# DRAFT A2ZERO INVESTMENT PLAN

**This document outlines one possible scenario, amongst many, of potential investment amounts, sources, and funds between 2020 and 2030 in order to achieve the goals as outlined in the living A2Zero Carbon Neutrality Plan. The near years have more certainty than later years. As such, staff recommend that this document be considered a 3-year investment plan, which can provide greater direction and clarity regarding investment opportunities and needs in years 1-3 and serve as guidance for future years. This is similiar to how the City budgets. If done this way, this investment plan would be reviewed every 2-years to make refinements and provide a revised, rolling 3 year investment plan that could guide the A2Zero work.**

**The remainder of the A2Zero Investment Plan is organized as follows:**

- **Column A provides the name of a given action. Underneath is an *estimate* of how much funding is already available or is likely to be available within the existing City budget. For example, this may include existing staff or some alignment with existing actions/priorities meaning that some resources are already available to support a given action.**
- **Column B provides information on investment source. This includes operating costs, operating credits (savings accrued to the City from the given action; not to residents), any debt service payments the City may have to make (based on estimates in the "city capital row"), the net budget impact to the City, and external sources of investment, including philanthropic, grants, pro-bono assistance, public-private partnerships, etc. The values in these rows will change over time as new sources of investment become available.**
- **Column C shows the total *estimated* cost for a given action, over the full 10-years.**
- **Columns D - N show annual *estimates,* by investment source, for each action.**
- **Column O identifies the party primarily responsible for implementation.**

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **COMMUNITY CHOICE AGGREGATION** | | $1,645,000 | $49,000 | $49,000 | $49,000 | $49,000 | $799,000 | $300,000 | $200,000 | $150,000 | $0 | $0 | $0 | City of Ann Arbor | Nationally, CCA's are at cost parity if not cheaper than existing, utility energy pricing meaning that this action will most likely save our residents (and the City) money. The "City Operating Credits / Savings" estimates only look at energy savings related to City operations. It is anticipated that residents will save approximately 3-5% on their electricity costs by enrolling in a CCA. |
| EST: $392,000 Already in City Budget | City Operating Costs | | $49,000 | $49,000 | $49,000 | $49,000 | $49,000 | $50,000 | $50,000 | $50,000 - | | | | | |
| | City Operating Credits / Savings | | | | | | | | | -$81,000 | -$81,000 | -$81,000 | -$81,000 | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $49,000 | $49,000 | $49,000 | $49,000 | $49,000 | $50,000 | $50,000 | ($31,000) | ($81,000) | ($81,000) | ($81,000) | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | GF | GF | GF | GF | GF | GF | GF | GF | GF | GF | GF | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | | | $750,000 | $250,000 | $150,000 | $100,000 | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BULK PURCHASE OF RENEWABLES** | | $605,000 | $55,000 | $55,000 | $55,000 | $55,000 | $55,000 | $55,000 | $55,000 | $55,000 | $55,000 | $55,000 | $55,000 | City of Ann Arbor and $66k for community liaison stipends | Onsite renewables have a 10-12 year payback but are warranted for 25 years, meaning the community and the City will see savings in the future. Additionally, the pilot bulk buy programs are saving residents anywhere from 5%-15% additional off the cost of solar. We anticipate achieving savings on City properties electrical bills 12 years after the installation is complete - which is not calculated in this matrix. |
| EST: 100% Already in City Budget | City Operating Costs | | $55,000 | $49,000 | $55,000 | $55,000 | $49,000 | $55,000 | $55,000 | $49,000 | $55,000 | $49,000 | $55,000 | | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $55,000 | $49,000 | $55,000 | $55,000 | $49,000 | $55,000 | $55,000 | $49,000 | $55,000 | $49,000 | $55,000 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | MIL | MIL | MIL | MIL | MIL | MIL | MIL | MIL | MIL | MIL | MIL | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | $6,000 | $0 | $0 | $6,000 | | | $6,000 | | $6,000 | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **COMMUNITY SOLAR PROGRAM** | | $205,000 | $18,636 | $18,640 | $18,636 | $18,636 | $18,636 | $18,636 | $18,636 | $18,636 | $18,636 | $18,636 | $18,636 | | |
| EST: 100% Already in City Budget | City Operating Costs | | $18,636 | $18,640 | $8,636 | $18,636 | $8,636 | $18,636 | $18,636 | $18,636 | $18,636 | $18,636 | $18,636 | City of Ann Arbor | Nationally, community solar initiatives are at cost parity if not cheaper than existing, utility energy pricing. In many states, consumers make money on these programs. Since the cost estimates for this are for City staff to help create a community solar program, the City will not receive savings but our residents and businesses will. |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $18,636 | $18,640 | $8,636 | $18,636 | $8,636 | $18,636 | $18,636 | $18,636 | $18,636 | $18,636 | $18,636 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | GF | GF | GF | GF | GF | GF | GF | GF | GF | GF | GF | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | $10,000 | | $10,000 | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LANDFILL SOLAR PROJECT** | | $80,000 | $26,500 | $27,000 | $26,500 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | | |
| EST: 100% Oper. Costs Already in City Budget | City Operating Costs | | $26,500 | $27,000 | $26,500 | | | | | | | | | City of Ann Arbor | Assumes the City pays a .2 cent premium, per kilowatt hour, for electricity generated through the landfill solar site. |
| | City Operating Credits | | | | | $572,880 | $572,880 | $572,880 | $572,880 | $572,880 | $572,880 | $572,880 | $572,880 | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $26,500 | $27,000 | $26,500 | $572,880 | $572,880 | $572,880 | $572,880 | $572,880 | $572,880 | $572,880 | $572,880 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | GF | GF | GF | GF | GF | GF | GF | GF | GF | GF | GF | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | | | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ELECTRIFICATION OF CITY FACILITIES** | | $7,100,000 | $114,000 | $1,254,000 | $1,254,000 | $1,315,000 | $1,265,000 | $1,265,000 | $130,000 | $128,000 | $125,000 | $125,000 | $125,000 | | |
| EST: $550,000 Already in City Budget | City Operating Costs | | $114,000 | $114,000 | $102,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | City of Ann Arbor with outside legal support | Additional operating costs are estimated for city facilities only. Note, this estimated increase in operating costs is offset in the efficiency section. Also assumes that these projects are placed in the CIP but not funded through that mechanism. Assumes a 15 year term with 4% interest |
| | City Operating Credits | | | $33,252 | $66,504 | $133,008 | $199,512 | $266,016 | $332,520 | $332,520 | $332,520 | $332,520 | $332,520 | | |
| | City Debt Service | | | $1,306,616 | $441,116 | $441,116 | $441,116 | $441,116 | $441,116 | $441,116 | $441,116 | $441,116 | $441,116 | | |
| | Net City Impact | | $114,000 | $1,453,868 | $609,620 | $674,124 | $740,628 | $807,132 | $873,636 | $873,636 | $873,636 | $873,636 | $873,636 | | |
| | City Capital | | | $4,904,500 | | | | | | | | | | | |
| | **City Funding Source** | | All Funds | All Funds | All Funds | All Funds | All Funds | All Funds | All Funds | All Funds | All Funds | All Funds | All Funds | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | $50,000 | $50,000 | $25,000 | $25,000 | $25,000 | $25,000 | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ELECTRIFY ALL BUSES** | | $86,000,000 | $0 | $6,890,000 | $5,690,000 | $6,490,000 | $7,290,000 | $8,070,000 | $8,870,000 | $9,400,000 | $10,200,000 | $11,000,000 | $12,100,000 | | |
| | City Operating Costs | | | | | | | | | | | | | | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | This action intentionally omitted | | | | | | | | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Not Calculated | City Capital | | | | | | | | | | | | | TheRide | Not calculated |
| | **City Funding Source** | | | | | | | | | | | | | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | | | | | | | | | | | |

This action intentionally omitted

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BULK PURCHASE EVs (COMMUNITY)** | | $700,000 | $0 | $153,000 | $100,000 | $55,875 | $55,875 | $55,875 | $55,875 | $55,875 | $55,875 | $55,875 | $55,875 | City of Ann Arbor | A 2018 study from the University of Michigan's Transportation Research Institute found that electric vehicles cost less than half as much to operate as gas-powered cars. The average cost to operate an EV in the United States is $485 per year, while the average for a gasoline-powered vehicle is $1,117. Since these savings go to residents, they are not factored into this action. |
| EST: $558,750 Already in City Budget | City Operating Costs | | | $138,000 | $90,000 | $55,875 | $55,875 | $55,875 | $55,875 | $55,875 | $55,875 | $55,875 | $55,875 | | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $0 | $138,000 | $90,000 | $55,875 | $55,875 | $55,875 | $55,875 | $55,875 | $55,875 | $55,875 | $55,875 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | GF | GF | GF | GF | GF | GF | GF | GF | GF | GF | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | $15,000 | $10,000 | | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PRIVATE EV FLEETS** | | $123,000 | $0 | $24,500 | $24,500 | $24,500 | $24,500 | $24,500 | $500 | $0 | $0 | $0 | $0 | City of Ann Arbor | A 2018 study from the University of Michigan's Transportation Research Institute found that electric vehicles cost less than half as much to operate as gas-powered cars. The average cost to operate an EV in the United States is $485 per year, while the average for a gasoline-powered vehicle is $1,117. Since these savings go to residents, they are not factored into this action. |
| EST: $98,000 Already in City Budget | City Operating Costs | | | $19,500 | $19,500 | $19,500 | $19,500 | $19,500 | $500 | | | | | | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $0 | $19,500 | $19,500 | $19,500 | $19,500 | $19,500 | $500 | $0 | $0 | $0 | $0 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | GF | GF | GF | GF | GF | GF | | | | | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | $5,000 | $5,000 | $5,000 | $5,000 | $5,000 | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CITY EV FLEET TRANSITION** | | $4,000,000 | $50,000 | $660,000 | $560,000 | $465,000 | $360,000 | $355,000 | $340,000 | $320,000 | $310,000 | $295,000 | $285,000 | City of Ann Arbor | A 2018 study from the University of Michigan's Transportation Research Institute found that electric vehicles cost less than half as much to operate as gas-powered cars. The average cost to operate an EV in the United States is $485 per year, while the average for a gasoline-powered vehicle is $1,117. Operational savings are only calculated for City of Ann Arbor fleet vehicles. |
| EST: $1.5 Mil in City Budget | City Operating Costs | | $50,000 | $610,000 | $510,000 | $440,000 | $360,000 | $305,000 | $315,000 | $295,000 | $310,000 | $295,000 | $285,000 | | |
| | City Operating Credits | | -$7,500 | -$12,400 | -$24,800 | -$37,200 | -$49,600 | -$62,000 | -$74,400 | -$86,800 | -$99,200 | -$111,600 | -$124,000 | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $42,500 | $597,600 | $485,200 | $402,800 | $310,400 | $243,000 | $240,600 | $208,200 | $210,800 | $183,400 | $161,000 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | All Funds | All Funds | All Funds | All Funds | All Funds | All Funds | All Funds | All Funds | All Funds | All Funds | All Funds | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | $50,000 | $50,000 | $25,000 | | $50,000 | $25,000 | $25,000 | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EV INFRASTRUCTURE** | | $42,000,000 | $0 | $4,200,000 | $4,200,000 | $4,200,000 | $4,200,000 | $4,200,000 | $4,200,000 | $4,200,000 | $4,200,000 | $4,200,000 | $4,200,000 | City of Ann Arbor and DDA | As an alternative, we could explore public charging infrastructure through a public-private partnership which would significantly lower the costs to the City. Assumes 20 year payback with 4% interest. |
| EST: $500,000 in City Budget | City Operating Costs | | | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | $8,497,500 | $2,520,000 | $2,520,000 | $2,520,000 | $2,520,000 | $2,520,000 | $2,520,000 | $2,520,000 | $2,520,000 | $2,520,000 | | |
| | Net City Impact | | $0 | $8,547,500 | $2,570,000 | $2,570,000 | $2,570,000 | $2,570,000 | $2,570,000 | $2,570,000 | $2,570,000 | $2,570,000 | $2,570,000 | | |
| | City Capital | | | $33,872,500 | | | | | | | | | | | |
| | **City Funding Source** | | | GF & DDA | GF & DDA | GF & DDA | GF & DDA | GF & DDA | GF & DDA | GF & DDA | GF & DDA | GF & DDA | GF & DDA | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | $150,000 | $250,000 | $250,000 | $200,000 | $200,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BULK PURCHASE OF ENERGY EFFICIENCY** | | $950,000 | | $275,000 | $75,000 | $75,000 | $75,000 | $75,000 | $75,000 | $75,000 | $75,000 | $75,000 | $75,000 | City of Ann Arbor and $66k for community liaison stipends | DTE and Consumers Energy's EE programs estimate a 5-fold return on energy efficiency investments; see: https://www.nrdc.org/experts/ariana-gonzalez/michigan-utilities-plan-most-energy-efficiency-ever<br><br>Per studies cited by the U.S. EPA, for every $1M spent on various types of EE creates between 5.7 – 11 jobs. Estimated savings are for City facilities only. |
| EST: $500,000 Already in City Budget | City Operating Costs | | | $250,000 | $50,000 | $50,000 | $75,000 | $75,000 | $75,000 | $75,000 | $75,000 | $75,000 | $75,000 | | |
| | City Operating Credits | | | -$250,000 | -$400,000 | -$628,770 | -$628,770 | -$628,770 | -$628,770 | -$628,770 | -$628,770 | -$628,770 | -$628,770 | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | | $0 | -$350,000 | -$578,770 | -$553,770 | -$553,770 | -$553,770 | -$553,770 | -$553,770 | -$553,770 | -$553,770 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | GF & MIL | GF | GF | GF | GF | GF | GF | GF | GF | GF | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | $25,000 | $25,000 | $25,000 | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BUILDING CODE REQUIREMENTS** | | $1,935,000 | $49,000 | $255,000 | $255,000 | $255,000 | $206,000 | $141,000 | $141,000 | $141,000 | $141,000 | $141,000 | $210,000 | City of Ann Arbor | Per studies cited by the U.S. EPA, for every $1M spent on various types of EE creates between 5.7 – 11 jobs. This also assumes that training and related code-work is integrated into the job description for building inspectors. |
| EST: $1.5 MIL Already in City Budget | City Operating Costs | | $49,000 | $200,000 | $245,000 | $245,000 | $206,000 | $141,000 | $141,000 | $141,000 | $141,000 | $141,000 | $210,000 | | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $49,000 | $200,000 | $245,000 | $245,000 | $206,000 | $141,000 | $141,000 | $141,000 | $141,000 | $141,000 | $210,000 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | GF & CON | GF & CON | GF & CON | GF & CON | GF & CON | GF & CON | GF & CON | GF & CON | GF & CON | GF & CON | GF & CON | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | $55,000 | $10,000 | $10,000 | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LED LIGHTING** | | $3,140,000 | $245,920 | $361,760 | $361,760 | $361,760 | $361,760 | $361,760 | $361,760 | $361,760 | $361,760 | $0 | $0 | | Assumes no funding currently exists for this and that the City |
| | City Operating Costs | | $24,500 | $24,500 | $24,500 | $24,500 | $24,500 | $24,500 | $24,500 | $24,500 | $24,500 | | | | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EST: Assumes no funding for this currently exists | City Operating Credits | | | -$100,000 | -$200,000 | -$300,000 | -$400,000 | -$500,000 | -$600,000 | -$675,000 | -$735,000 | -$735,000 | -$735,000 | City of Ann Arbor | exists for this and that the City will take over all existing lights from DTE and convert them to LED. LED lights will save at least 50% from existing lighting and potentially more. Operational costs are also lower but are not factored into this estimate. Assumes 15 years at 4.5% |
| | City Debt Service | | | $660,423 | $223,998 | $223,998 | $223,998 | $223,998 | $223,998 | $223,998 | $223,998 | $223,998 | $223,998 | | |
| | Net City Impact | | $24,500 | $584,923 | $48,498 | -$51,502 | -$151,502 | -$251,502 | -$351,502 | -$426,502 | -$486,502 | -$511,002 | -$511,002 | | |
| | City Capital | | | $2,483,075 | | | | | | | | | | | |
| | **City Funding Source** | | | | | | | | | | | | | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | | | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BENCHMARKING** | | $2,370,000 | | $408,000 | $218,000 | $218,000 | $218,000 | $218,000 | $218,000 | $218,000 | $218,000 | $218,000 | $218,000 | City of Ann Arbor | Benchmarking is a foundational piece of our commercial sector engagement. We also assume that we'll be able work with DTE to build an API to automatically get data from participating entities. |
| EST: $1MIL already in City budget | City Operating Costs | | | $308,000 | $168,000 | $218,000 | $198,000 | $218,000 | $218,000 | $218,000 | $218,000 | $218,000 | $218,000 | | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | | $308,000 | $168,000 | $218,000 | $198,000 | $218,000 | $218,000 | $218,000 | $218,000 | $218,000 | $218,000 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | GF | GF | GF | GF | GF | GF | GF | GF | GF | GF | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | $100,000 | $50,000 | | $20,000 | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LOAN LOSS RESERVE** | | $1,578,000 | $55,000 | $1,052,500 | $52,500 | $52,500 | $52,500 | $52,500 | $52,500 | $52,500 | $52,500 | $52,500 | $50,500 | City of Ann Arbor | The City currently has $400k in a loan loss reserve dedicated for PACE financing. We've contacted the U.S. Department of Energy (the original granter) about moving this to this program. We assume these funds will be able to be repurposed. |
| EST: $920,000 already in City budget | City Operating Costs | | $55,000 | $852,500 | $52,500 | $52,500 | $52,500 | $52,500 | $52,500 | $52,500 | $52,500 | $52,500 | $50,500 | | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $55,000 | $852,500 | $52,500 | $52,500 | $52,500 | $52,500 | $52,500 | $52,500 | $52,500 | $52,500 | $50,500 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | GF | GF | GF | GF | GF | GF | GF | GF | GF | GF | GF | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | $200,000 | | | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ENERGY CONCIERGE AND COMMUNITY EDUCATION** | | $820,000 | $74,545 | $74,550 | $74,545 | $74,545 | $74,545 | $74,545 | $74,545 | $74,545 | $74,545 | $74,545 | $74,545 | City of Ann Arbor | DTE and Consumers Energy's EE programs estimate a 5-fold return on energy efficiency investments; see: https://www.nrdc.org/experts/ariana-gonzalez/michigan-utilities-plan-most-energy-efficiency-ever<br><br>Per studies cited by the U.S. EPA, |
| EST: $820,000 already in | City Operating Costs | | $74,545 | $69,550 | $69,545 | $69,545 | $69,545 | $69,545 | $69,545 | $69,545 | $69,545 | $69,545 | $69,545 | | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $74,545 | $69,550 | $69,545 | $69,545 | $69,545 | $69,545 | $69,545 | $69,545 | $69,545 | $69,545 | $69,545 | | |
| | City Capital | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| already in City budget | **City Funding Source** | | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | | for every $1M spent on various types of EE creates between 5.7 – 11 jobs. All cost savings from thsi program are accrued by residents and businesses |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | $5,000 | $5,000 | $5,000 | $5,000 | $5,000 | $5,000 | $5,000 | $5,000 | $5,000 | $5,000 | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NET ZERO ENERGY AFFORDABLE HOUSING** | | $800,000 | $200,000 | $200,000 | $100,000 | $100,000 | $100,000 | $100,000 | $0 | $0 | $0 | $0 | $0 | City of Ann Arbor | DTE and Consumers Energy's EE programs estimate a 5-fold return on energy efficiency investments; see: https://www.nrdc.org/experts/ariana-gonzalez/michigan-utilities-plan-most-energy-efficiency-ever<br><br>Per studies cited by the U.S. EPA, for every $1M spent on various types of EE creates between 5.7 – 11 jobs. Operational savings for AAHC are estimated. |
| EST: $800,000 already in City budget | City Operating Costs | | $200,000 | $200,000 | $100,000 | $100,000 | $100,000 | $100,000 | | | | | | | |
| | City Operating Credits | | -$10,000 | -$20,000 | -$25,000 | -$30,000 | -$35,000 | -$40,000 | -$40,000 | -$40,000 | -$40,000 | -$40,000 | -$40,000 | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $190,000 | $180,000 | $75,000 | $70,000 | $65,000 | $60,000 | -$40,000 | -$40,000 | -$40,000 | -$40,000 | -$40,000 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | MIL | MIL | MIL | MIL | MIL | MIL | | | | | | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | | | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GREEN RENTAL HOUSING PROGRAM** | | $530,000 | | $53,000 | $53,000 | $53,000 | $53,000 | $53,000 | $53,000 | $53,000 | $53,000 | $53,000 | $53,000 | City of Ann Arbor | DTE and Consumers Energy's EE programs estimate a 5-fold return on energy efficiency investments; see: https://www.nrdc.org/experts/ariana-gonzalez/michigan-utilities-plan-most-energy-efficiency-ever<br><br>Per studies cited by the U.S. EPA, for every $1M spent on various types of EE creates between 5.7 – 11 jobs.3 |
| EST: $530,000 already in City budget | City Operating Costs | | | $53,000 | $48,000 | $48,000 | $48,000 | $48,000 | $48,000 | $48,000 | $48,000 | $48,000 | $48,000 | | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | | $53,000 | $48,000 | $48,000 | $48,000 | $48,000 | $48,000 | $48,000 | $48,000 | $48,000 | $48,000 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | GF and CON | GF and CON | GF and CON | GF and CON | GF and CON | GF and CON | GF and CON | GF and CON | GF and CON | GF and CON | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | $5,000 | $5,000 | $5,000 | $5,000 | $5,000 | $5,000 | $5,000 | $5,000 | $5,000 | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GREEN BUSINESS CHALLENGE** | | $700,000 | | $70,000 | $70,000 | $70,000 | $70,000 | $70,000 | $70,000 | $70,000 | $70,000 | $70,000 | $70,000 | City of Ann Arbor and 2030 District | DTE and Consumers Energy's EE programs estimate a 5-fold return on energy efficiency investments; see: https://www.nrdc.org/experts/ariana-gonzalez/michigan-utilities-plan-most-energy-efficiency-ever<br><br>Per studies cited by the U.S. EPA, for every $1M spent on various types of EE creates between 5.7 – 11 jobs.3 |
| EST: Not currently included in the budget | City Operating Costs | | | $70,000 | $70,000 | $0 | $65,000 | $70,000 | $70,000 | $70,000 | $70,000 | $70,000 | $70,000 | | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | | $70,000 | $70,000 | $0 | $65,000 | $70,000 | $70,000 | $70,000 | $70,000 | $70,000 | $70,000 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | $75,000 | | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **AGING IN PLACE EFFICIENTLY** | | $155,000 | $5,000 | $15,000 | $15,000 | $15,000 | $15,000 | $15,000 | $15,000 | $15,000 | $15,000 | $15,000 | $15,000 | City of Ann Arbor | DTE and Consumers Energy's EE programs estimate a 5-fold return on energy efficiency investments; see: https://www.nrdc.org/experts/ariana-gonzalez/michigan-utilities-plan-most-energy-efficiency-ever<br><br>Per studies cited by the U.S. EPA, for every $1M spent on various types of EE creates between 5.7 – 11 jobs.3 |
| EST: $150,000 in City budgets | City Operating Costs | | $5,000 | $15,000 | $15,000 | $15,000 | $15,000 | $15,000 | $15,000 | $15,000 | $15,000 | $15,000 | $15,000 | | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $5,000 | $15,000 | $15,000 | $15,000 | $15,000 | $15,000 | $15,000 | $15,000 | $15,000 | $15,000 | $15,000 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | MIL | MIL | MIL | MIL | MIL | MIL | MIL | MIL | MIL | MIL | MIL | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | $200,000 | | | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEATHERIZATION EXPANSION** | | $1,550,000 | | $152,500 | $152,500 | $152,500 | $152,500 | $177,500 | $152,500 | $152,500 | $152,500 | $152,500 | $152,500 | Washtenaw County | DTE and Consumers Energy's EE programs estimate a 5-fold return on energy efficiency investments; see: https://www.nrdc.org/experts/ariana-gonzalez/michigan-utilities-plan-most-energy-efficiency-ever<br><br>Per studies cited by the U.S. EPA, for every $1M spent on various types of EE creates between 5.7 – 11 jobs.3 |
| EST: $1 MIL in City budgets | City Operating Costs | | | $132,500 | $132,500 | $142,500 | $142,500 | $167,500 | $142,500 | $142,500 | $142,500 | $142,500 | $142,500 | | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | | $132,500 | $132,500 | $142,500 | $142,500 | $167,500 | $142,500 | $142,500 | $142,500 | $142,500 | $142,500 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | MIL | MIL | MIL | MIL | MIL | MIL | MIL | MIL | MIL | MIL | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | $20,000 | $20,000 | $10,000 | $10,000 | $10,000 | $10,000 | $10,000 | $10,000 | $10,000 | $10,000 | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NON-MOTORIZED PLAN** | | $2,400,000 | | $300,000 | $300,000 | $300,000 | $300,000 | $300,000 | $300,000 | $200,000 | $150,000 | $140,000 | $110,000 | City of Ann Arbor and DDA | Additional grant dollars may be available for options of this work, especially if a change in federal leadership takes place. Assumes 15 years at 4%. |
| EST: Not included in existing City budgets | City Operating Costs | | | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | $430,255 | $145,255 | $145,255 | $145,255 | $145,255 | $145,255 | $145,255 | $145,255 | $145,255 | $145,255 | | |
| | Net City Impact | | $0 | $480,255 | $195,255 | $195,255 | $195,255 | $195,255 | $195,255 | $195,255 | $195,255 | $195,255 | $195,255 | | |
| | City Capital | | | $1,615,000 | | | | | | | | | | | |
| | **City Funding Source** | | | GF | GF | GF | GF | GF | GF | GF | GF | GF | GF | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | | | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EXPAND LOCAL AND REGIONAL TRANSIT** | | $656,780,000 | $0 | $3,080,000 | $3,080,000 | $100,000 | $520,000 | $600,000,000 | $10,000,000 | $10,000,000 | $10,000,000 | $10,000,000 | $10,000,000 | | Not Calculated. Note: Using AAA's total cost per mile driven for MI drivers4 of $0.59/mile x 388,645,000 VMT miles reduced |
| | City Operating Costs | | | | | | | | | | | | | | |

| | | | | |
|---|---|---|---|---|
| Not Estimated | City Operating Credits<br>City Debt Service<br>City Capital<br>**City Funding Source**<br>Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | Intentionally omitted | TheRide with support from the City of Ann Arbor | in year ten and assuming the reduction is linear, the resultant savings over ten years is $1.15B6. This does not take into consideration increases expenses paid for fares but also not additional health benefits from walking and biking, etc |

| | ACTION | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **PARK AND RIDE** | $170,000,000 | | $200,000 | $300,000 | $21,500,000 | $21,500,000 | $21,500,000 | $21,000,000 | $21,000,000 | $21,000,000 | $21,000,000 | $21,000,000 | City of Ann Arbor, TheRide, and MDOT | Per a Council request, assumes the City takes on 100% of the cost. This is highly unlikely. |
| EST: $500,000 in City budgets | City Operating Costs | | | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | GF and DDA | GF and DDA | GF and DDA | GF and DDA | GF and DDA | GF and DDA | GF and DDA | GF and DDA | GF and DDA | GF and DDA | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | $84,750,000 | | $40,000,000 | | $44,750,000 | | | | | | |

| | ACTION | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **INCREASE DIVERSITY OF HOUSING** | $250,000 | $72,100 | $72,100 | $72,100 | $20,000 | $13,700 | $0 | $0 | $0 | $0 | $0 | $0 | City of Ann Arbor | Assumes this is part of existing staff's job. |
| EST: $250,000 in City budgets | City Operating Costs | | $72,100 | $72,100 | $72,100 | $20,000 | $13,700 | | | | | | | | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $72,100 | $72,100 | $72,100 | $20,000 | $13,700 | $0 | $0 | $0 | $0 | $0 | $0 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | GF | GF | GF | GF | GF | | | | | | | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | | | | | | | | | | | |

| | ACTION | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **MIXED-USE ZONING** | $365,000 | | $50,000 | $75,000 | $55,000 | $35,000 | $25,000 | $25,000 | $25,000 | $25,000 | $25,000 | $25,000 | City of Ann Arbor | Assumes this is part of existing staff's job or it fits into the Master Plan initiative and is mostly covered through that work. |
| EST: $300,000 in City budgets | City Operating Costs | | | $50,000 | $75,000 | $35,000 | $35,000 | $25,000 | $25,000 | $25,000 | $25,000 | $25,000 | $25,000 | | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $0 | $50,000 | $75,000 | $35,000 | $35,000 | $25,000 | $25,000 | $25,000 | $25,000 | $25,000 | $25,000 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | GF | GF | GF | GF | GF | GF | GF | GF | GF | GF | | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| budgets | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | | $20,000 | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PARKING RATES | | $4,500,000 | $0 | $2,221,000 | $2,221,000 | $7,250 | $7,250 | $7,250 | $7,250 | $7,250 | $7,250 | $7,250 | $7,250 | City of Ann Arbor | This assumes the City works with a private company to implement this solution. An alternative is the City could fund the program itself |
| EST: $200,000 in City budgets | City Operating Costs | | | $52,500 | $52,500 | $7,250 | $7,250 | $7,250 | $7,250 | $7,250 | $7,250 | $7,250 | $7,250 | | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $0 | $52,500 | $52,500 | $7,250 | $7,250 | $7,250 | $7,250 | $7,250 | $7,250 | $7,250 | $7,250 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | | | | | | | | | | | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | $2,168,500 | $2,168,500 | | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YEAR ROUND COMPOSTING | | $26,000,000 | | $2,600,000 | $2,600,000 | $2,600,000 | $2,600,000 | $2,600,000 | $2,600,000 | $2,600,000 | $2,600,000 | $2,600,000 | $2,600,000 | City of Ann Arbor | Assumes could be paid for through changes as outlined in the SWRMP |
| EST: $26 MIL in City budgets only if SWRMP is implemented | City Operating Costs | | | $2,600,000 | $2,600,000 | $2,600,000 | $2,600,000 | $2,600,000 | $2,600,000 | $2,600,000 | $2,600,000 | $2,600,000 | $2,600,000 | | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | | $2,600,000 | $2,600,000 | $2,600,000 | $2,600,000 | $2,600,000 | $2,600,000 | $2,600,000 | $2,600,000 | $2,600,000 | $2,600,000 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | | | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EXPAND COMMERCIAL RECYCLING | | $18,400,000 | | $1,840,000 | $1,840,000 | $1,840,000 | $1,840,000 | $1,840,000 | $1,840,000 | $1,840,000 | $1,840,000 | $1,840,000 | $1,840,000 | City of Ann Arbor and/or Contractor | Assumes could be paid for through changes as outlined in the SWRMP |
| EST: $18.5 MIL in City budgets only if SWRMP is implemented | City Operating Costs | | | $1,840,000 | $1,840,000 | $1,840,000 | $1,840,000 | $1,840,000 | $1,840,000 | $1,840,000 | $1,840,000 | $1,840,000 | $1,840,000 | | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $0 | $1,840,000 | $1,840,000 | $1,840,000 | $1,840,000 | $1,840,000 | $1,840,000 | $1,840,000 | $1,840,000 | $1,840,000 | $1,840,000 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | | | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSTAINABLE MATERIAL USE AND REUSE | | $270,000 | | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | | |
| EST: $270,000 in City budgets | City Operating Costs | | | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | City of Ann Arbor | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $0 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | GF and SW | GF and SW | GF and SW | GF and SW | GF and SW | GF and SW | GF and SW | GF and SW | GF and SW | GF and SW | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | | | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CIRCULAR ECONOMY | | $270,000 | | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | | |
| EST: $270,000 in City budgets | City Operating Costs | | | $22,000 | $22,000 | $22,000 | $22,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | City of Ann Arbor | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $0 | $22,000 | $22,000 | $22,000 | $22,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | $27,000 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | GF and SW | GF and SW | GF and SW | GF and SW | GF and SW | GF and SW | GF and SW | GF and SW | GF and SW | GF and SW | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | $5,000 | $5,000 | $5,000 | $5,000 | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PLANT-RICH DIETS | | $208,400 | | $20,840 | $20,840 | $20,840 | $20,840 | $20,840 | $20,840 | $20,840 | $20,840 | $20,840 | $20,840 | | |
| EST: $0 in City budgets | City Operating Costs | | | $15,840 | $15,840 | $15,840 | $20,840 | $20,840 | $20,840 | $20,840 | $20,840 | $20,840 | $20,840 | City of Ann Arbor | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $0 | $15,840 | $15,840 | $15,840 | $20,840 | $20,840 | $20,840 | $20,840 | $20,840 | $20,840 | $20,840 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | MIL & GF | MIL & GF | MIL & GF | MIL & GF | MIL & GF | MIL & GF | MIL & GF | MIL & GF | MIL & GF | MIL & GF | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | $5,000 | $5,000 | $5,000 | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| REFRIGERANT RECYCLING | | $179,400 | | $10,440 | $85,440 | $10,440 | $10,440 | $10,440 | $10,440 | $10,440 | $10,440 | $10,440 | $10,440 | | |
| | City Operating Costs | | | $10,440 | $35,440 | $10,440 | $10,440 | $10,440 | $10,440 | $10,440 | $10,440 | $10,440 | $10,440 | | |
| | City Operating Credits | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EST: Not included in existing City budgets | City Debt Service | | | | | | | | | | | | | City of Ann Arbor | |
| | Net City Impact | | $0 | $10,440 | $35,440 | $10,440 | $10,440 | $10,440 | $10,440 | $10,440 | $10,440 | $10,440 | $10,440 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | SW and MIL | SW and MIL | SW and MIL | SW and MIL | SW and MIL | SW and MIL | SW and MIL | SW and MIL | SW and MIL | SW and MIL | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | $50,000 | | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RESILIENCE HUBS** | | $5,025,000 | | $25,000 | $25,000 | $750,000 | $100,000 | $825,000 | $225,000 | $975,000 | $300,000 | $1,500,000 | $300,000 | | |
| EST: $500,000 in City budgets | City Operating Costs | | | $25,000 | $25,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | $50,000 | City of Ann Arbor | Studies regularly show that for every $1 invested in resilience, $7 are saved. We don't calculate a payback here but there will undoubtedly be value to the community for this action. Assumes 20 years at 4% |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | $962,412 | $324,912 | $324,912 | $324,912 | $324,912 | $324,912 | $324,912 | $324,912 | $324,912 | | |
| | Net City Impact | | $0 | $25,000 | $987,412 | $374,912 | $374,912 | $374,912 | $374,912 | $374,912 | $374,912 | $374,912 | $374,912 | | |
| | City Capital | | | | $3,612,500 | | | | | | | | | | |
| | **City Funding Source** | | | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | $25,000 | $25,000 | $100,000 | $25,000 | $25,000 | $25,000 | $25,000 | $25,000 | $25,000 | $25,000 | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NEIGHBORHOOD AND YOUTH AMBASSADORS** | | $350,000 | | $35,000 | $35,000 | $35,000 | $35,000 | $35,000 | $35,000 | $35,000 | $35,000 | $35,000 | $35,000 | | |
| EST: $350,00 in City budgets | City Operating Costs | | | $25,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | City of Ann Arbor | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $0 | $25,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | $10,000 | $5,000 | $5,000 | $5,000 | $5,000 | $5,000 | $5,000 | $5,000 | $5,000 | $5,000 | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TREE CANOPY** | | $1,160,000 | | $116,000 | $116,000 | $116,000 | $116,000 | $116,000 | $116,000 | $116,000 | $116,000 | $116,000 | $116,000 | | |
| EST: $1.16 MIL in City budgets | City Operating Costs | | | $116,000 | $116,000 | $116,000 | $116,000 | $116,000 | $116,000 | $116,000 | $116,000 | $116,000 | $116,000 | City of Ann Arbor | We did not capture the payback to the City of trees but we know that trees have ecosystem, health, and natural system benefits. |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $0 | $116,000 | $116,000 | $116,000 | $116,000 | $116,000 | $116,000 | $116,000 | $116,000 | $116,000 | $116,000 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | STM | STM | STM | STM | STM | STM | STM | STM | STM | STM | | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | | | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NEIGHBORHOOD ASSET MAPPING | | $300,000 | | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | | |
| EST: $0 in City budgets | City Operating Costs | | | $15,000 | $25,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | City of Ann Arbor | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $0 | $15,000 | $25,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | $15,000 | $5,000 | | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EMERGENCY KITS | | $350,000 | | $35,000 | $35,000 | $35,000 | $35,000 | $35,000 | $35,000 | $35,000 | $35,000 | $35,000 | $35,000 | | |
| EST: $100,000 in City budgets | City Operating Costs | | | $35,000 | $25,000 | $25,000 | $35,000 | $35,000 | $35,000 | $35,000 | $35,000 | $35,000 | $35,000 | City of Ann Arbor | Estimated savings from a FEMA report showing that for every $1 invested in prevention, we save $7 in emergency management and response costs. |
| | City Operating Credits | | | -$245,000 | -$245,000 | -$245,000 | -$245,000 | -$245,000 | -$245,000 | -$245,000 | -$245,000 | -$245,000 | -$245,000 | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $0 | -$210,000 | -$220,000 | -$220,000 | -$210,000 | -$210,000 | -$210,000 | -$210,000 | -$210,000 | -$210,000 | -$210,000 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | $10,000 | $10,000 | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SENSORS AND DATA MONITORING | | $300,000 | | $101,300 | $28,300 | $21,300 | $21,300 | $21,300 | $21,300 | $21,300 | $21,300 | $21,300 | $21,300 | | |
| EST: Not currently included in City budget | City Operating Costs | | | $51,300 | $28,300 | $21,300 | $21,300 | $21,300 | $21,300 | $21,300 | $21,300 | $21,300 | $21,300 | City of Ann Arbor | Estimated savings from a FEMA report showing that for every $1 invested in prevention, we save $7 in emergency management and response costs. |
| | City Operating Credits | | | -$709,100 | -$198,100 | -$149,100 | -$149,100 | -$149,100 | -$149,100 | -$149,100 | -$149,100 | -$149,100 | -$149,100 | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $0 | -$657,800 | -$169,800 | -$127,800 | -$127,800 | -$127,800 | -$127,800 | -$127,800 | -$127,800 | -$127,800 | -$127,800 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | GF | GF | GF | GF | GF | GF | GF | GF | GF | GF | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | $50,000 | | | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EQUITY PROGRAMS** | | $200,000 | | $20,000 | $20,000 | $20,000 | $20,000 | $20,000 | $20,000 | $20,000 | $20,000 | $20,000 | $20,000 | | |
| EST: $200,000 in City budgets | City Operating Costs | | | $20,000 | $20,000 | $20,000 | $20,000 | $20,000 | $20,000 | $20,000 | $20,000 | $20,000 | $20,000 | City of Ann Arbor | |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $0 | $20,000 | $20,000 | $20,000 | $20,000 | $20,000 | $20,000 | $20,000 | $20,000 | $20,000 | $20,000 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | GF & MIL | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | | | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SA2T GRANT PROGRAM** | | $1,000,000 | | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | | |
| EST: $1 MIL in City budgets | City Operating Costs | | | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | Pass through to community | Each application is unique but to-date, most awarded grants have at least a 50% match meaning we are leveraging a lot of external funding through this program. |
| | City Operating Credits | | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Operating Costs | | $0 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | MIL | MIL | MIL | MIL | MIL | MIL | MIL | MIL | MIL | MIL | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | | | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INTERNAL CARBON TAX** | | $75,000 | | $52,500 | $2,500 | $2,500 | $2,500 | $2,500 | $2,500 | $2,500 | $2,500 | $2,500 | $2,500 | | |
| EST: $0 estimated in City budgets | City Operating Costs | | | $52,500 | $2,500 | $2,500 | $2,500 | $2,500 | $2,500 | $2,500 | $2,500 | $2,500 | $2,500 | City of Ann Arbor | Revenue generated through this program is immediately reivested back into energy efficiency or renewable energy projects at City faciilties. |
| | City Operating Credits | | | -$2,500 | -$52,500 | -$2,500 | -$2,500 | -$2,500 | -$2,500 | -$2,500 | -$2,500 | -$2,500 | -$2,500 | | |
| | City Debt Service | | | | | | | | | | | | | | |
| | Net City Impact | | $0 | $50,000 | -$50,000 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | | |
| | City Capital | | | | | | | | | | | | | | |
| | **City Funding Source** | | | GF | GF | GF | GF | GF | GF | GF | GF | GF | GF | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | | | | | | | | | | | |

| ACTION | | TOTAL | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Implem. Respon. | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OFFSETS** | | $9,440,000 | | $12,000 | $22,100 | $22,100 | $22,100 | $22,100 | $22,100 | $22,100 | $22,100 | $4,636,650 | $4,636,650 | | |
| | City Operating Costs | | | $12,000 | $22,100 | $22,100 | $22,100 | $22,100 | $22,100 | $22,100 | $22,100 | $4,636,650 | $4,636,650 | | |
| | City Operating Credits | $9,207,000 | | | | | | | | | | | | | |
| | City Debt Service | | | | | | | | | | | | | City of Ann | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EST: $233,000 in city budget | Net City Impact | $0 | $12,000 | $22,100 | $22,100 | $22,100 | $22,100 | $22,100 | $22,100 | $22,100 | $4,636,650 | $4,636,650 | Arbor and Offset Organization | Estimated cost for carbon offsets |
| | City Capital | | | | | | | | | | | | | |
| | **City Funding Source** | | GF | GF | GF | GF | GF | GF | GF | GF | GF | GF | | |
| | Other (i.e., philanthropic, state, federal, pro bono, public-private partnership) | | | | | | | | | | | | | |

**SUMMARY**

| | | | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | **TOTAL City Operating Costs** | | $793,281 | $8,491,870 | $7,119,461 | $6,847,486 | $6,791,186 | $6,719,486 | $6,585,486 | $6,558,986 | $6,529,986 | $11,099,036 | $11,162,036 | |
| B | **TOTAL City Operating Credits** | | -$17,500 | -$1,305,748 | -$1,078,896 | -$686,682 | -$737,578 | -$788,474 | -$834,370 | -$1,002,770 | -$1,075,170 | -$1,087,570 | -$1,099,970 | |
| C | **TOTAL City Debt Service** | | $0 | $10,894,794 | $4,292,781 | $3,655,281 | $3,655,281 | $3,655,281 | $3,655,281 | $3,655,281 | $3,655,281 | $3,655,281 | $3,655,281 | |
| D | **TOTAL Net City Impact** | | $775,781 | $18,080,916 | $10,333,346 | $9,816,085 | $9,708,889 | $9,586,293 | $9,406,397 | $9,211,497 | $9,110,097 | $13,666,747 | $13,717,347 | |
| E | **TOTAL City Capital** | | $0 | $42,875,075 | $3,612,500 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $46,487,575 |
| F | **philanthropic, state, federal, pro bono, public-private partnership)** | | $150,000 | $3,259,500 | $87,588,500 | $455,000 | $41,071,000 | $480,000 | $45,100,000 | $281,000 | $150,000 | $156,000 | $150,000 | |