

A²ZERO

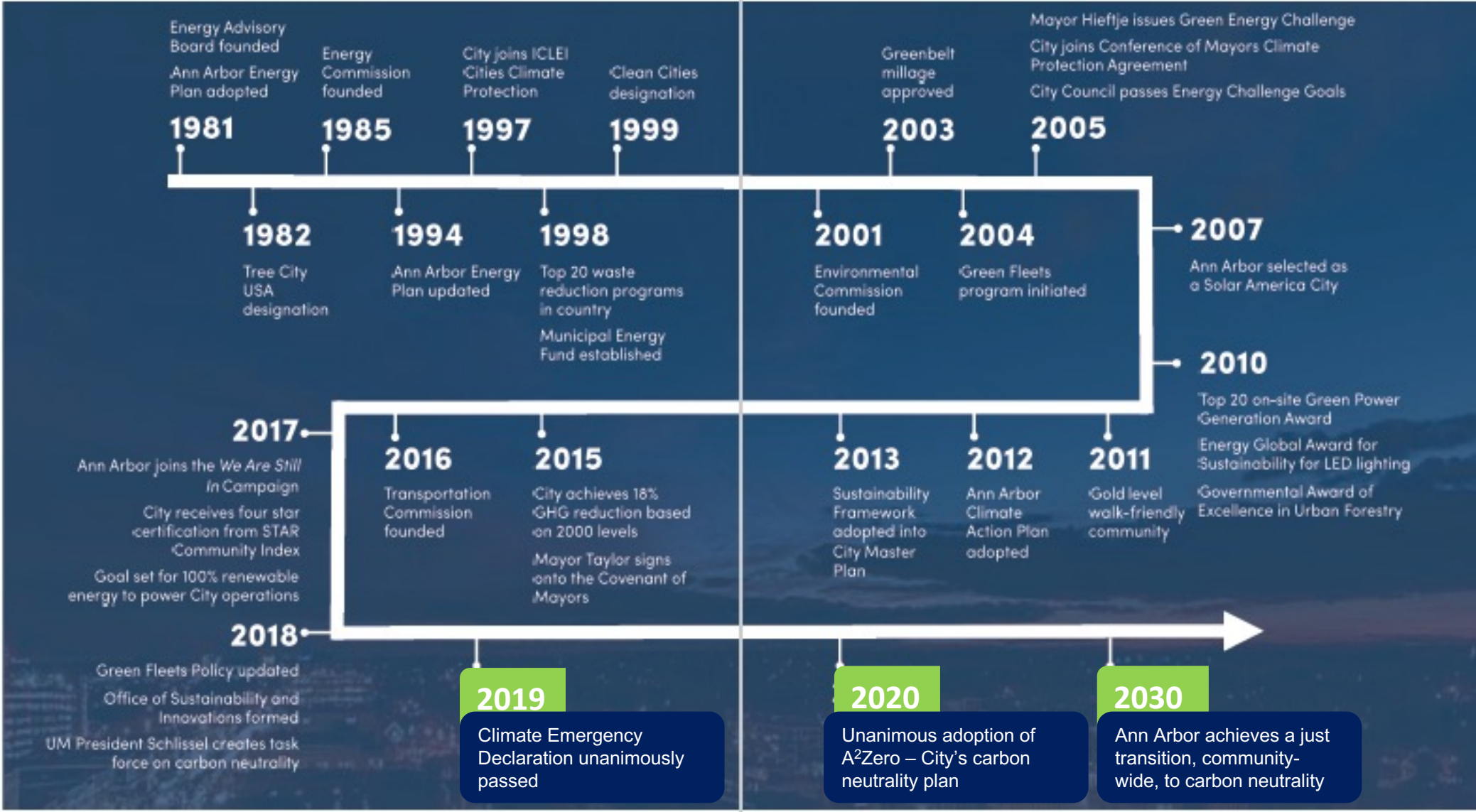
Updates and Ways to Engage

ANN ARBOR'S
LIVING CARBON NEUTRALITY PLAN
MARCH 2020

ACTION SUMMARY TABLE

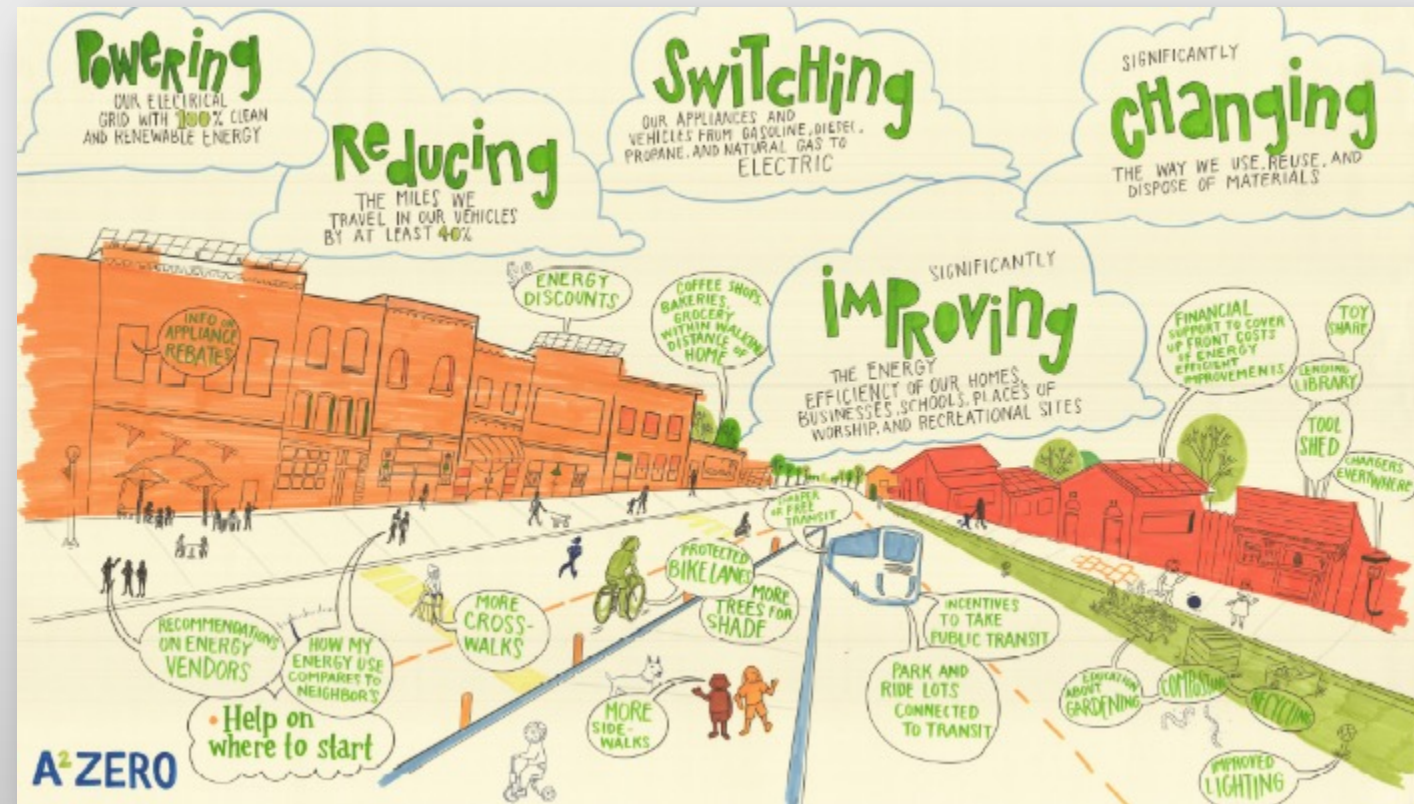
	Total Costs	GHG Reduction	%total emissions	\$/ton	Co-Benefits
ENERGY 1					
Community Choice Aggregation	\$3,245,000	704,000	35.8%	\$4	Coming Soon
Bulk Purchase of Renewables	\$605,000	85,000	3.9%	\$7	
Community Solar Program	\$105,000	11,500	0.5%	\$18	
Landfill Solar Project	\$80,000	23,000	1.1%	\$3.5	
ENERGY 2					
Electrification	\$2100,000	362,300	16.5%	\$ 20	Coming Soon
Electricity All Buses	\$80,575,000	13,800	0.6%	\$ 5,839	
Bulk Purchase EVs	\$700,000	122,900	5.6%	\$6	
Private EV Fleets	\$123,000	0	0.0%		
City EV Fleet	\$4,000,000	1,100	0.1%	\$3,636	
EV Infrastructure	\$42,000,000	0	0.0%		
ENERGY 3					
Bulk Purchase of Energy Efficiency	\$2100,000	242,500	16.5%	\$ 4	Coming Soon
Building Code Requirements	\$80,575,000	46,300	0.6%	\$ 40	
LED Lighting	\$700,000	2,600	0.6%	\$1,208	
Benchmarking	\$123,000	0	0.0%		
Loan Loss Reserve	\$4,000,000	0	0.0%		
Energy Concierge & Community Education	\$42,000,000	0	0.0%		
Net Zero Energy Affordable Housing	\$800,000	400	0.0%	\$2,000	
Green Rental Housing Program	\$53,000	0	0.0%		
Green Business Challenge	\$700,000	0	0.0%		
Aging in Place Efficiently	\$150,000	0	0.0%		
Weatherization Expansion	\$1,550,000	0	0.0%		
TRANSPORT 1					
Non-Motorized Plan	\$3,245,000	60,400	2.8%	\$40	Coming Soon
Expand Local and Regional Transit	\$605,000	93,200	4.3%	\$7047	
Park and Ride	\$205,000	28,400	1.3%	\$5,986	
Duplex/Triplex/ADUs	\$80,000	2,300	0.1%	\$14	
Mixed-Use Zoning	\$365,000	0	0.0%		
Parking Rates	\$4,500,000	0	0.0%		
WASTE 1					
Year Round Composting	\$26,000,000	400	0.1%	\$65,000	Coming Soon
Expand Commercial Recycling	\$18,400,000	5,600	0.3%	\$3,286	
Sustainable Material Use and Reuse	\$270,000	0	0.0%		
Circular Economy	\$270,000	0	0.0%		
Plant-Based Diets	\$208,400	0	0.0%		
Refrigerant Recycling	\$179,400	0	0.0%		
WASTE 2					
Resilience Hubs	\$5,025,000	2,500	0.1%	\$2,070	Coming Soon
Neighborhood and Youth Ambassadors	\$350,000	0	0.0%		
Tree Canopy	\$1,160,000	450	0.0%	\$2,578	
Neighborhood Asset Mapping	\$300,000	0	0.0%		
Emergency Kits	\$350,000	0	0.0%		
Sensors and Data Monitoring	\$300,000	0	0.0%		
WASTE 3					
Equity Programs	\$200,000	0	0.1%		Coming Soon
SAJT Grant Program	\$1,000,000	0	0.0%		
Internal Carbon Tax	\$75,000	0	0.0%		
Offsets	\$9,440,000	298,500	13.6%	\$32	
Total	\$1,096,403,800	2,188,950	100.0%		

A BRIEF HISTORY OF SUSTAINABILITY ACTIVITIES IN ANN ARBOR



A²ZERO Vision

Together, creating and implementing a just transition to carbon neutrality by the year **2030.**



A Quick Look at A²ZERO Today

A²ZERO Strategies



STRATEGY 1:

Power Our Electrical Grid with 100% Renewable Energy

STRATEGY 3:

Significantly Improve the Energy Efficiency in our Homes, Businesses, Schools, Places of Worship, Recreational Sites, and Government Facilities

STRATEGY 5:

Change the Way We Use, Reuse, and Dispose of Materials

STRATEGY 2:

Switch our Appliances and Vehicles from Gasoline, Diesel, Propane, Coal, and Natural Gas to Electric

STRATEGY 4:

Reduce the Miles we Travel in our Vehicles by at least 50%

STRATEGY 6:

Enhance the Resilience of Our People and Our Place

OTHER STRATEGIES:

This strategy covers the remaining programs and activities that don't fit into other areas. It also includes greenhouse gas emissions offsets to close out any

THE ACTIONS

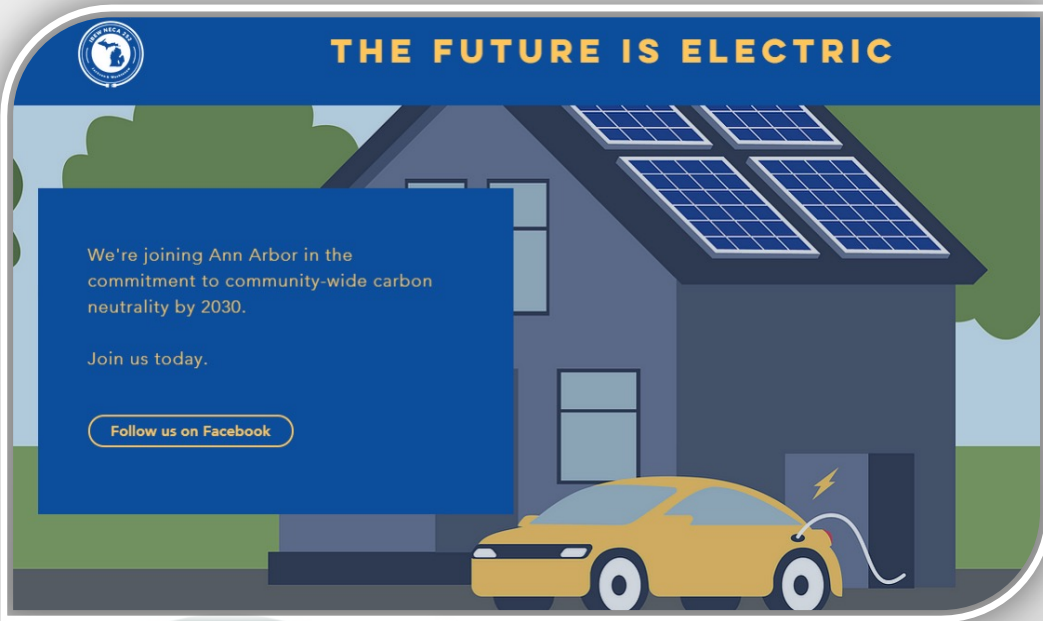
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1. Community Choice Aggregation
 2. On-Site Renewable Energy Generation with Battery Storage (Bulk Buys)
 3. Community Solar Program
 4. Landfill Solar Project
 5. Home and Business Electrification Policies and Support
 6. Electrify Buses
 7. Support Community Electric Vehicle and Solar Bulk Buys
 8. Electrify City Fleet
 9. Electrify Private Fleet
 10. Expansion of Electric Vehicle Charging Infrastructure
 11. Support Transition to More Energy Efficient Homes and Businesses
 12. Update Building Codes
 13. LED Powered Streetlights and Traffic Signals
 14. Energy Disclosure / Benchmarking
 15. Loan Loss Reserve
 16. Energy Concierge and Community Education
 17. Net Zero Energy Affordable Housing
 18. Green Business Challenge
 19. Green Rental Housing Program
 20. Aging in Place Program
 21. Expansion of Home Visitation Program
 22. Implement a Green Building Plan
 23. Expand and Improve Local Transit
 24. Increase Local Transit Ridership
 25. Increase Local Transit Ridership
 26. Increase Local Transit Ridership
 27. Mixed-Use Development
 28. Tie-In to Local Transit
 29. Expand Local Composting Program
 30. Expansion of Commercial Recycling
 31. Require Sustainable Materials in New and Existing Developments
 32. Move Toward a Circular Economy
 33. Support a Plant Rich Diet
 34. Enhance Refrigerant Recycling and Reuse Program
 35. Invest in Resilience Hubs
 36. Foster Neighborhood and Youth Ambassadors
 37. Preserve & Enhance Local Tree Canopy
 38. Conduct Asset and Needs Mapping of Neighborhoods
 39. Assist in Assembling and Disseminating Emergency Preparedness Kits
 40. Implement Sensors to Monitor Heat, Air Quality, Waterways, and Flooding
 41. Equity Programs
 42. Sustaining Ann Arbor Together Grant Program
 43. Internal Carbon Price
 44. Greenhouse Gas Emissions Offsets

Renewable Energy

- Designed over **4MW** of solar at City facilities
- Over **2.5MW** of solar installed through Solarize***
- Landfill solar: 20MW of solar; PUD amendment approved; community solar commitment***
- Began exploration of a Sustainable Energy Utility***
- Intervenor in rate cases***
- Exploring large-scale programs



Beneficial Electrification



- Drafted and started to implement whole-home A²ZERO assessment
- Sticker replacement campaigns***
- Contractor training and badging program***
- Designing an all-electric campaign
- EV Readiness Ordinance
- First Fast Chargers and tripling of L2 chargers in system
- City fleet is nearing 20% electric
- Exploring electrification collaboration with other vanguard climate communities

Efficiency / Energy Waste Reduction



- Passed Benchmarking ordinance; city buildings reported
- Rental Efficiency Standard initiated***
- Home Energy Reporting Disclosure Drafted
- Working with AAHC on net zero energy housing sites & EV charging
- Completed first **15** homes for Aging in Place Efficiently; waitlist full; fundraising now
- Pushing for adoption of updated Building and Energy Codes***
- Applied for WAP E&I grant to get ~**30** low-income homes to net zero
- Collaboration with 2030 District and lots of community engagement



Mobility

- Supported development and implementation of Vision Zero and tie to zero emissions
- Supported federal applications for transit expansion locally and regionally
- Bicycle discount programs
- Establishing telecommuting project
- Supporting AAATA with sustainability initiatives including fuel propulsion study



Circular Economy

- Launched education series on plant-rich diets; moving forward more sustainable food options for City facilities
- Returnable container program (A²R³)* **
- Launched zero waste challenge: Resident Race to Zero* **
- Applied for grants to advance circular economy locally
- Moved to year-round composting
- Developing circular economy strategy
- Electronics takeback with U
- Zero Waste Challenges – fun and educational!



Natural Systems



- Launched **10,000** Trees Initiative; **3,000** trees planted
- Launched community tree planting program***
- Developed soil carbon tool with UM students
- Developed tree maintenance and care app
- Undergoing Master Rain Gardener training to help design rain gardens***
- Purchased air quality monitors
- Pollinator habitat expansion***
- Fertilizer management***

Resilience



- Distributed over **200** emergency kits***
- Supported Emergency Relief Station
- **3rd** cohort of A²ZERO Ambassadors***
- Holistically integrating climate change into MHMP update***
- Relaunching neighborhood-based work***
- Working on second and third resilience hubs



EMERGENCY PREPAREDNESS



MAKE A PLAN



BUILD A KIT



BE INFORMED

Community Engagement***

- Equitable Engagement Steering Committee
- Climate, Coffee, Conversation
- A²ZERO Sustainability Forums
- Food and Emergency Kit Distribution
- Meals on Wheels and Energy kits
- Earth Day
- Arbor Day
- **A²ZERO Week**
- A²ZERO Collaborators
- Neighborhood Meetings
- Summerfest Tabling
- Scavenger Hunt
- AAPS Collaboration
- Observer, CTN
- The Ann Arbor Distilling Company



Potential New Initiatives



Net Zero Energy Fire Station

- First east of the Mississippi



First Decarbonized Neighborhood in Midwest

- Bryant – community engagement
- Fundraising
- Co-design strategies
- Transformation

Get Involved

10,000 Trees Initiative



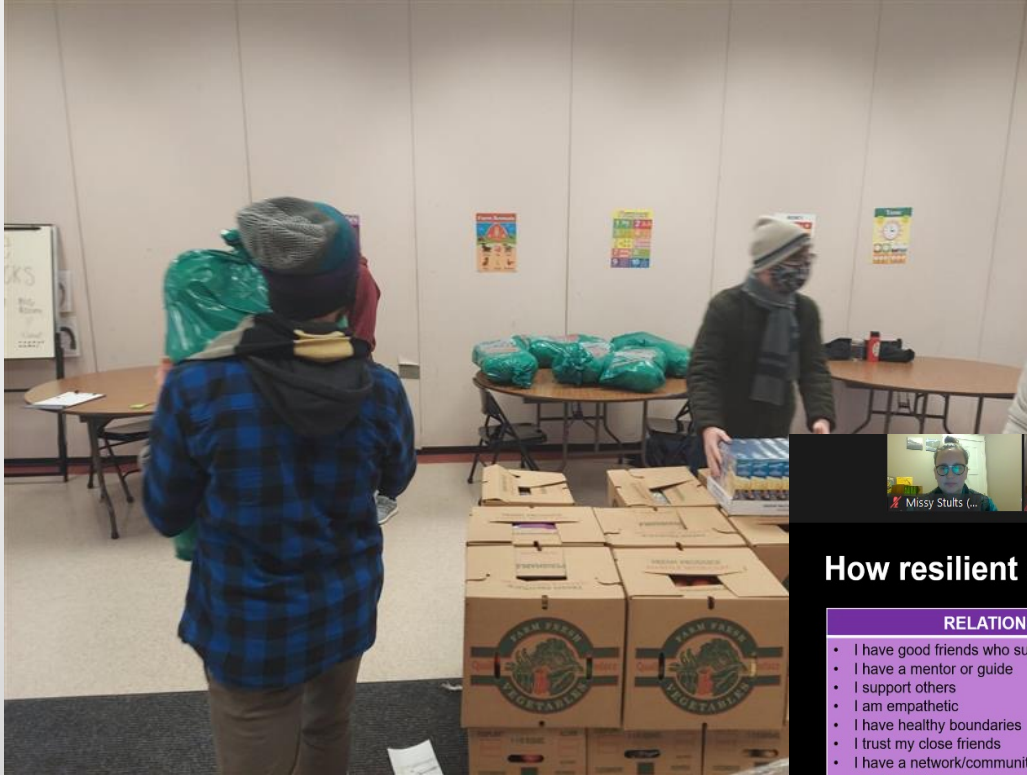
Host an Event



Join Listserv and Volunteer



A²ZERO Ambassadors



How resilient are you today? A personal resilience quiz

Missy Stults (Missy Stults) Bill Connett Raymond K. Emily Wasley Noreen De Y...

RELATIONSHIPS	INTERNAL BELIEFS
<ul style="list-style-type: none"> I have good friends who support me I have a mentor or guide I support others I am empathetic I have healthy boundaries I trust my close friends I have a network/community that I identify with and can turn to for support 	<ul style="list-style-type: none"> Being of service is important to me I know my personal strengths I am creative I have strong beliefs and values I am hopeful about the future and practice active hope I have a clear sense of purpose in life I maintain a positive attitude during difficult situations I can sit with uncertainty and sadness I feel lovable
INITIATIVE	SELF-CONTROL
<ul style="list-style-type: none"> I communicate effectively I try different ways to solve a problem I have regular, healthy hobbies I seek out new knowledge and perspectives I am open to new ideas I laugh often I am able to say "no" I can ask for help I have skills to help me relax and manage stress 	<ul style="list-style-type: none"> I express my emotions and can label my feelings I set limits for myself I am flexible I can calm myself down I know how to turn stress into positive energy I practice self-care and have healthy outlets and routines

Join a Board, Commission, and More



Sustaining Ann Arbor Together Grant





Thank You
www.a2gov.org/sustainability