



Sustainable Cleveland: Building a Thriving **Green** City on a **Blue** Lake

November 18, 2016
Matt Gray



CITY OF CLEVELAND
Mayor Frank G. Jackson 1

1969



2019: Surprise and Amaze with our Transformation

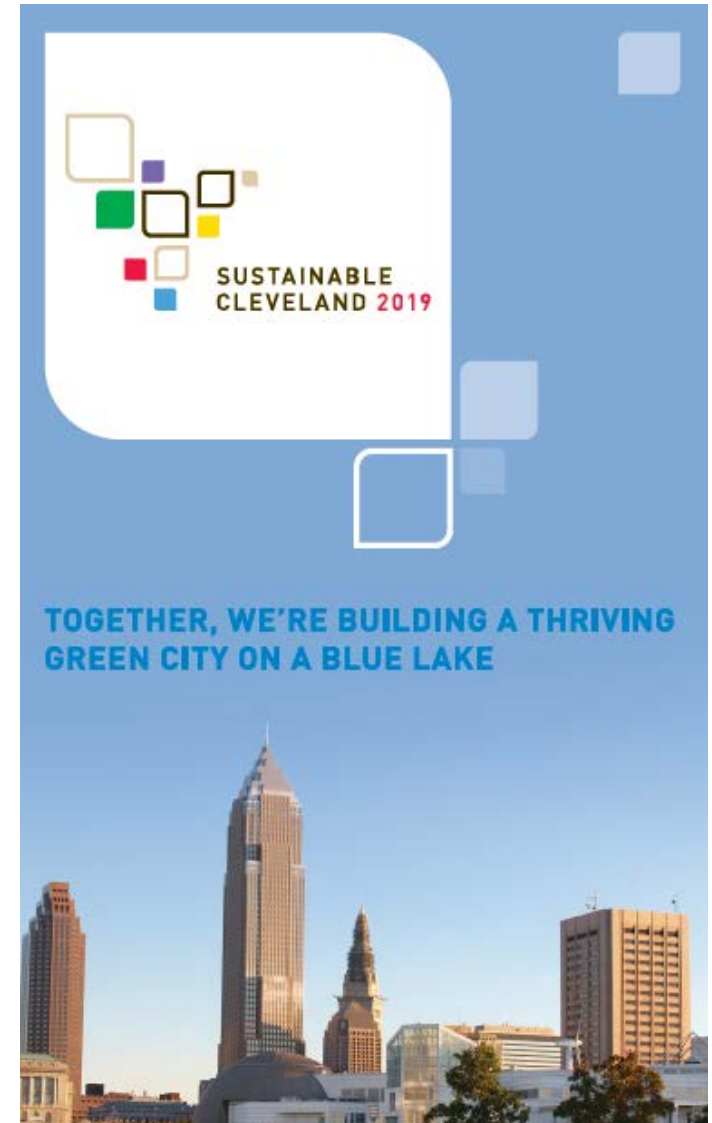


Leadership Structure

- Founded by Mayor Jackson
- Guided by the Stewardship Council
- Administered by Mayor's Office of Sustainability
- Powered by Citizens
- Funded by foundation, corporate, and individual support

Get Involved...

1. at Home,
2. at Work, and
3. in your Community



Sustainable Cleveland Values



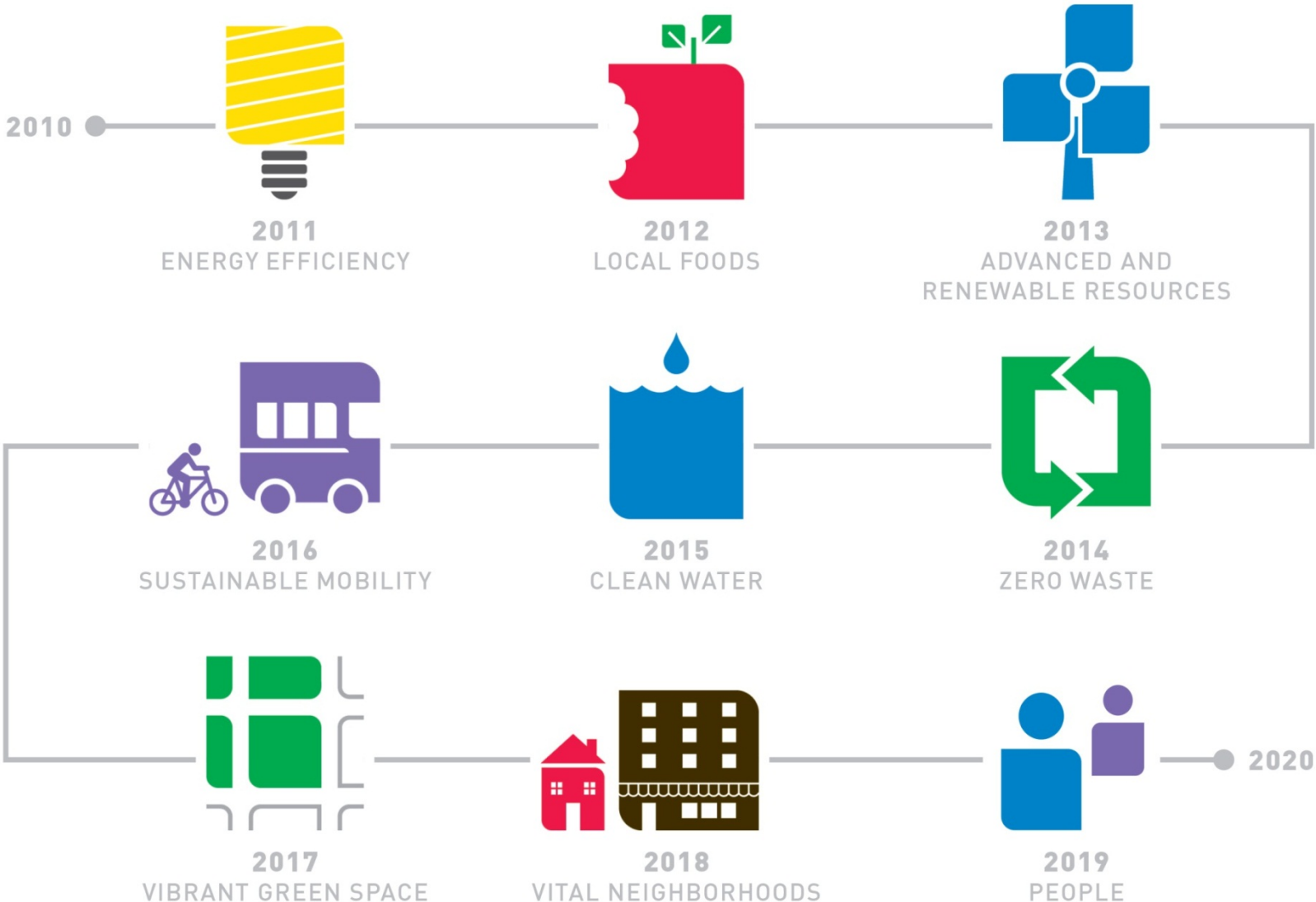
- Dynamic and Cumulative
- Urgency + Action + Positivity + Kindness
- Inclusive, Accessible, Welcoming
- Persistence, Determination, Courage, Boldness
- Creativity, Innovation, Execution

Sustainable Cleveland Annual Summits

Save the Date: September 27-28, 2017



Celebration Years



SustainableCleveland.org Performance Indicators



ABOUT ▾

YEAR OF SUSTAINABLE TRANSPORTATION

LEARN MORE ▾

DO MORE ▾

STAY UPDATED

1 CHOOSE AN ENVIRONMENT



Business



Personal/
Social



Built



Natural

Water Quality

Water Advisories

Improved Water Quality

Air Quality

Renewable Energy

Waste Management

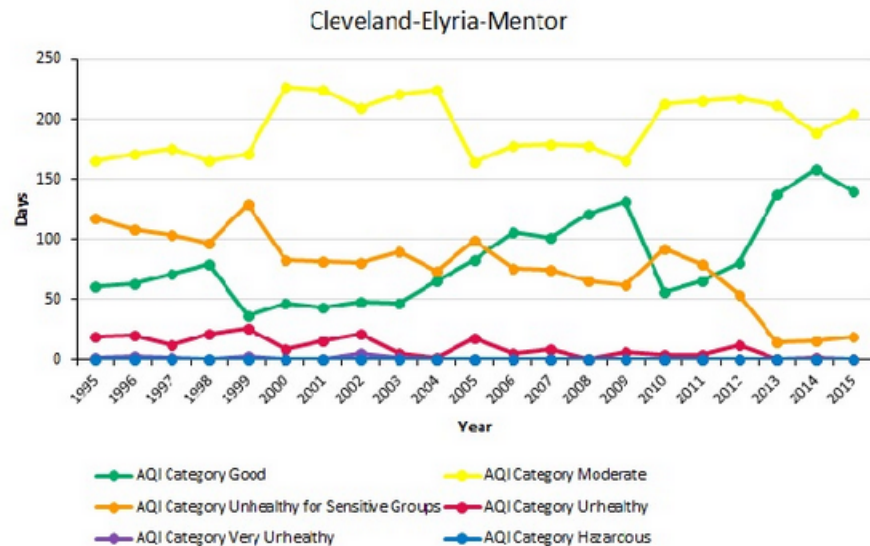
Greenhouse Gas Emissions

Tree Canopy

Air Quality

The quality of the air we breathe is a significant indicator of a healthy environment. The US Environmental Protection Agency calculates an Air Quality Index for each day. This index looks at five major pollutants (ground-level ozone, particle pollution, carbon monoxide, sulfur dioxide, and nitrogen dioxide) and gives each day a grade. Sustainable wants the more days graded 'Good' or 'Moderate'.

Source: *Air Quality Trends and Non-Attainment Status for Northeast Ohio, 2015, Northeast Ohio Areawide Coordinating Agency*



Working Groups

Active

- ZeroWasteNEO
- Vital Neighborhoods
- Plastic Reduction
- Alternative Fuel Vehicle
- Forest City Working Group
- Year of Vibrant Green Space

“Graduates”





BUILT ENVIRONMENT
Quality, Choice & Access
Where We Live, Work & Play



CLIMATE & ENERGY
Increase Efficiency, Reduce Impact



ECONOMY & JOBS
Quality Jobs, Shared Prosperity



EDUCATION, ARTS & COMMUNITY
Vibrant, Connected & Diverse Culture



EQUITY & EMPOWERMENT
Inclusion & Access for
All Community Members



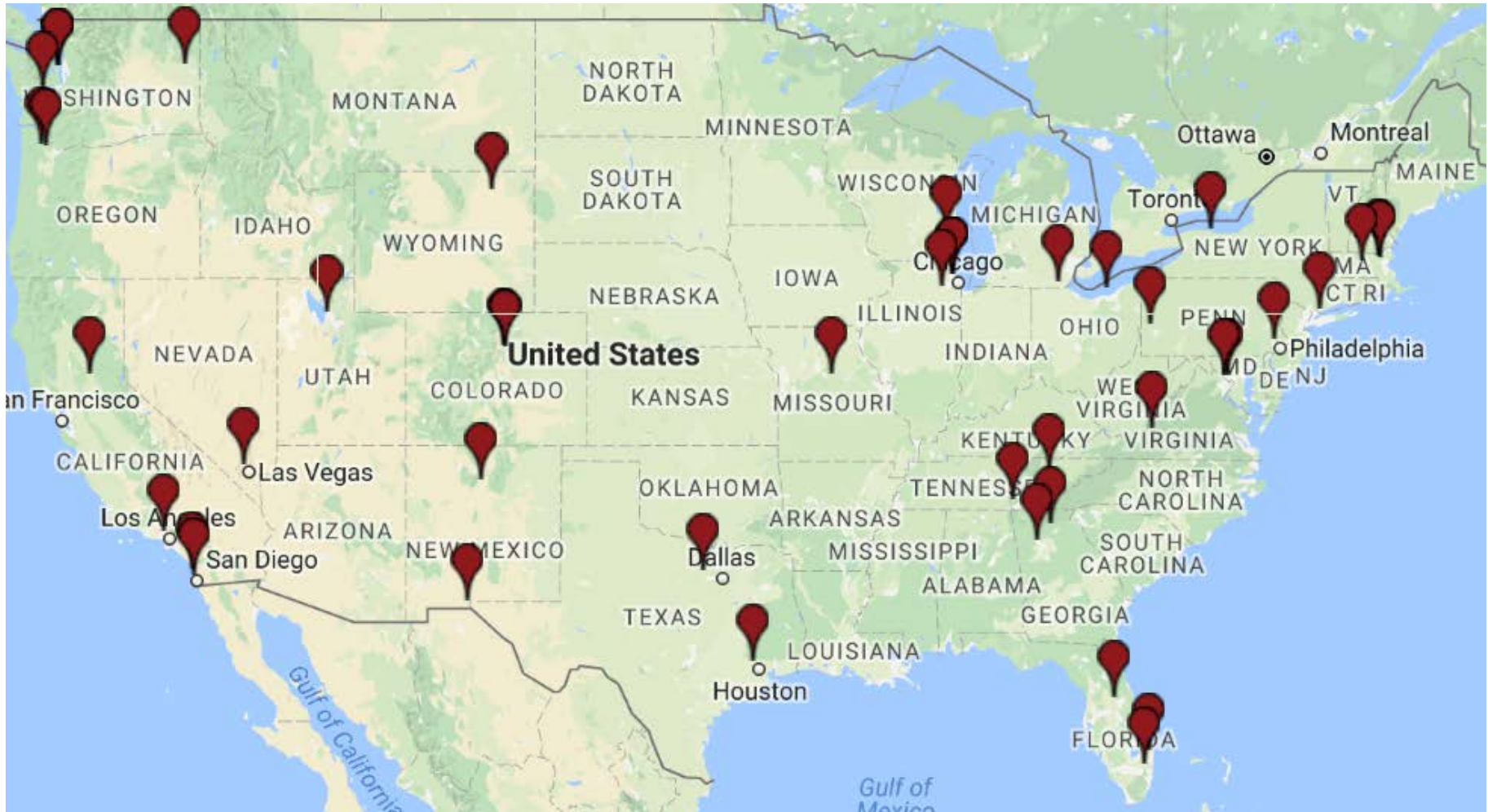
HEALTH & SAFETY
Strong, Resilient & Safe



NATURAL SYSTEMS
Protect & Restore the
Resources of Life

Local Government Partners

These 44 local governments have committed to reducing energy use across their municipal building portfolio by at least 20% over a decade through the Better Buildings Challenge



Real Results: City of Cleveland Energy Data Display

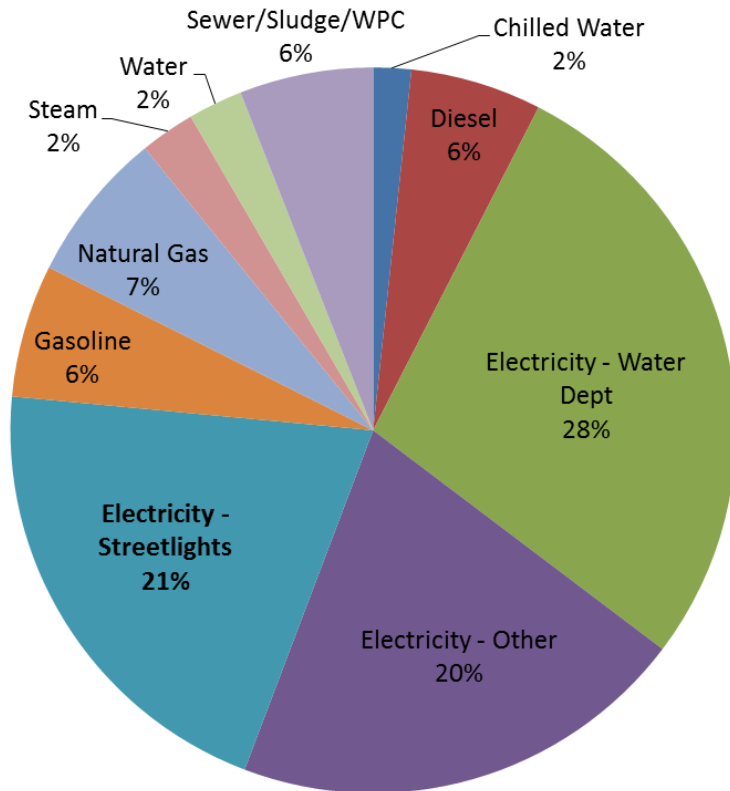
Energy Performance

Cumulative (vs. Baseline) 9%

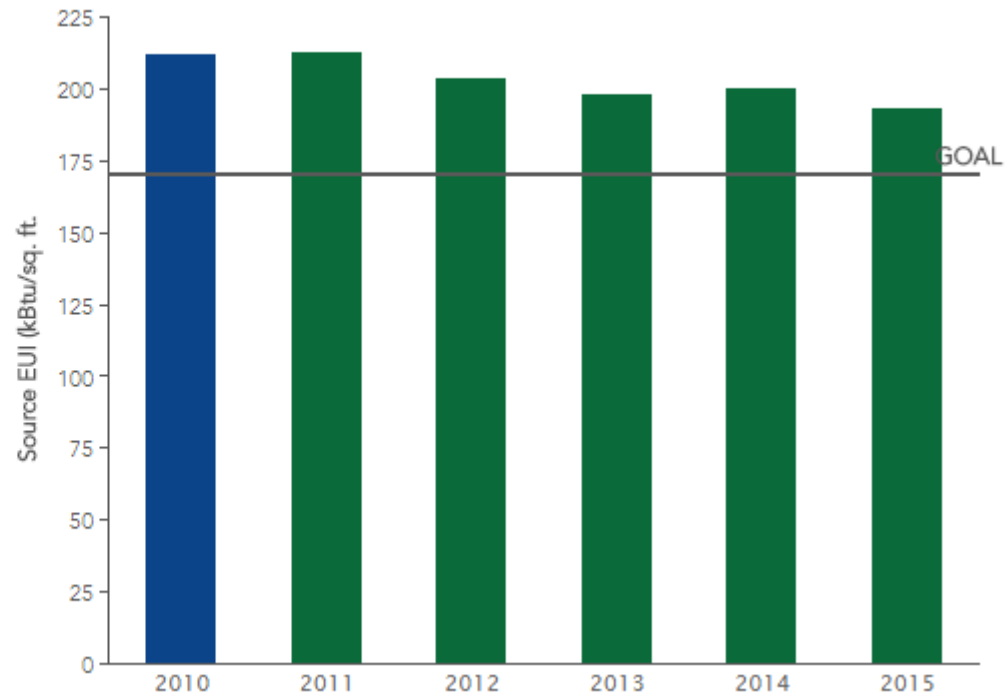
Annual (2015) 3%

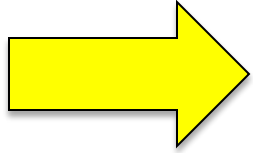


CITY OF CLEVELAND
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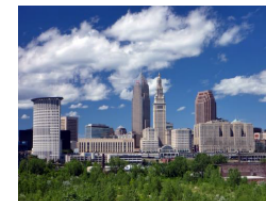
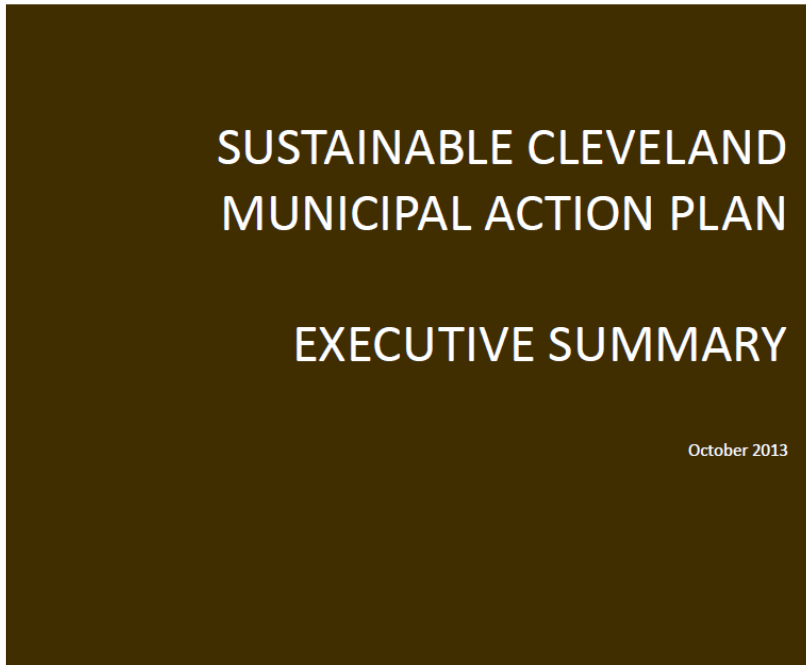


EUI and % Improvement vs. Baseline





33
Actions



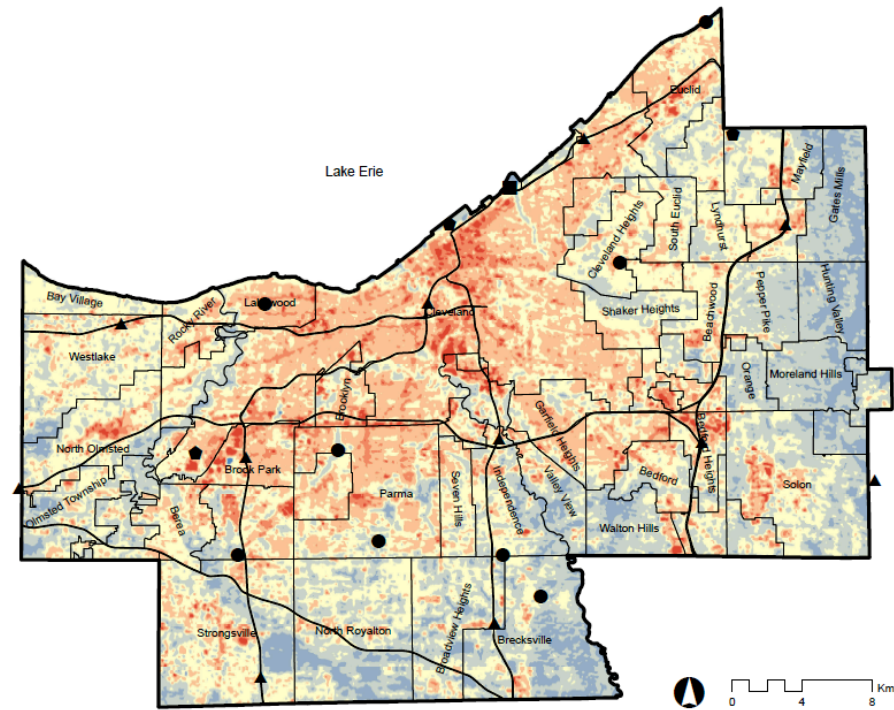
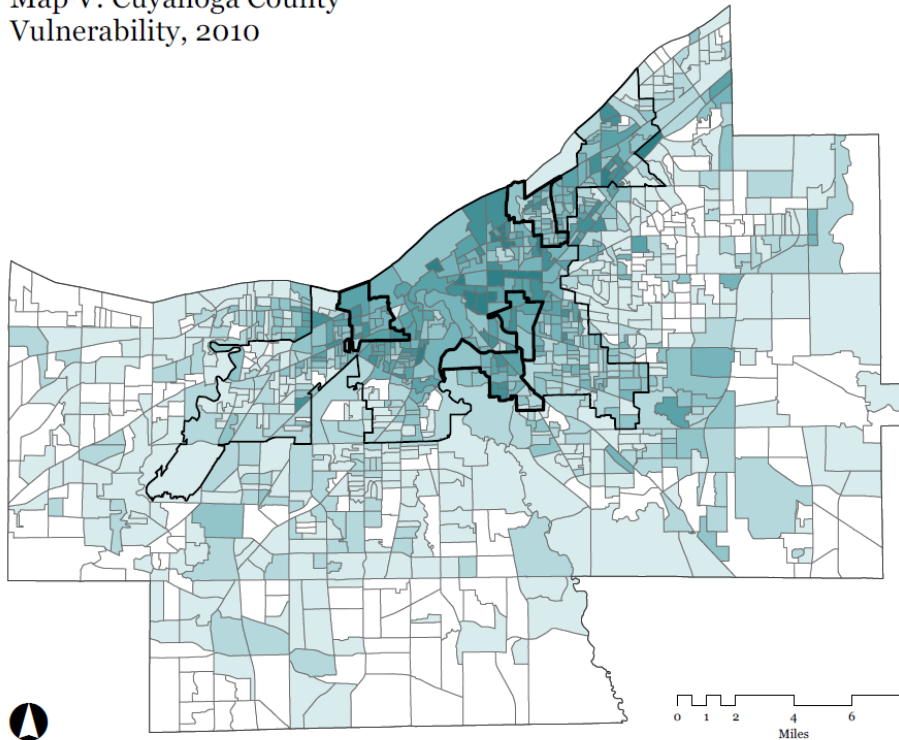
25
Actions

Observed changes in Northeast Ohio

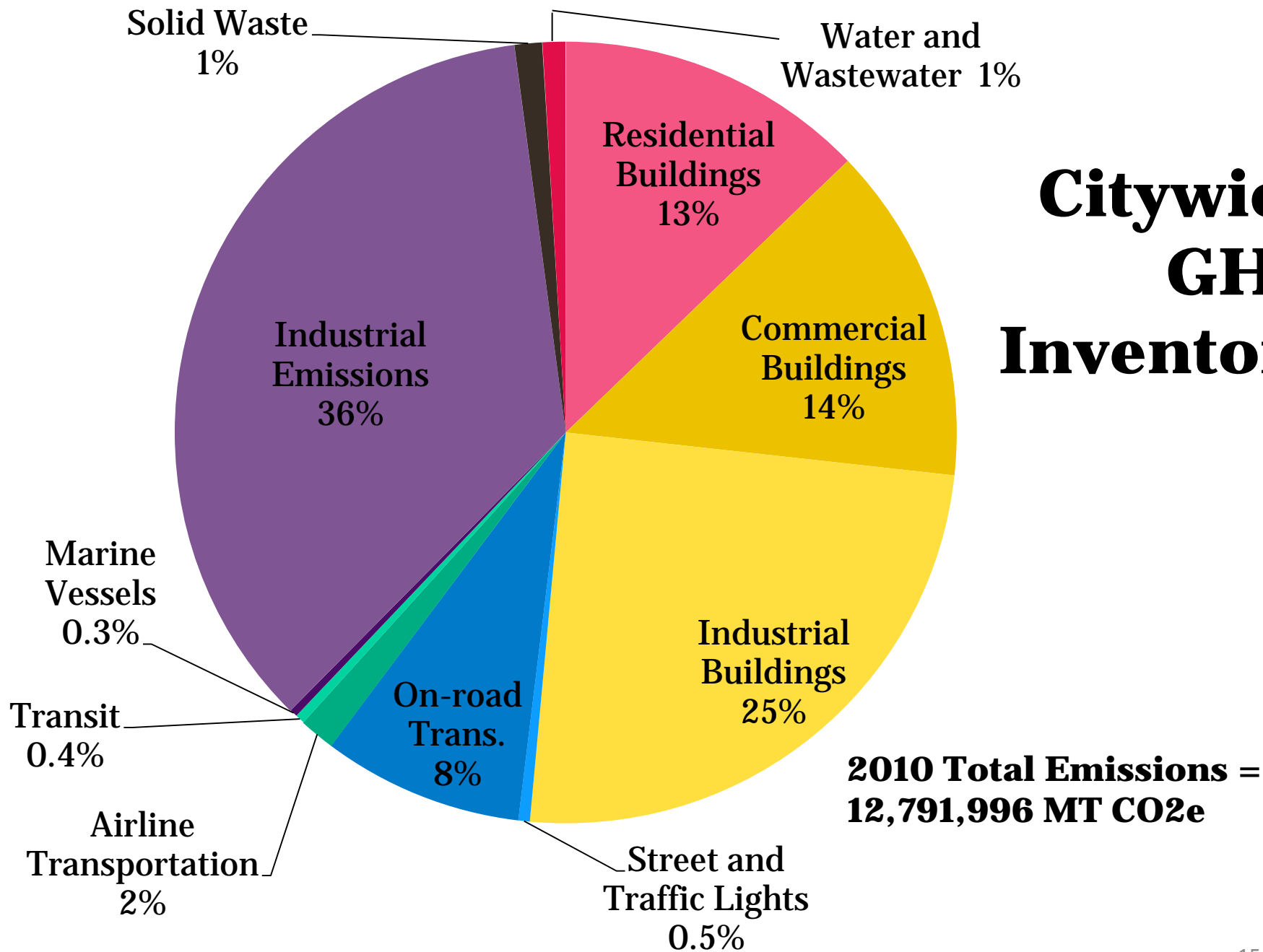
2.4 Rising average temps
20 Longer freeze-free season

26 More rain
22 More heavy rain

Map V: Cuyahoga County
Vulnerability, 2010



Citywide GHG Inventory



Climate Action Advisory Committee

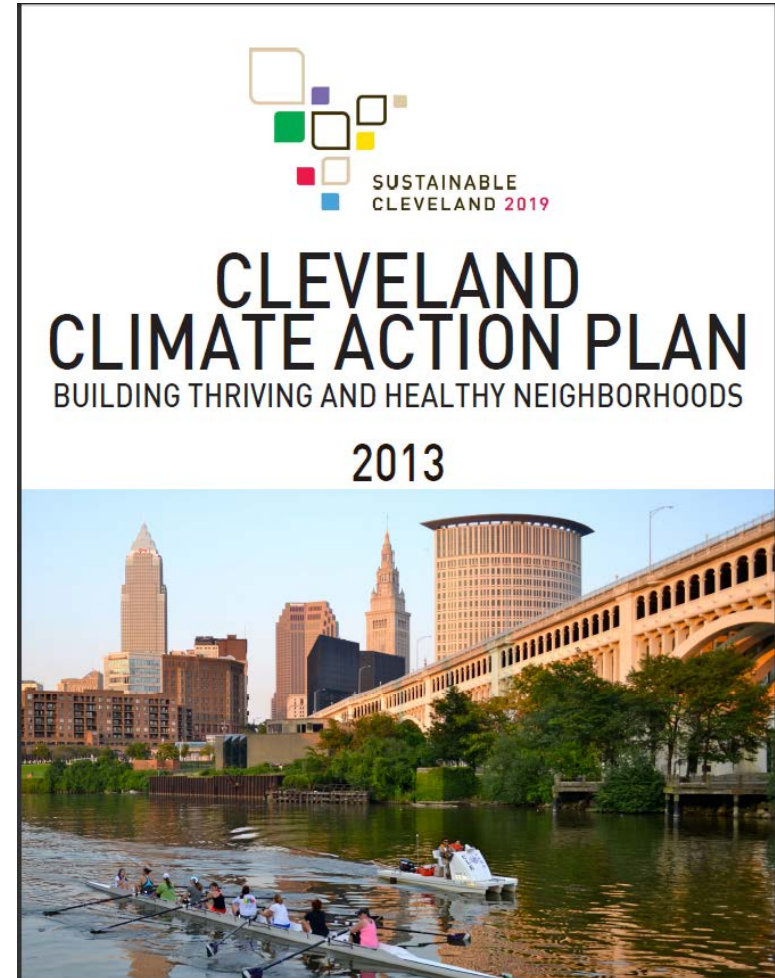


CITY OF CLEVELAND Mayor Frank G. Jackson



Cleveland Climate Action Plan

- Spur economic growth
- Make the City more resilient and attractive to businesses and their employees
- Create Shared Ownership & Leadership
- Save residents, businesses, and the City money
- Improve the health and quality of life of Clevelanders
- Reduce GHG emissions

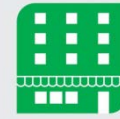


sustainablecleveland.org/climate_action

33 Climate Actions



at HOME



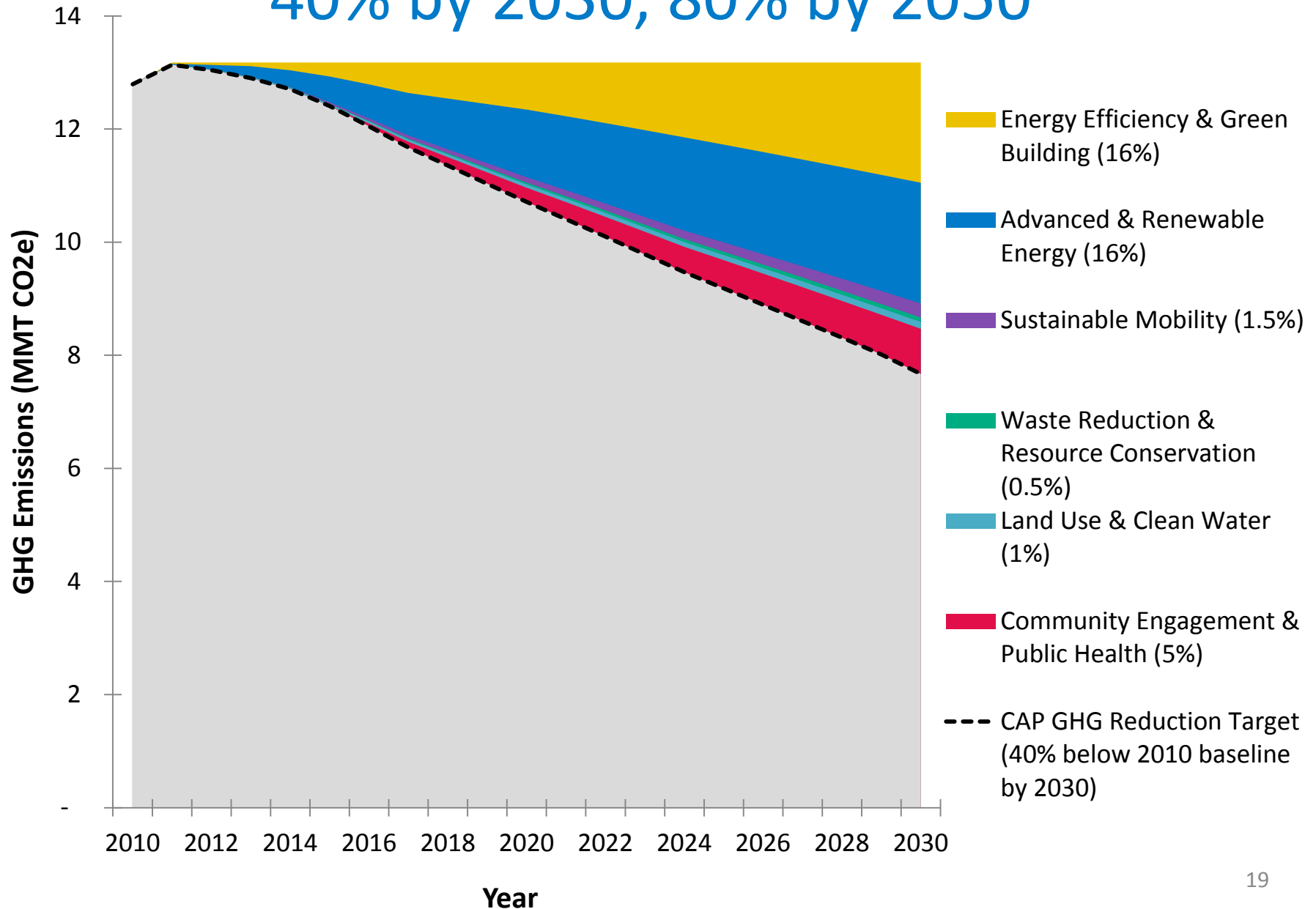
at WORK



in your COMMUNITY

Focus Area	# of Actions
Energy Efficiency & Green Building	7
Advanced & Renewable Energy	8
Sustainable Mobility	6
Waste Reduction & Resource Conser.	3
Land Use & Clean Water	6
Comm. Engagement & Public Health	3

GOALS: Reduce Emissions 16% by 2020, 40% by 2030, 80% by 2050



Cleveland Climate Action Fund



1. **Learn about** climate science and plans
2. **Identify** local assets & concerns
3. **Develop** local project ideas
4. **Garner** necessary outside support
5. **Implement** local projects
6. **Share and learn** with others through Sustainable Cleveland 2019 and other venues



Action 27

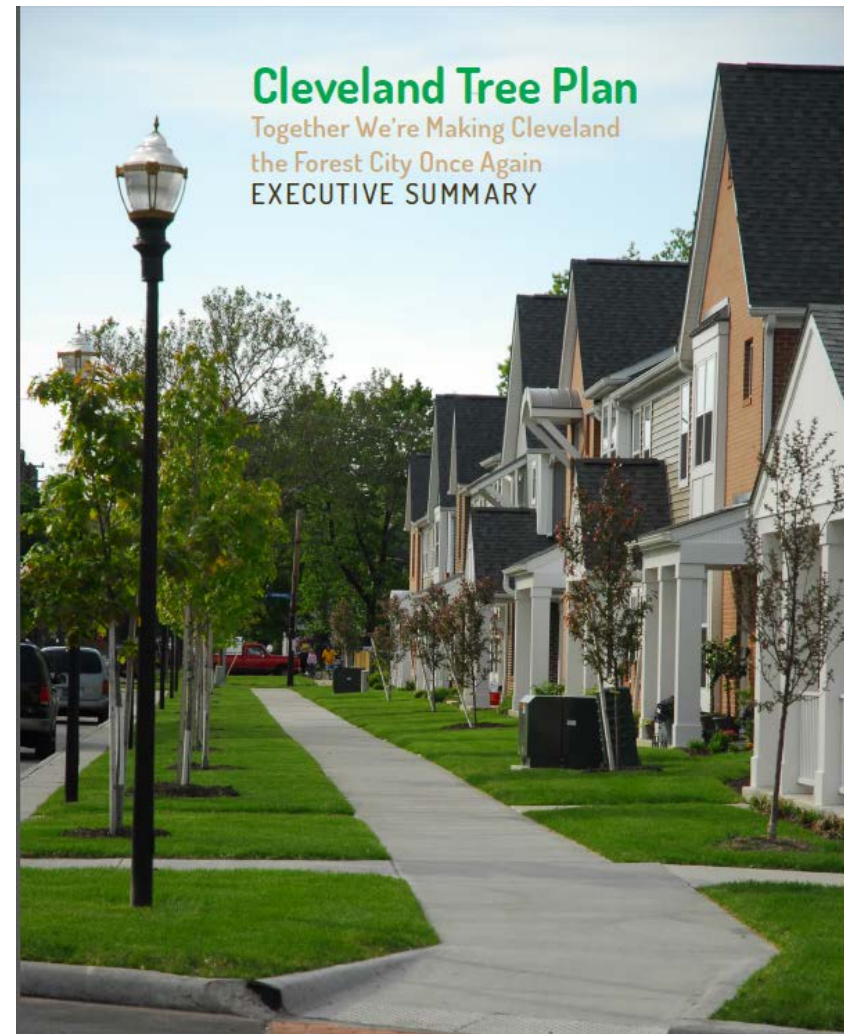
Implementing the
Cleveland Tree Plan

Cleveland has so FEW trees that city boundaries can be easily seen on google earth!



THROUGH PARTNERSHIP, CLEVELAND WILL ONCE AGAIN BE KNOWN AS THE “FOREST CITY”

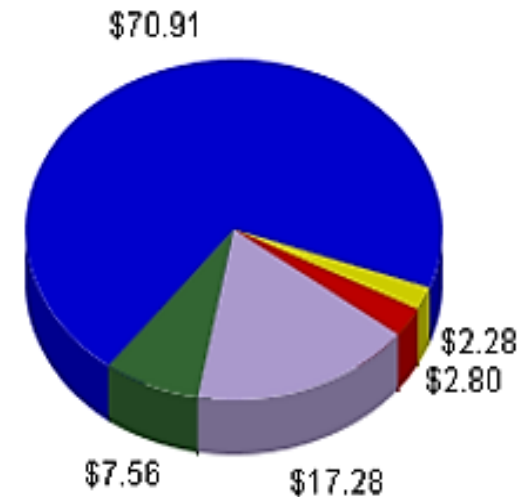
- **GOAL 1:** Recognize Trees as Critical Community Infrastructure
- **GOAL 2:** Reverse the Trend of Canopy Loss
- **GOAL 3:** Assume Full Stewardship for the Tree Infrastructure



Cleveland's Trees:

- Intercept 1.8 billion gallons of rainwater every year (value: **\$11 million**).
- Remove 415 tons of air pollution every year (value: **\$1.8 million**).
- Save residents and business-owner **\$3.5 million** in energy costs each year.
- Increase property values by an estimated **\$4.5 million**, which in turn increases city revenues
- Reduce stress from high heat days.
- Improve public health across a range of issues, including asthma, obesity, diabetes, and mental health.

A 50-inch diameter oak provides a **\$101** in benefits annually.



Breakdown of tree benefits



Planting with a Purpose

Neighborhoods	HIGH NEED	MEDIUM NEED	LOW NEED	Socio-Economic Factors				Risk of Stormwater Runoff Ranking	Energy Savings	Urban Heat Island Ranking	Human Health			Increases in Property Value from Canopy	Median Household Income
	Canopy Cover	Relative Canopy Cover	Population Density (pp per sq mi)	% of Workforce Unemployed	Child Poverty Rate	Combined Needs/Equity Ranking	Value of Air Quality Benefits from Trees				Population with Asthma	% Elderly Population			
Bellaire-Puritas	15%	21%	1,242	16%	33%	9	21	\$114,537	6	\$49,269	11%	21%	\$168,371	\$32,861	
Broadway-Slavic Village	18%	25%	921	29%	35%	20	24	\$205,774	15	\$79,590	11%	16%	\$252,807	\$23,332	
Brooklyn Centre	24%	32%	4,476	19%	39%	24	22	\$78,192	18	\$33,720	13%	14%	\$89,266	\$27,152	
Buckeye-Shaker Square	25%	35%	9,052	13%	26%	13	3	\$70,632	34	\$28,101	14%	23%	\$108,067	\$31,191	
Buckeye-Woodhill	24%	33%	5,036	41%	47%	34	5	\$46,395	24	\$28,333	14%	21%	\$96,566	\$15,013	
Central	13%	18%	2,036	41%	50%	32	7	\$13,683	8	\$28,981	14%	12%	\$66,759	\$10,258	
Clark-Fulton	20%	29%	8,630	26%	36%	26	9	\$71,804	19	\$17,893	13%	15%	\$57,919	\$26,456	
Collinwood-Nottingham	14%	19%	1,197	22%	34%	12	19	\$76,410	5	\$42,312	11%	19%	\$149,325	\$27,168	
Cudell	16%	24%	7,625	23%	37%	27	14	\$46,520	7	\$16,572	15%	11%	\$58,637	\$24,082	
Cuyahoga Valley	5%	7%	354	17%	36%	7	33	\$3,908	2	\$17,831	15%	9%	\$18,802	\$19,811	
Detroit Shoreway	19%	27%	4,295	18%	29%	16	16	\$67,157	22	\$26,864	15%	17%	\$80,934	\$24,430	
Downtown	4%	8%	1,257	13%	10%	3	32	\$353	3	\$10,891	14%	9%	\$12,613	\$37,393	
Edgewater	30%	40%	8,850	10%	21%	8	25	\$43,748	30	\$23,429	15%	14%	\$76,371	\$32,405	
Euclid-Green	39%	50%	4,125	18%	33%	11	31	\$75,405	23	\$42,556	11%	18	\$197,542	\$41,660	
Fairfax	18%	25%	2,210	28%	44%	22	10	\$42,307	14	\$27,195	14%	32%	\$95,162	\$19,934	
Glenville	26%	35%	1,800	20%	39%	29	18	\$323,668	28	\$94,394	11%	28%	\$321,309	\$20,998	
Goodrich-Kirtland Park	8%	15%	1,381	14%	28%	4	27	\$9,224	4	\$13,696	14%	23%	\$25,930	\$24,092	
Airport (Hopkins)	9%	17%	165	18%	49%	14	34	\$10,701	1	\$33,850	11%	22%	\$39,735	\$33,310	
Hough	24%	33%	4,631	28%	43%	33	8	\$97,169	31	\$39,018	14%	26%	\$157,976	\$22,223	
Jefferson	17%	24%	2,346	12%	38%	18	4	\$171,045	11	\$42,664	11%	18%	\$142,677	\$40,560	
Kamm's	34%	44%	1,027	10%	26%	5	28	\$403,185	29	\$160,761	11%	20%	\$459,043	\$49,377	
Kinsman	22%	29%	2,871	32%	45%	30	1	\$49,363	16	\$34,805	14%	23%	\$111,817	\$13,899	
Lee-Harvard	20%	26%	3,605	20%	37%	21	2	\$134,957	32	\$31,222	11%	41%	\$109,730	\$39,142	
Lee-Seville	21%	26%	2,421	30%	33%	17	26	\$67,533	10	\$28,020	11%	35%	\$102,304	\$35,563	
Mount Pleasant	22%	31%	3,348	25%	35%	23	6	\$162,431	33	\$46,822	11%	26%	\$192,622	\$23,772	
North Shore Collinwood	22%	31%	2,977	17%	30%	15	20	\$123,889	26	\$48,065	11%	22%	\$177,095	\$36,293	
Ohio City	22%	34%	5,180	14%	32%	10	13	\$42,323	21	\$23,657	15%	13%	\$63,575	\$20,655	
Old Brooklyn	22%	29%	961	12%	31%	6	23	\$358,912	17	\$126,266	13%	20%	\$350,141	\$40,890	
St. Clair-Superior	19%	27%	2,519	28%	34%	19	29	\$57,261	12	\$29,723	14%	18%	\$84,734	\$21,434	
Stockyards	16%	22%	3,755	27%	37%	25	12	\$64,264	13	\$25,501	13%	17%	\$75,968	\$22,896	
Tremont	17%	24%	1,987	9%	26%	1	15	\$33,937	9	\$26,154	15%	19%	\$68,706	\$25,994	
Union-Miles	22%	29%	1,849	30%	40%	31	17	\$255,206	25	\$66,627	11%	30%	\$263,988	\$25,973	
University	26%	38%	2,675	10%	6%	2	30	\$16,822	20	\$37,833	14%	22%	\$61,769	\$10,609	
West Boulevard	20%	29%	5,287	18%	38%	28	11	\$145,758	27	\$36,801	13%	14%	\$131,073	\$33,659	

Thank You!

Matt Gray, Director
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Join us at :
www.SustainableCleveland.org

