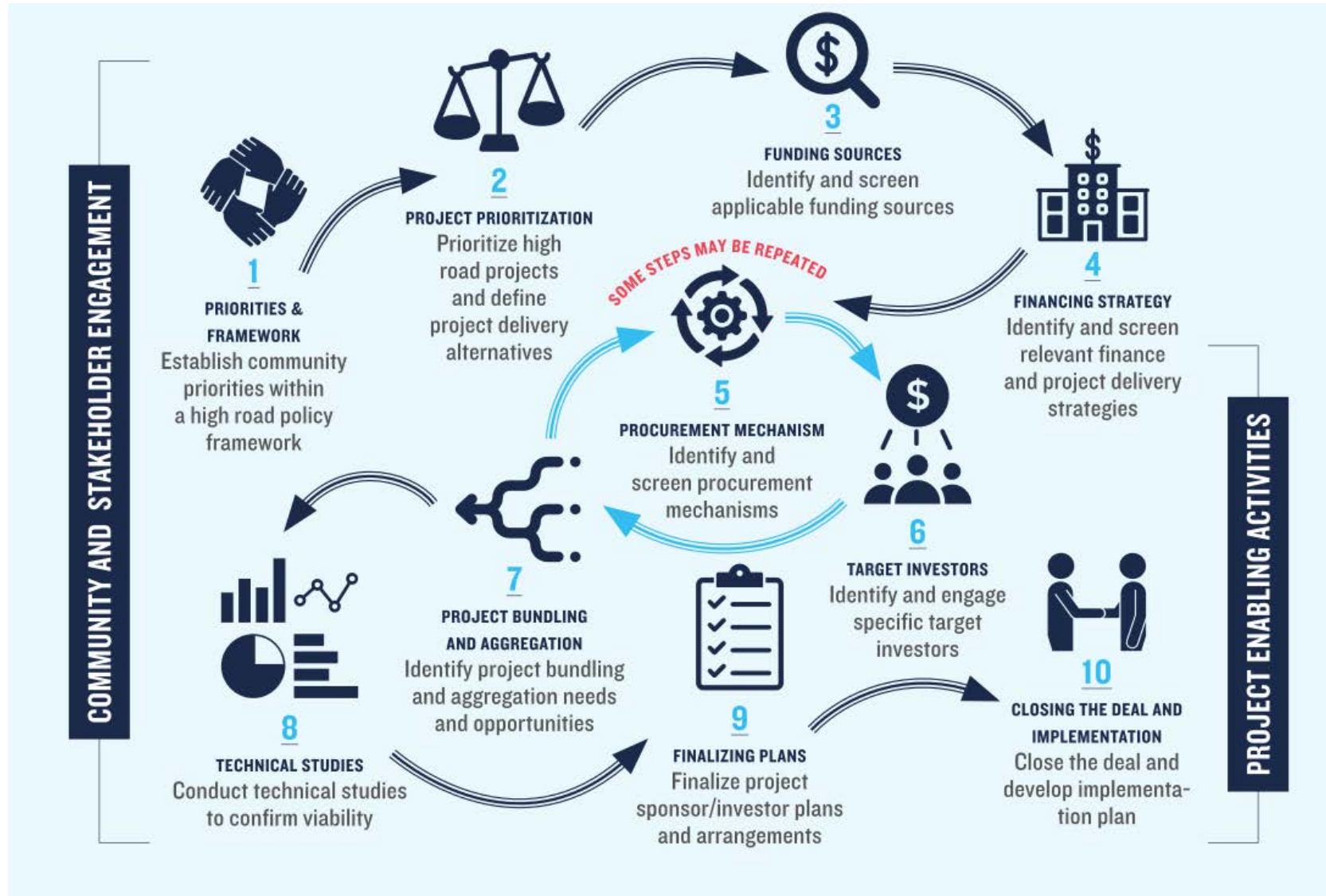


Conventional Infrastructure

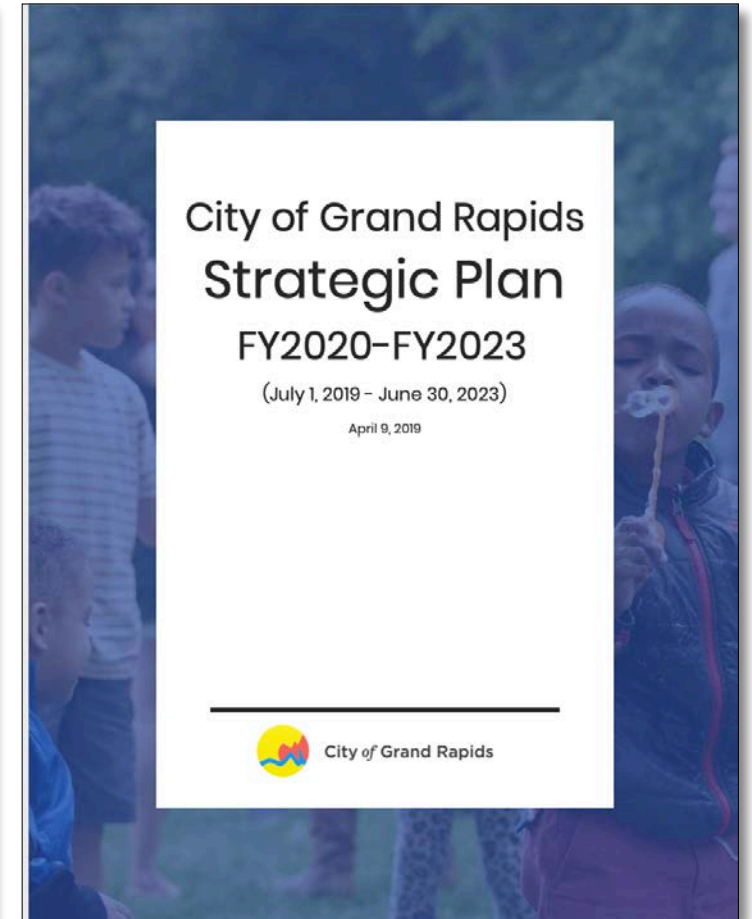
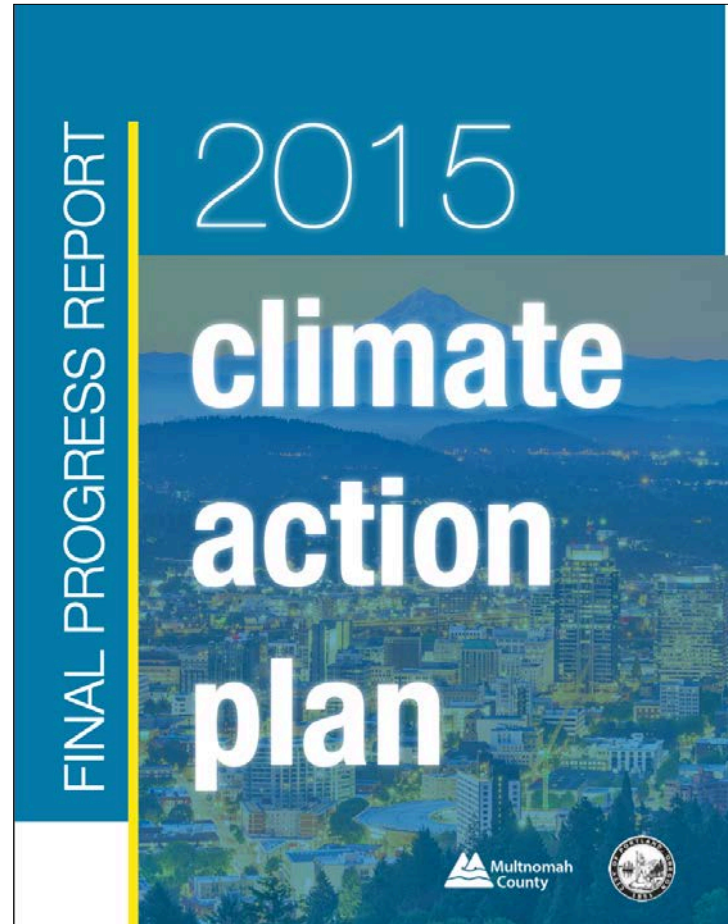
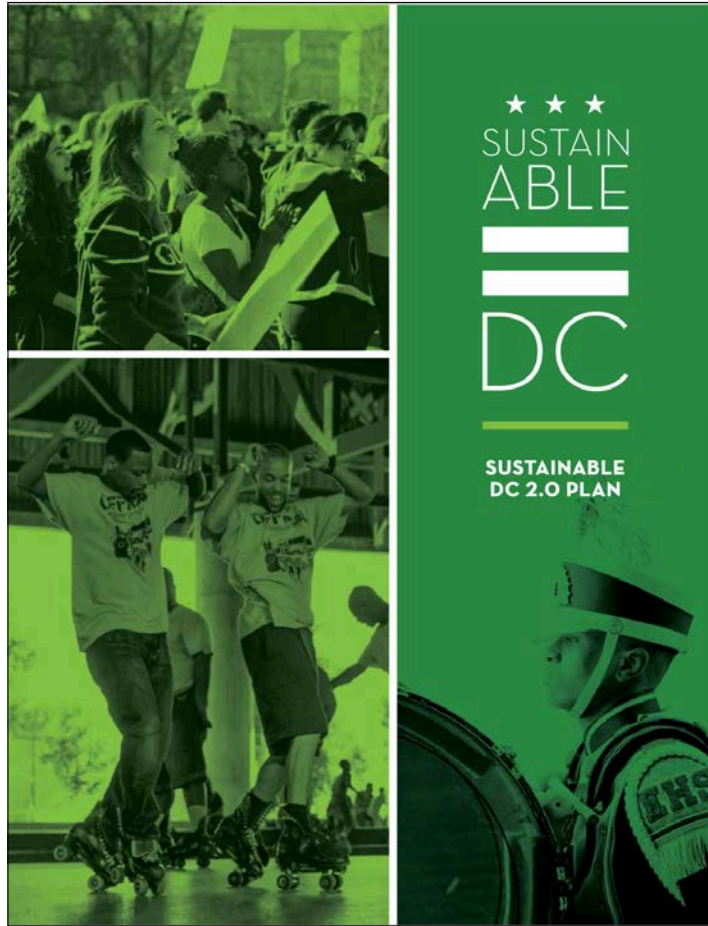


High Road Infrastructure

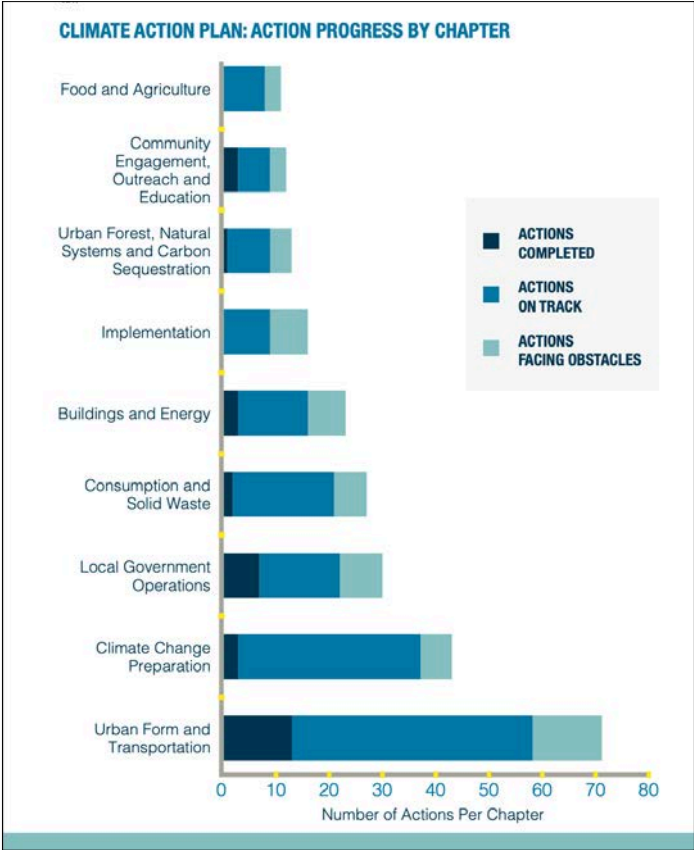
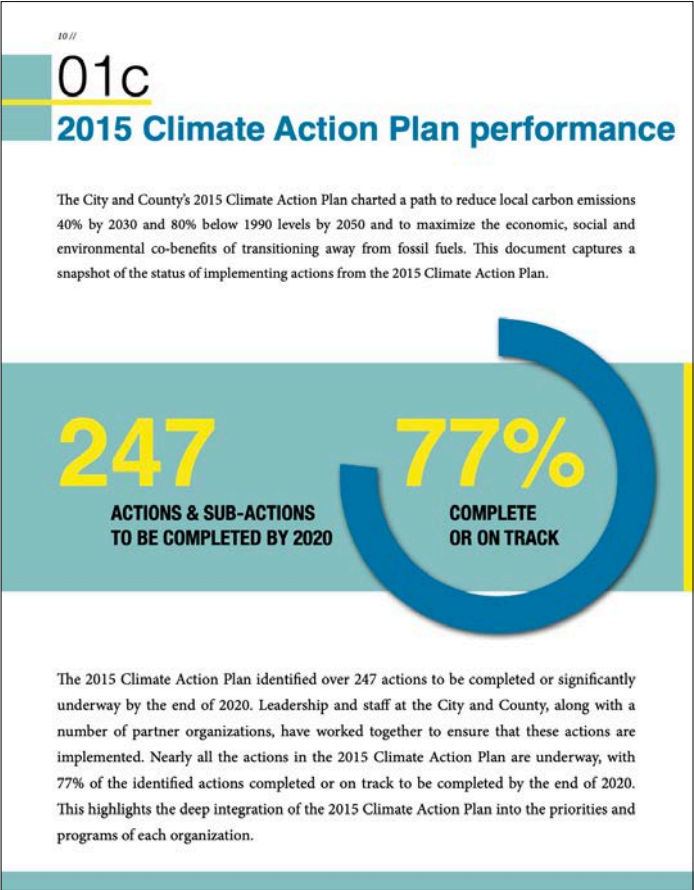
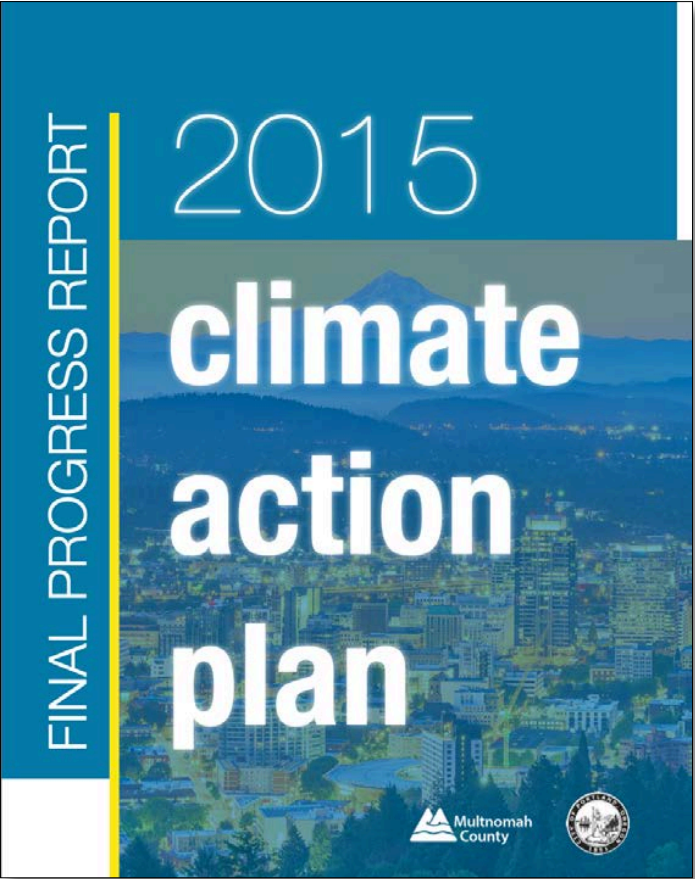
10 Step High Road Process



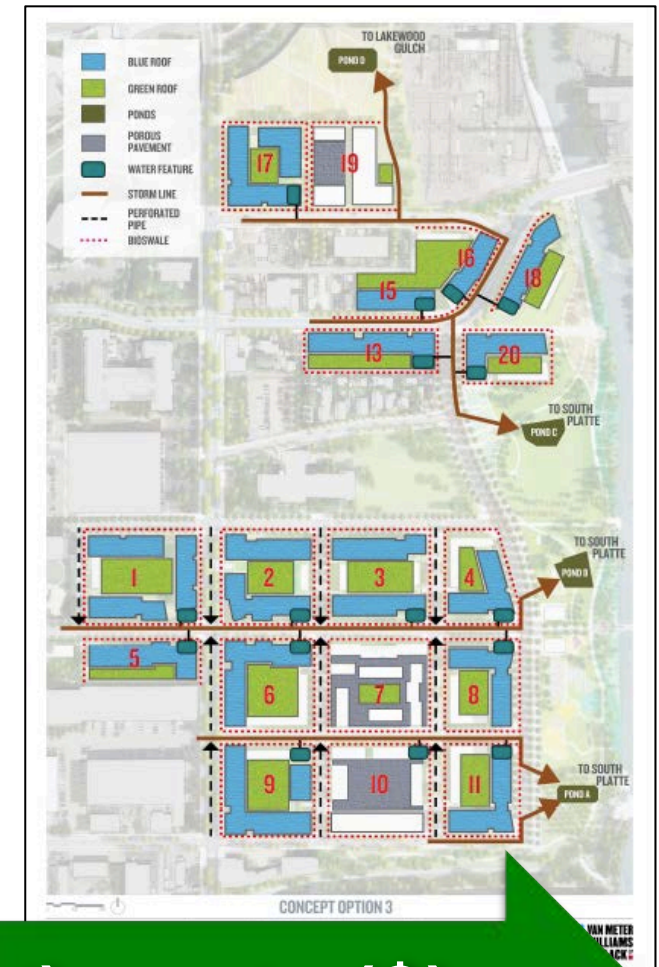
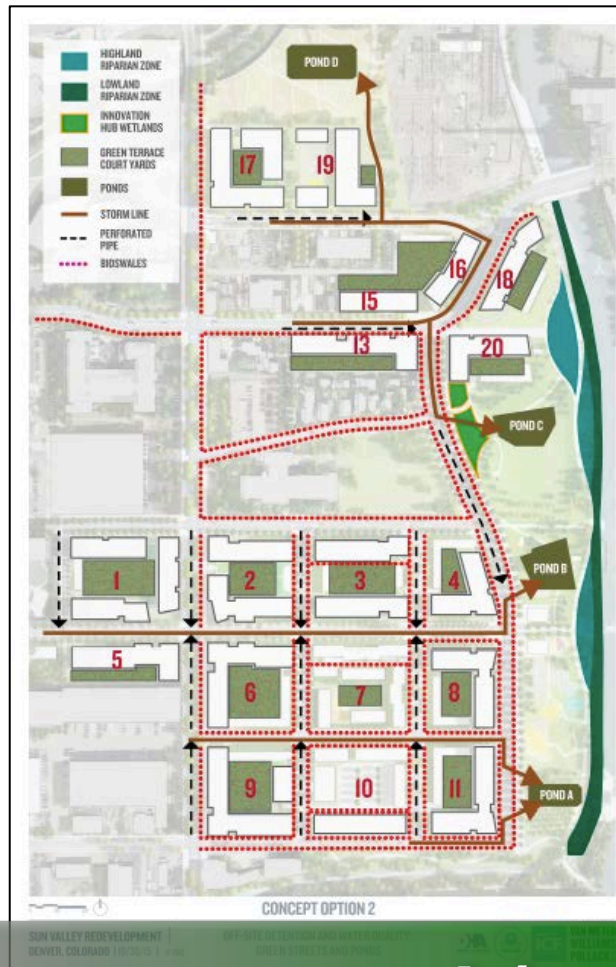
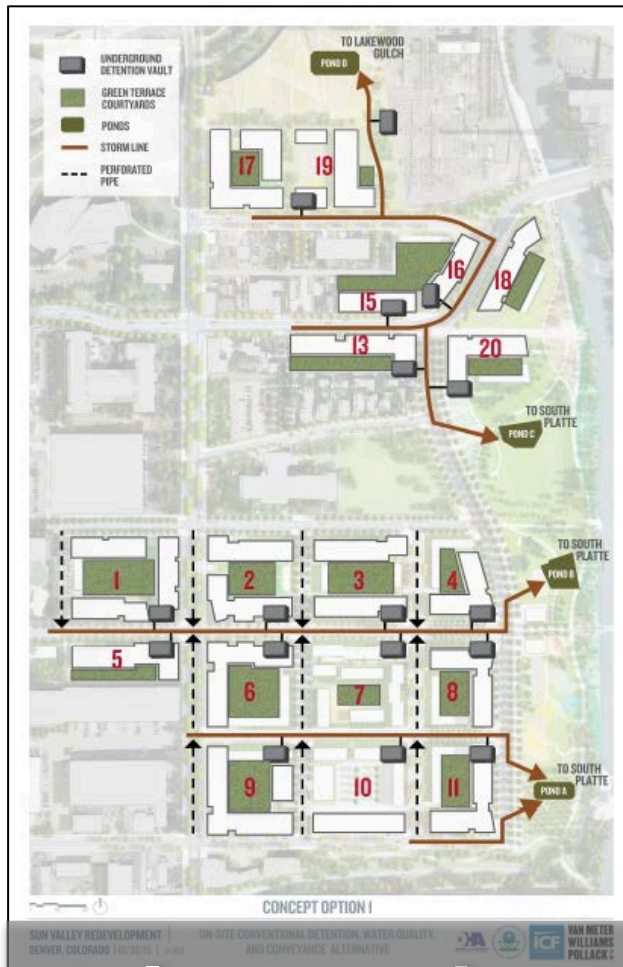
1. Establish Community Priorities Within a High Road Policy Framework



Plans approved by the community, transparent, with clear KPIs



The High Road approach creates options (stormwater)



Increasing greenness...and (upfront) costs (\$)

The High Road approach frames trade offs (stormwater)



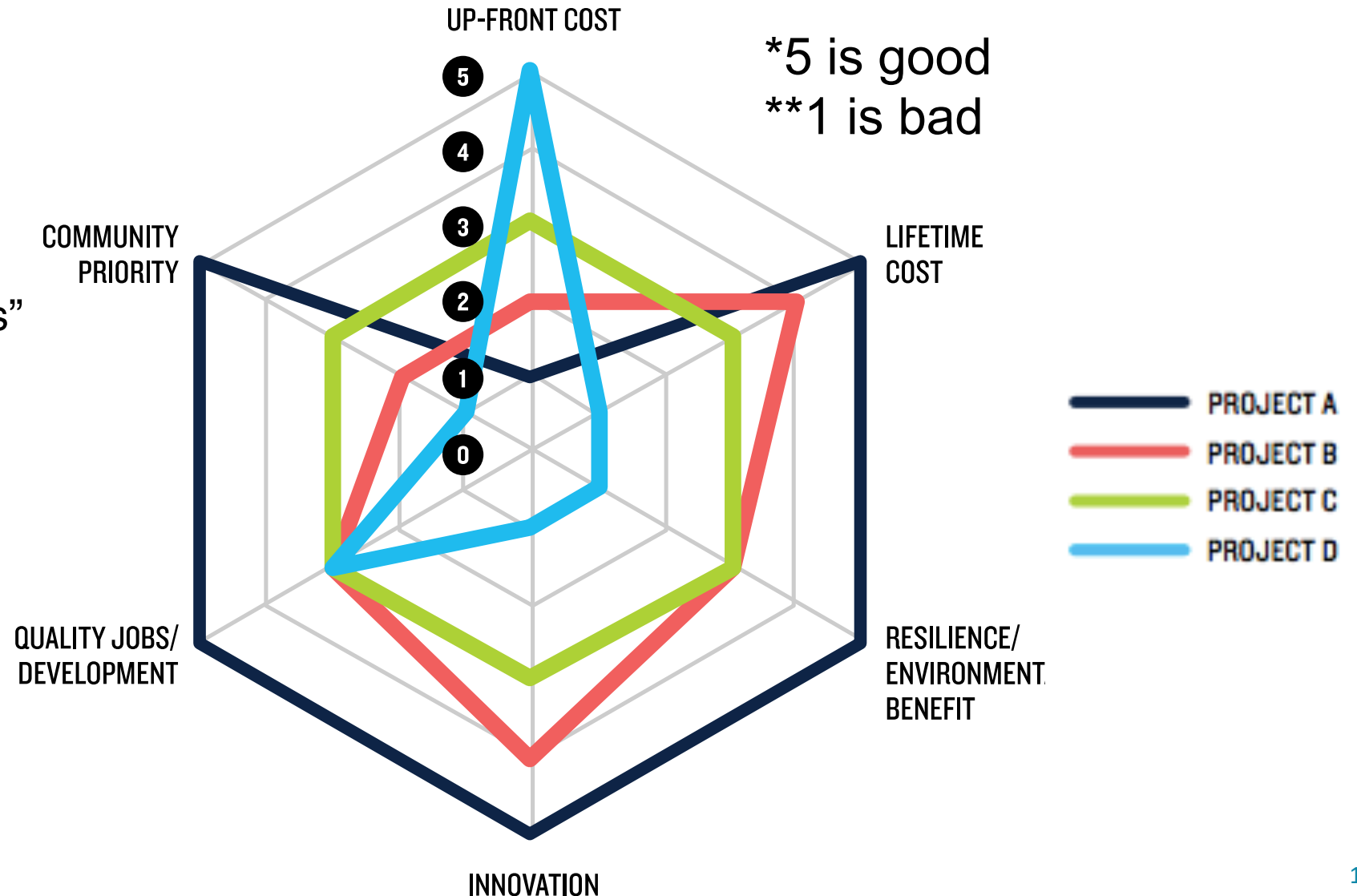
Increasing co-benefits

2. Prioritize High Road Projects and Define Project Delivery Alternatives

Key Concepts & Tools:

“Life Cycle Analysis”
“Value for Money”
“Triple Bottom Line”
“Cost Benefit Analysis”

Autocase



3. Identify and Screen Applicable Funding Sources

FUNDING FOR MASTER PLAN	FUNDING FOR ADMINISTRATION	FUNDING FOR DESIGN	FUNDING FOR CONSTRUCTION	FUNDING FOR O&M
		City/Agency Budget	Grants	General Fund
User fees	User fees	Short-term notes	User fees	User fees
City/Agency Budget	City/Agency Budget	Long-term bonds	GO bonds	Special assessments
		Grants	Traditional SRF Loans	Ad Valorem taxes
		User fees	Private Equity	

4. Identify and Screen Relevant Finance and Project Delivery Strategies

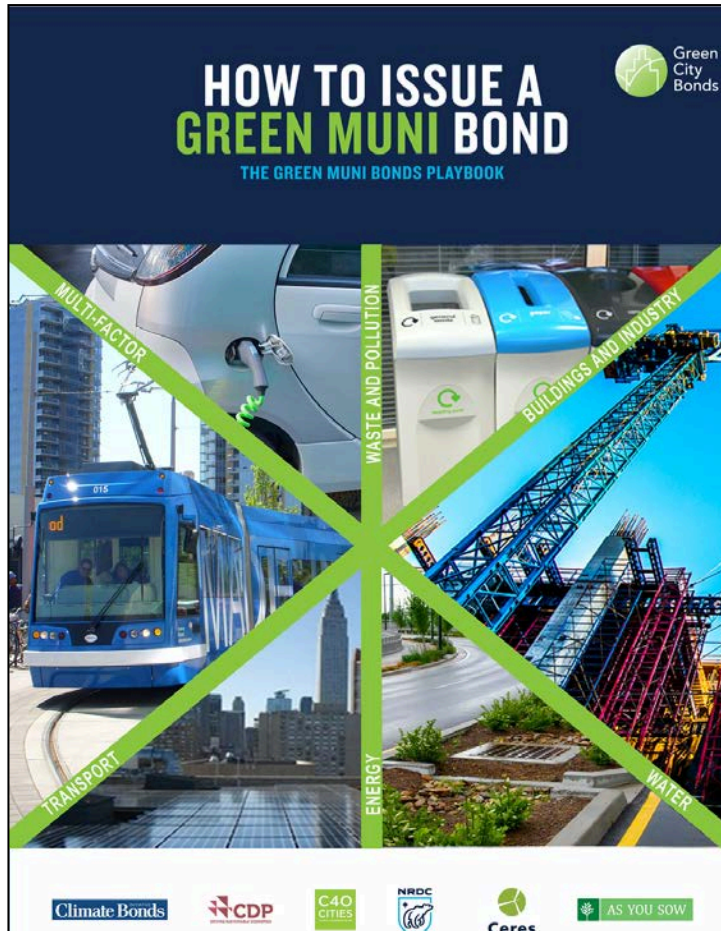
DIRECT FEES	DEBT TOOLS	CREDIT ASSISTANCE	EQUITY/PRIVATE SOURCES	VALUE CAPTURE MECHANISMS	GRANTS	EMERGING TOOLS
User fees and charges	Industrial loan companies and industrial banks	State Infrastructure Banks	Public-Private-Partnership	Developer fees and exactions	Federal: EPA, DOT, HUD	Structured Funds
Public benefit funds	Bonds (general obligation, revenue, green, qualified energy conservation)	On-bill financing	Pay for Performance	Value Capture	State	Land Banks
Congestion Pricing	Pooled bond financing	TIFIA/WIFIA	Pooled lease-purchase	Linkage Fees	Local	Greenhouse Emissions Allowance Auctions
	Social/ environmental Impact Bonds	Railroad Rehabilitation and Improvement Financing	Loan Loss Reserve Fund	Developer dedication requirements	Foundation	Stormwater credit trading program
	Private Activity Bonds	SBA 504 loans	Infrastructure investment Funds	Special Districts		Redfields to Greenfields
	Catastrophe bonds			Tax Increment Financing		National Infrastructure Bank
	Certificates of Participation			Joint Development		Green Banks
	Revolving Loan Funds (state clean water funds)			Payment in Lieu of Taxes		Green Bonds
	Energy efficiency loan			Tax Equivalency Payment		
	Linked deposit programs					
	Property Assessed Clean Energy loans					

5. Identify and Screen Procurement Mechanisms



Source: NRDC and Strategic Economics

6. Identify Specific Target Investors



	Institutional Investors	
1	CPP Investment Board	Canada
5	CDPQ*	Canada
8	Ontario Teachers' Pension Plan*	Canada
9	OMERS*	Canada
10	PSP Investments	Canada
11	BCI (formerly British Columbia Investment Management Corporation)	Canada
17	Oregon State Treasury	United States
18	AIMCo**	Canada
19	Manulife Investment Management	Canada
25	CalPERS	United States
26	Teacher Retirement System of Texas*	United States
27	CalSTRS	United States

Source: Infrastructure Investor

Selected US-based Impact Investors	
Strategic Development Solutions	US
North Sky Capital	US
Local Initiatives Support Corporation	US
Turner Impact Capital	US
Low Income Investment Fund	US
DBL Partners	US
Capital Impact Partners	US
Kairos Investment Management Company	US
SJF Ventures	US
Encourage Capital	US

Source: Impact Assets

7. Identify Project Bundling and Aggregation Needs and Opportunities



Project Bundling

Awarding a single contract for several preservation, rehabilitation, or replacement projects helps agencies reduce costs and achieve program goals.



A bridge repair and paving project were two of nine projects successfully bundled by the Pueblo of Acoma Tribe in

Source: Federal Highway Administration

Higher Education

Packed dorms are risky. A student housing company still pressured colleges to not limit capacity.



Georgia State University is an urban campus in Atlanta. (iStock)

By Meryl Kornfield

Source: Washington Post, August 8, 2020

Prince George's County Urban Retrofit P3 High Road Case Study



Request for Qualifications

RFQ S13-083

Urban Retrofit Program
Public Private Partnership



Environmental, Resilience: Clean Water Act permit imposes stiff penalties for failure to reduce water pollution from runoff. Geography is urban, rural and suburban



Economic: At project inception, there was no funding to pay for required investments



Social: A need for community and economic development, neighborhood betterment, jobs and education

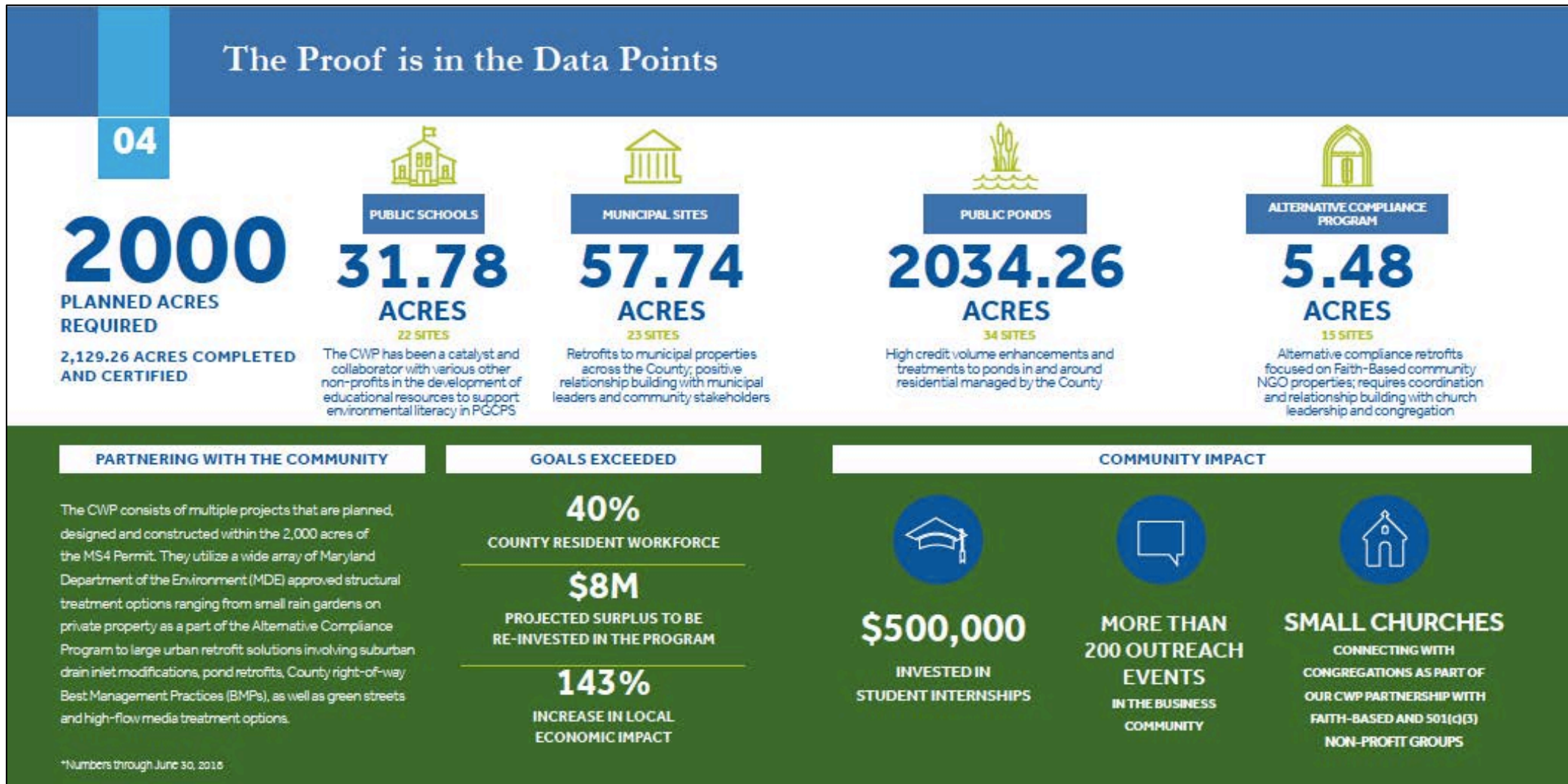


Barriers: wide-ranging, complex construction project and limited county management capacity, 2017 deadline, technology risk, hard to achieve social outcomes

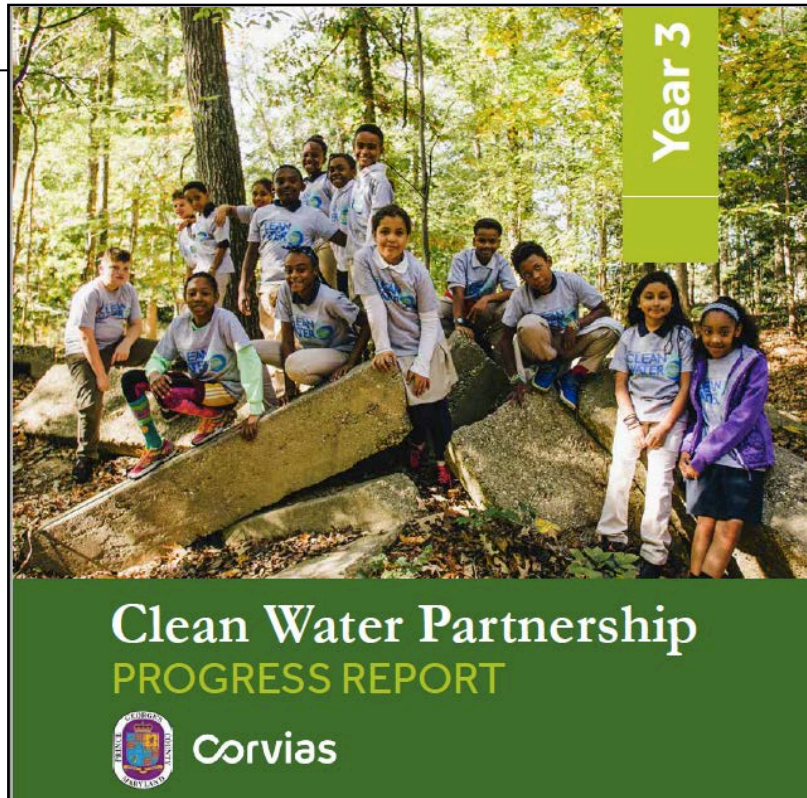
High Road Implementation–PG County P3

- 1: Translated compliance into community development
- 2: Chose pipeline of green infrastructure by by optimizing for HR benefits
- 3: Secured stormwater fee as funding source (unanimous council vote)
- 4,5,6: Identified P3 structure, ran special RFQ process
- 7,8: Aggregated sites for scale and selected team with experience delivering engineering and social outcomes
- 9,10: Negotiated contracts with performance-based components of fees
- ***Continuous***: deep community engagement through community, MBE and SME outreach programs, church-focused Alternative Compliance Program, mentor-protege development program, workforce development program, publicly accessible project dashboard

What are the real world results?



If co-benefits are by design, are they really co-benefits?



	Phase 1	Phase 2	Total Combined To Date
Total PGC Resident Utilization	112,712	19,438	131,150
Total Non-Resident Utilization	124,097	18,348	142,535
Total Combined Resident/ Non-Resident Utilization	221,821	37,786	259,607
Total PGC resident Utilization Percentage	51%	51%	51%

66 Businesses Contracted
1,594 Businesses Reached
221,821 Work Hours Generated

DISTRICT 1 (13 BUSINESSES)

Business Outreach 260 Companies
 CelSue Construction Services Inc (MP)
 Kim Engineering, Inc.
 Assedo Consulting, LLC
 Rapp Contracting, Inc.
 Mid-Atlantic Site Contracting, Inc.
 GeoTech Engineers, Inc.
 Low Impact Development (LID)
 Bradley Site Design Inc.
 Capital Development Design, Inc.
 Video Pipe Services, Inc.
 NARDI Construction
 Joseph Canova & Son, Inc.
 Bulldog Distribution, LLC

DISTRICT 2 (2 BUSINESSES)

AED
 DAD Environmental Construction (MP)

DISTRICT 3 (4 BUSINESSES)

Business Outreach 216 Companies
 End Time Harvest Ministries
 Apercon, Ltd.
 Total Civil Construction
 Empowering Ideas

DISTRICT 4 (5 BUSINESSES)

Business Outreach 212 Companies
 Anavo Transformation Solutions, LLC
 Bourn Environmental, LLC (MP)
 Dirt Plus, Inc.
 HRPro4You, LLC
 SMI Services

DISTRICT 5 (9 BUSINESSES)

Business Outreach 216 Companies
 Anacostia Watershed Society
 BOTA Consulting Engineers, Inc. (MP)
 Estime Enterprises (MP)
 Kirila Earthworks (MP)
 Printing Express & Design
 Solesz
 Total Civil Construction
 Harris Plus Printing
 Sutter Group

DISTRICT 6 (15 BUSINESSES)

Business Outreach 785 Companies
 AKRF, Inc.
 Independent Consulting Service
 Three E Consulting Group, LLC
 M&G Services, Inc.
 D&F Construction Co Inc.
 Ben Dyer & Associates, Inc.
 JNL Services, LLC
 Linemark LLC
 V/H Sign Company
 Ngen
 BrewtonMos, LLC
 Copeland Financial Group, Inc.
 Turning Point Coaching
 Gryphon Consulting
 HR In Motion LLC
 Prince George's Community
 College Westphalia Training Center

DISTRICT 7 (2 BUSINESSES)

Business Outreach 61 Companies
 Dickey & Associates, LLC
 Ascendant Materials II, LLC

DISTRICT 8 (5 BUSINESSES)

Business Outreach 70 Companies
 Alpine Snow Removal and Landscape, LLC
 Faulkner Lawn Care & Landscaping (MP)
 Treknot Organization
 Beltway Paving of Southern Maryland
 Denison Landscaping

DISTRICT 9 (11 BUSINESSES)

Community Bridge, Inc. (MP)
 F&F Landscaping Inc
 Clinton Sewer Expert
 G-11 Enterprises, Inc. (MP)
 Dirt Plus, Inc.
 Century Fence Construction, LLC
 Essex Construction, LLC
 Grace Management & Construction, LLC (MP)
 Green Forever Landscaping (MP)
 Denison Landscaping & Nursery Inc

MP Mentor Protégé



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NATURAL RESOURCES
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