Climate Pollution Reduction Grants Program: Implementation Grants General Competition - Project Narrative
Bowling Green, Kentucky – (02D58123)

1. Overall Project Summary and Approach

The City of Bowling Green (the City or City of BG), the prime recipient, is representing The Bowling Green Metropolitan Statistical Area (BG MSA), consisting of the City of Bowling Green, Kentucky, the rest of Warren County, and the three surrounding counties of Allen, Butler, and Edmonson. The City of Bowling Green will look to leverage accumulated resources and expertise to implement the strategic GHG reduction measures documented below. BG MSA's Priority Climate Action Plan (PCAP) initiative discovered clear and direct GHG reduction measures that will positively impact the greater BG MSA area, including five census tracts that ranked in the 90th percentile or higher in overall climate vulnerability according to the latest Climate Vulnerability Index.[1] These measures will be implemented through collaboration with trusted partners, subcontractors, and the use of extensive community engagement to ensure the efficient disbursement of funds. The selected GHG reduction measures were chosen by determining the greatest GHG reduction per dollar invested while balancing the risks that could impact the measure's success. The total estimated GHG reduction of the selected measures is 42,787 $MTCO2_e$ by 2030.

a. Description of GHG Reduction Measures

Measure 1.1 Electrify Public Transit: This measure will gradually replace the current internal combustion engine (ICE)-powered public transportation fleet in the City of BG—as well as the ICE-powered public transportation utilized on the campus of Western Kentucky University (WKU)—with electric vehicles to reduce GHG emissions by 1,818 MTCO2e from the transportation sector between 2025 to 2050. The City of BG's current public transportation fleet consists of 52 vehicles, comprised of 25 buses/cutaways, and 27 vans/minivans; the BG MSA will look to electrify as much of the City's GoBG Transit fleet as possible – a maximum of 13 buses - while keeping a balance of funding with other measures. This measure will also look to electrify the entire WKU public transportation fleet, consisting of 12 buses, 1 trolley, 1 ADA minivan, and 1 truck. As a priority measure, BG MSA plans to dedicate roughly $24.8 million of the total funds to this effort. Necessary grid infrastructure upgrades will be required for this public transit electrification and the BG MSA will look to work with Bowling Green Municipal Utilities (BGMU) to provide these upgrades.

Measure 1.1.1 Expand public transit and improve routes: This sub-measure entails improvements to the City's and WKU's public transit networks by expanding their reach to populations currently isolated from public transportation access and improving route efficiency. As public transit ridership improves, the amount of passenger cars on the road contributing to air pollution is reduced, resulting in potential air quality benefits over time. While this sub-measure may not receive direct funding, the GHG reduction impacts will be measured and could provide a necessary benefit for LIDAC (Low Income, Disadvantaged Community) citizens. One key goal will be to establish a new GoBG Transit bus line that will run from the

[1] Environmental Defense Fund, Overall Climate Vulnerability in The U.S. | The U.S. Climate Vulnerability Index, 2024.

city center to the local Cabinet for Health and Family Services office to help LIDAC populations receive necessary government assistance.

These measures assume the electrification of the public transit fleets and improved public transit routes for the City and WKU over the course of the 5 years of the CPRG program with the necessary charging stations and grid infrastructure being installed in year 1 of the program.

The main risk accompanying this measure will be ensuring proper supply is available for the electrification of the public transit fleets. This will be mitigated by ensuring adherence to proper procurement processes to create adequate purchase windows for fleet electrification equipment. Additional risks include public pushback and the region's natural topography, as it is common for construction projects to encounter sinkholes due to the local karst cave networks. Any public pushback will be mitigated through public feedback sessions and key partnerships with community entities. Challenges posed by the region's topography will be mitigated by following best site management practices outlined by key environmental entities in the City of BG.

Western Kentucky University, as well as BGMU, will be sub-awardees for this measure. WKU, through the use of CPRG funding, will purchase the necessary vehicles and charging infrastructure needed to electrify its public transit fleet. BGMU will be contracted to provide, through the use of CPRG funding, necessary grid infrastructure upgrades to allow for the use of electric vehicle charging infrastructure. This measure and sub-measure relates directly to City of BG's PCAP measure 1.1 Electrify Public Transit and PCAP measure 1.2, the objective of both measures being to electrify public transit inside the City of BG and to improve public transit routes.

Table 1: Measure 1.1 and Measure 1.1.1: Tasks and Milestones

	2025	2026	2027	2028	2029
City of BG Tasks	Improved public transit routes, Install necessary grid upgrades in collaboration with BGMU	Report GHG reduction amount	Report GHG reduction amount	Report GHG reduction amount	Report GHG reduction amount
City of BG Milestones	Delivery of first set of electric buses, installation of charging stations	Electrification of 4 of available fleet	Electrification of 3 of available fleet	Electrification of 3 of available fleet	Electrification of remaining available fleet
WKU Tasks	Improved public transit routes, Install necessary grid upgrades in collaboration with BGMU	Report GHG reduction amount	Report GHG reduction amount	Report GHG reduction amount	Report GHG reduction amount

WKU Milestones	Electrification of 2 public transit buses and 1 electric trolley, installation of charging stations	Electrification of 2 public transit buses and 1 truck	Electrification of 2 public transit buses and 1 ADA minivan	Electrification of 3 public transit buses	Electrification of 3 public transit buses

Measure 1.2 Expand Green spaces and mixed-use paths: This measure develops multi-use paths to connect residents with important locations and services in their neighborhoods, such as schools, bus stops, grocery stores, and recreational activities. These paths encourage active transport and community connectivity by accommodating micro-mobility, such as walking and cycling, as a form of commute. In addition to the expansion of mixed-use paths, the City of BG will look to acquire additional green spaces. The City of BG plans to dedicate roughly $9.2 million for this effort. The agriculture and land management sector in the City of BG emits an estimated 8% of overall emissions. This measure focuses on expanding green spaces and enhancing them with native vegetation, such as low-lying shrubs that do not interfere with overhead power lines. The City of BG will also examine the potential for creating green rooftops through the region. Opportunities for green space expansion will continue to present themselves in the near future and the City of BG will ensure efficient and effective investments are made when acquiring land.

These project tasks and milestones have been built with the assumption that the development of mixed-use paths and expanded green spaces will be deployed at pre-determined sites. City of BG assumes 257 acres of readily available floodplain lands for purchase using CPRG funds.

The risk related to expanded green space and mixed-use paths is related to the availability and affordability of applicable land. As noted in the assumptions, the City of BG will follow standard procurement processes to ensure the most cost-effective land and mixed-use paths are pursued. A risk specific to the City of BG area is that the region is prone to sinkholes. Assessments may need to be conducted to ensure the structural integrity of the land before determination of the land usage. With this risk there is greater opportunity for the expansion of green space as this land is not to be used for agricultural or development purposes and can be preserved safely and adequately.

While there are no direct partners or subcontracts for this measure, the City of BG will ensure strong community engagement and education to ensure proper land usage remains a top priority. This measure relates directly to measures 1.3 and 5.1 in the PCAP; “expand shared use paths” and “expand green spaces,” respectively. The decision to combine these measures was made after a review of cost effectiveness and measure goals. The combination of these measures allows for cost-effective investments while maintaining the highest level of GHG reduction per dollar possible for the City of BG.

Table 2: Measure 1.2: Expansion of Green Spaces and Mixed-Use Paths.

	2025	2026	2027	2028	2029
City of BG Tasks	Follow proper procurement processes for land acquisition, ensure the	Report GHG reduction amount, project assurance reporting	Report GHG reduction amount, project assurance reporting	Report GHG reduction amount, project assurance reporting	Report GHG reduction amount, project assurance reporting

	mixed-use paths are compliant with city standards and codes.				
City of BG Milestones	Purchase of 257 acres of floodplains in the surrounding City of BG area, Development of mixed-used paths	Development of mixed-used paths, continued assessment of viable green space purchases	Development of mixed-used paths, continued assessment of viable green space purchases	Development of mixed-used paths, continued assessment of viable green space purchases	Development of mixed-used paths, continued assessment of viable green space purchases

Measure 1.3: Developing and distributing solar energy generation: This measure centers on implementing community shared solar energy across the City of BG's residential and commercial areas. It involves Warren Rural Electric Co-op Corporation (WRECC) installing a 10 MW utility scale solar facility to provide solar energy to the greater City of BG area. The City of BG plans to allocate roughly $16.1 million in CPRG funds for this effort. The solar power created enhances the existing electrical grid's stability and resilience, fostering a broader, communal shift towards harnessing renewable energy sources within the City of BG. There will be necessary electricity distribution and grid enhancements achieved through upgraded and newly installed grid efficiency equipment to handle the transportation of this renewable energy. This measure will also allow for more cost-effective energy to be deployed to LIDAC households and communities.

The timeline below was built assuming that the City of BG would disperse the subcontract to WRECC, WRECC would purchase the land as a sub-awardee and, in partnership with BGMU, would develop and deploy the 10 MW utility scale solar facility. City of BG also assumes the siting and permitting to be completed by WRECC with assistance from the BG MSA.

With the increase in solar demand there is a risk of material and equipment supply causing construction delays or unexpected costs. City of BG and WRECC will look to mitigate this risk by following proper procurement processes. With utility scale solar facilities needing ongoing operations and maintenance, City of BG and WRECC will look to engage a growing workforce to ensure efficient operation and maintenance for the utility scale solar facility. WRECC will serve as a sub-contractor for this measure by building, deploying and owning the utility scale solar facility.

This measure relates to PCAP measure 3.1: “developing and distributing solar energy generation” and measure 3.2: “upgrading electricity distribution” by deploying utility scale solar in the City of BG region and in doing so providing necessary electricity distribution upgrades

Table 3: Measure 1.3: Developing and Distributing Solar Energy Generation

	2025	2026	2027	2028	2029

City of BG Tasks	Follow proper procurement channels	Report GHG reduction amount, ensure proper project reporting requirements	Report GHG reduction amount, ensure proper project reporting requirements	Report GHG reduction amount, ensure proper project reporting requirements	Report GHG reduction amount, ensure proper project reporting requirements
City of BG Milestones	Distribute subaward agreement to WRECC	Provide sub-contract to WRECC	N/A	N/A	N/A
WRECC Tasks	Follow procurement channels, ensure proper siting and permitting	Material and equipment acquisition	Report GHG reduction amount, ensure proper project reporting requirements	Report GHG reduction amount, ensure proper project reporting requirements	Report GHG reduction amount, ensure proper project reporting requirements
WRECC Milestones	Siting and permitting complete	Completion of Utility scale solar Farm	Deployment of energy and necessary workforce for proper operations and maintenance	N/A	N/A

b. Demonstration of Funding Need

City of BG has identified the above measures as to be the greatest GHG reduction investments per metric ton of CO2e offset per dollar. With the cost effectiveness of these measures over the economic useful life of the equipment—or by 2050—are as follows: Measure 1.1: $13,627, Measure 1.1.1: $0, Measure 1.2: $14,142, Measure 1.3 $64, and Total: $196. These figures are in line with EIA standards for similar technologies. The CPRG implementation funds will be necessary to deploy an electrified public transit fleet, create utility scale solar capacity and expand green spaces around the City of BG. While each initiative has a unique federal tax credit or federal grant program associated with it, the applicable asset owner or grantor does not have the means to apply for this funding at this time. The City of BG serves as a necessary conduit for these initiatives to receive the spark needed for noticeable GHG reduction to take place in the surrounding area. As identified earlier, there are sub-contractors and community leaders who support these initiatives and, given enough time, may pursue these measures through different means; but with the City of BG striving to be ahead of the curve for GHG reduction and being located in such a CO2 emission-heavy area, neither these initiatives - nor the City of BG - has the time to waste for these programs to receive funding from other avenues.

The City of BG will look to leverage federal funds such as Investment Tax Credit section 48, which provides a 30% tax credit for solar deployment, as well as leveraging other existing state and federal grant programs like the soon to be announced Clean Heavy Duty Vehicle program from the EPA. The City of BG will

leverage any and all available federal, state, and local funding sources to ensure efficient usage of the CPRG Implementation funds.

The plan to leverage existing federal, state and local incentives program such as federal ITC section 48, 45W, 30C, or the state of Kentucky NEVI program will allow for the more efficient disbursement of CPRG implementation funds. To illustrate, federal ITC section 45W allows for a tax credit of up to 30% for the purchase of an electric fleet vehicle. This 30 % tax credit may allow for the City of BG to redeploy funds in the most appropriate measure or newly identified GHG reducing projects that will help impact the total GHG reduction of the CPRG project. Following this example 45W has a $40K cap on medium- and heavy-duty vehicles, which would include transit buses. This cap would generally represent less than 10% of the purchase price of a vehicle, thus necessitating the CPRG funds for this public transit fleet electrification.

Alternatively, the available state, local or utility incentives surrounding the rollout of solar or other renewable energy programs are relatively low, with the state of Kentucky PACE program and incentive for energy independence representing almost the entire state incentive portfolio. These programs are only available to commercial customers, so the CPRG implementation serves a vital role in the expansion of solar energy for the City of Bowling Green.

One key additional GHG reducing project that could be funded by tax credits is a change in the treatment of solid waste. With a re-deployment of CPRG funds, the City of BG may be able invest in an anaerobic digester for solid waste treatment. The City of BG will look to continue making the most efficient investments for GHG reduction will make these tax credit-based investments only after an exhaustive evaluation process.

c. Transformative Impact

The City of BG has identified the above measures as having the greatest GHG reduction as well as an impact on job quality. One key factor in deciding on these measures was the ripple effect they could have on the City of BG region as a whole – for instance, the expansion of green spaces and mixed-use paths will see year over year GHG reduction improvements and will also increase walkability, which can then in turn reduce the amount of vehicles on the road and further reduce GHG emissions.

Through fleet electrification and through working with Western Kentucky University, this measure is able to abate a tremendous amount of GHG in a hard-to-abate sector of public transit. While these measures were chosen for their cost effectiveness, it remains a high priority for the City of BG to provide the greatest amount of transformative community impact.

2. Impact of GHG Reduction Measures

As detailed above, the selected GHG reduction measures were chosen by determining the greatest GHG reduction per dollar invested. Greater emissions reductions will be recognized through the three selected GHG reduction measures described in Table 4 below. This section will focus on quantifiable emissions reductions that will occur as a result of EPA's CPRG implementation funding. The City of BG is requesting CPRG funding of $49,999,999. The total funding to implement measures is $49,999,999. The total estimated GHG reduction of measures is 42,787 $MTCO2_e$ by 2030.

a. Magnitude of GHG Reductions from 2025 through 2030

The City of BG is seeking funds for GHG reduction measures that will significantly reduce cumulative GHG emissions by 2030 and beyond. Grant funds will be deployed sustainably to ensure proper investment is achieved for each measure. The City of BG developed the following set of 3 emissions reduction measures, categorized into five overarching, high-level strategies, to address climate pollution in the City of BG. These measures were selected in accordance with CPRG program guidance to select measures with the greatest GHG reduction per dollar invested. Table 4 provides projected GHG emissions reductions accumulated over the timeframe of 2025-2030. Projected changes in GHG emissions for measures 1.1, 1.1.1, 1.2, and 1.3 were modeled per the methodology and assumptions documented in the PCAP technical appendix.

Table 4: Priority GHG reduction measures and associated reductions projected (cumulative within each time period)

Strategy	Priority measures & sub-measures	Cumulative GHG emission reductions (MTCO2e) 2025-2030
Transportation Improvements	1.1 Electrify public transit	(606)
	1.1.1 Expand public transit and improve routes	(8)
	1.2 Expand mixed use spaces and use paths	(162)
	1.3 Developing and distributing solar energy generation	(42,011)
TOTAL ABATEMENT POTENTIAL		(42,787)

b. Magnitude of GHG Reductions from 2025 through 2050

Table 5 provides projected GHG emissions reductions accumulated over the timeframe of 2025-2050. The City of BG developed the following set of 3 emissions reduction measures, categorized into five overarching, high-level strategies, to address climate pollution in the City of BG. These measures were selected in accordance with CPRG program guidance to select measures with the greatest GHG reduction per dollar invested. Table 6 provides projected GHG emissions reductions accumulated over the timeframe of 2025-2030. Projected changes in GHG emissions for measures 1.1, 1.1.1, 1.2, and 1.3 were modeled per the methodology and assumptions documented in the PCAP technical appendix. For Measure 1.1 we can assume an economic useful life of 15 years for the fleet electrification, so the GHG reduction has been mapped for the 15 years of that useful life.

Table 5: Priority GHG reduction measures and associated reductions projected (cumulative within each time period)

Strategy	Priority measures & sub-measures	Cumulative GHG emission reductions (MTCO2e) 2025-2050
Transportation Improvements	1.1 Electrify public transit	(1,818)
	1.1.1 Expand public transit and improve routes	(113)
	1.2 Expand green spaces and mixed-use paths	(648)

	1.3 Developing and distributing solar energy generation	(323,034)
TOTAL ABATEMENT POTENTIAL		(325,613)

Each priority pollution reduction measure chosen in the City of BG has the potential to reduce CAP and HAP emissions and associated burdens associated with air pollution. Table 6 indicates how each measure is expected to impact six key air pollutants in the City of BG in the short term, by 2030, and in the longer term, by 2050.

Projected changes in co-pollutant emissions for measures 1.1, 1.1.1, 1.2 and 1.3 were modeled using the Rocky Mountain Institute's Energy Policy Simulator (EPS).

Table 6: Estimated impact of priority pollution reduction measures on co-pollutant emissions

	Air pollution reduction potential 2025 to 2030 (short tons)						Air pollution reduction potential 2025 to 2050 (short tons)					
Priority measure	CO	NOx	$PM_{2.5}$	PM_{10}	SO2	VOC	CO	NOx	$PM_{2.5}$	PM_{10}	SO2	VOC
1.1 Electrify public transit fleet	(5)	(3)	(0.1)	(0.2)	(0.1)	(0.1)	(60)	(18)	(0.6)	(1)	0.4	(3)
1.1.1 Expand public transit and improve routes	(0.1)	(0)	(0)	(0)	(0)	(0)	(2)	(0.2)	(0)	(0)	(0)	(0.2)
1.2 Expand green spaces and mixed- use paths	(0)	(0)	(0)	(0)	(0)	(0)	0.3	0.1	(0)	(0)	(0)	0.2
1.3 Developing and distributing solar energy generation	(4)	(35)	(3)	(5)	(53)	2	(17)	(262)	(22)	(38)	(360)	13

c. Cost Effectiveness of GHG Reductions

The City of BG recognizes the importance of cost effectiveness for these measures. As such, cost effectiveness was a priority in determining which measures to deploy. The City of BG also wanted to take into account the impact these measures would have on sector transformation and community benefit. While the cost effectiveness of these GHG reducing measures are efficient, they also provide the greatest sector transformation and community benefits. With measure 1.1 and 1.1.1 the cost effectiveness may not be as high as measure 1.2 and 1.3 but the sector transformation of electrifying the public transit fleet provides a tremendous GHG reduction, community benefit and sector transition through an investment that could put the City of BG at the forefront of the national push for green transit.

Table 7: Cost effectiveness of GHG reduction measures, 2025-2030[2]

Strategy	Priority measures & sub-measures	Cost effectiveness of GHG emission reduction ($ per MTCO2e reduced)
Transportation Improvements	1.1 Electrify public transit	$40,882
	1.1.1 Expand public transit and improve routes	$0
	1.2 Expand green spaces and mixed-use paths	$56,569
	1.3 Developing and distributing solar energy generation	$382
TOTAL COST EFFECTIVENESS POTENTIAL		$1,169

d. Documentation of GHG Reduction Assumptions

Please refer to technical appendix (Techappx_Bowling Green, KY) for documented GHG reduction assumptions and methodologies

3. Environmental Results – Outputs, Outcomes, and Performance Measures

a. Expected Outputs and Outcomes

Measure 1.1: Electrify public transit fleet & Sub-measure 1.1.1: Expand public transit and improve routes

The goal outputs of Measure 1.1 are to:

a. Purchase 13 electric shuttle buses to replace the City's active ICE GoBG transit fleet;
b. Purchase 12 electric low floor transit buses to replace WKU's active ICE Topper Transit fleet;
c. Purchase one low floor electric trolley to replace WKU's existing ICE trolley;
d. Purchase one electric pickup truck to replace WKU's ICE truck; and
e. Purchase one electric ADA minivan to replace WKU's ICE ADA minivan

The purchase and operation of the above primary goal outputs will result in the following direct expense and employment secondary outputs:

a. Purchase 13 level 3 and four level 2 electric chargers for the City's fleet;
b. Purchase 13 level 3 and one level 2 electric chargers for WKU's fleet;
c. Purchase software to maintain chargers at both fleets;
d. Purchase upgraded transformer for both fleets;
e. Hiring two mechanical staff with EV experience, one for each fleet; and
f. Hiring a contractor to handle facility design and construction—including charging station installation, rerouting of conduit lines, concrete cutting, and transformer replacement/ upgrades

These actions are expected to result in the following outcomes:

[2] The cost effectiveness of these measures over the economic useful life of the equipment—or by 2050—are as follows: Measure 1.1: $13,627, Measure 1.1.1: $0, Measure 1.2: $14,142, Measure 1.3 $50, and Total: $154. These figures are in line with EIA standards for similar technologies.

a. A total annual GHG emission reduction (in $MTCO_2e$) equal to approximately 614 by 2030 and 1,931 for by 2050;
b. Co-pollutant emission reductions (in short tons) including 5 CO, 3 NOx, 0.1 $PM_{2.5}$, 0.2 PM_{10}, and 0.1 VOCs by 2030 and 60 CO, 18 NOx, 0.6 $PM_{2.5}$, 1 PM_{10}, and 2.6 VOCs by 2050;
c. A direct benefit to Low-Income and Disadvantaged Communities (LIDACs) through transportation improvements, improved public health, and reduced noise pollution; and
d. Indirect benefits to LIDACs through community resilience and workforce development

Measure 1.2: Expand green spaces and mixed-use paths

The goal output of Measure 1.2 is to expand green spaces through land acquisition, as well as develop multi-use paths to connect residents with important locations and services in their neighborhoods, such as schools, bus stops, grocery stores, and recreational activities. This measure encourages active transport and community connectivity by accommodating micro-mobility, such as walking and cycling, as a form of commute. Secondary outputs will include the direct expenses of construction materials and equipment to build the multi-use paths and the direct employment of contractors to perform the work.

These actions are expected to result in the following outcomes:

a. A total annual GHG emission reduction (in $MTCO_2e$) equal to approximately 162 by 2030 and 648 by 2050;
b. The expansion of green spaces and mixed-use paths will look to eliminate the potential of future co-pollutant but for reporting purposes the changes to co-pollutant emissions are negligible;
c. A direct benefit to LIDACs through transportation improvements, community beautification, and workforce development; and
d. Indirect benefits through community resilience and improved public health; and may result in a disbenefit of increased noise pollution.

Table 8: Plots already identified to be purchased

Plot Number	Acreage
039B-01-026B	66.68
039A-01-001	12
050C-23-023A	10.91
050A-24 (island)	56
050A-19 (island)	31
038A-67	57
039B-27-062 (island)	14
051B-19 (island)	9.56

Measure 1.3: Developing and distributing solar energy generation

The goal output of Measure 1.3 is to implement utility-scale solar energy across the City of BG's service area. It involves WRECC fitting 10 MW of solar PV panels on a plot of vacant land it intends to purchase. BGMU has agreed to partner with WRECC to draw some of the energy for their grid, with WRECC still being the owner. The solar power created will enhance the existing electrical grid's stability and resilience, fostering a broader, communal shift towards harnessing renewable energy sources within the City of BG.

The goal outputs of Measure 1.3 are to:

a. Purchase of vacant land; and
b. Purchase 10 MW of solar PV panels

Secondary outputs will include the direct expenses of construction materials and equipment for site preparation, to build and activate the solar array, and the direct employment of contractors to perform the work.

These actions are expected to result in the following outcomes:

a. A total annual GHG emission reduction (in $MTCO_2e$) equal to approximately 42,011 by 2030 and 323,034 by 2050;
b. Co-pollutant emission reductions (in short tons) including 4 CO, 35 NOx, 3 $PM_{2.5}$, 5 PM_{10}, and 53 SO_2 by 2030 and 17 CO, 262 NOx, 22 $PM_{2.5}$, 38 PM_{10}, and 360 SO_2 by 2050;
c. Direct benefits to LIDACs through affordable housing—including utility bills, community resilience, and workforce development; and
d. An indirect benefit through improved public health.

With the leveraging of federal funds via income tax credits for the public infrastructure projects as part of measures 1.1 and 1.3, the City of BG, sub-awardees, and contractors will source all goods and materials in alignment with the Build America, Buy America requirements of the Infrastructure Investment and Jobs Act (IIJA).

b. Performance Measures and Plan

To validate GHG year-over-year, the City of Bowling Green will track, measure, and report progress toward achieving the expected outputs and outcomes for each GHG and CAP reduction measure using the same data sources and methodology outlined in the PCAP (section 3.1) to quantify annually the emissions reductions to date.

The City of BG will submit semi-annual progress reports starting in Federal FY Q2 2025, with a second semi-annual progress report in Q4 2025 quantifying benefits to LIDAC communities, including changes to co-pollutant emissions. A detailed final report will be submitted to the EPA within 120 calendar days of the completion period of performance, expected to be September 30, 2030.

Semi-annual reports will include updates on the following metrics:

- GHG reduction measure(s) implemented;
- Outputs and outcomes achieved; and
- Costs incurred implementing GHG reduction measure(s) and other outputs

In addition to the above, the final report will also report on the following metrics:

- Cost effectiveness of GHG reduction measures;
- Co-pollutants reduced (in general and in LIDACs);
- Summary of community engagement; and
- Problems, successes, and lessons learned from the implementation of the GHG reduction measures (lessons will include strategies learned to overcome structural, organizational, or technical obstacles that could be implemented in a similar project elsewhere

The City of BG, through a subcontract agreement, will collect this info and analyze and report these findings.

Table 9: GHG emission reduction progress reporting timeline; goals and actual measured

		Annual GHG emission reductions (MTCO2e)				
Priority measures & sub-measures		2026	2027	2028	2029	2030
1.1 Electrify public transit fleet	Goal	0	152	303	455	606
	Actual					
1.1.1 Expand public transit and improve routes	Goal	0	2	4	6	8
	Actual					
1.2 Expand green spaces and mixed-use paths	Goal	0	41	81	122	162
	Actual					
1.3 Developing and distributing solar energy	Goal	0	10,503	21,006	31,508	42,011
	Actual					
TOTAL GOAL		0	10,697	21,394	32,091	42,787
TOTAL REPORTED						

c. Authorities, Implementation Timeline, and Milestones

The City of Bowling Green has the statutory authority to implement the investment programs as detailed in this PCAP. This statutory authority to implement has been determined by the Bowling Green Code of Ordinances KRS 82.082, Provision 2-1.03, which reads "that all bond issues, bond contracts, and contracts of any nature, and all laws which may be passed in the future shall be made by the City as a Home Rule Class city."[3] This ordinance provides the City of Bowling Green with the statutory authority to distribute CPRG funding to these programs.

Sub-awardees: Western Kentucky University (WKU) and Warren Rural Electric Cooperative (WRECC)

Contractors: Bowling Green Municipal Utilities (BGMU)

Table 10: Implementation – parties, roles, and responsibilities

Priority measure	Description	Estimated budget	Administrating authority	Sub-awardees	Contractors	Other entities
1.1	Electrify public transit fleet	$24.778m	City of Bowling Green	WKU	BGMU	
1.1.1	Expand public transit and improve routes	$0	City of Bowling Green			
1.2	Expand green spaces and mixed-use paths	$9.164m	City of Bowling Green			
1.3	Developing and distributing solar energy generation	$16.057m	City of Bowling Green	WRECC	BGMU	
	ESTIMATED TOTAL	$49,999,999m				

[3] Kentucky Legislature, Kentucky Statute KRS 82.082. *n.d.*

Table 11: Key milestones timeline

Priority measure	Description	Real property procurement	Quality assurance	Bid date	Procure-ment	Install-ation	1st Reporting date
1.1	Electrify public transit fleet	N/A	Reporting Semi-annually starting Q4 2025	N/A	Annually starting in October of 2025	October of 2025	October 2026
1.1.1	Expand public transit and improve routes	N/A	Reporting Semi-annually starting Q4 2025	N/A	N/A	October of 2025	October 2026
1.2	Expand green spaces and mixed-use paths	Immediately following dispersion of funding (~Oct 2024)	Reporting Semi-annually starting Q4 2025	N/A	Annually starting in October of 2024	N/A	October 2026
1.3	Developing and distributing solar energy generation	Immediately following dispersion of funding (~Oct 2024)	Reporting Semi-annually starting Q4 2025	N/A	October of 2025	October of 2026	October 2026

4. Low-Income and Disadvantaged Communities

a. Community Benefits

Low-Income and Disadvantaged Communities in the Bowling Green MSA

Located within the geographical boundaries of the City of BG, LIDACs are distributed across all four constituent counties. The BG MSA encompasses 39 census tracts, 22 of which are defined by CEJST as LIDAC regions. See Appendix A, Section E for the list of census tracts in the BG MSA.

Figure 1: BG MSA LIDACs by county[4]

LIDAC BG MSA census tracts
Other BG MSA census tracts

[4] This map identifies LIDAC Census Tracts according to the Council on Environmental Quality's CEJST tool. The CEJST tool provides the most in-depth analysis of the different categories of burden faced most by LIDACs in the BG MSA. The area identified in Figure 1 may differ slightly from that which is identified in *Figure 2*, which is a combination of EJScreen and CEJST shapefiles, and shows additional LIDAC census divisions but lacks data on categories of burden needed for further analysis. The demographics analyzed for both figures are consistent, and all LIDACs were still engaged throughout the analysis process.

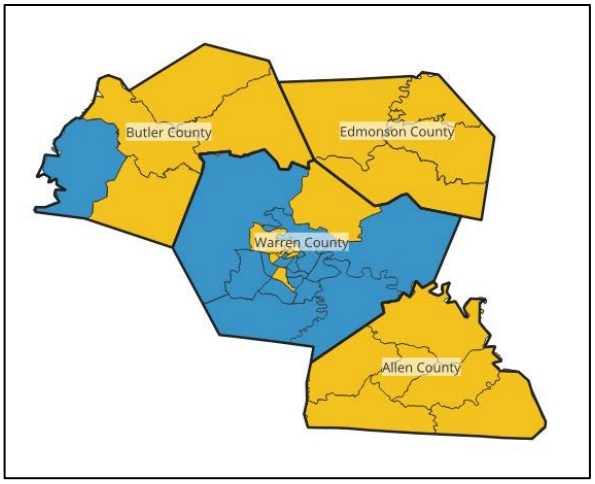


Table 12: LIDAC in the BG MSA

BG MSA County	Census tracts designated as LIDAC	Categories of burden	Additional County Information
Allen	6/6	Climate change, housing, health, and transportation	• 15.3% of the population is below the poverty line, [5] and all census tracts within the county are at least the 89th percentile with respect to vulnerabilities to population loss, including fatalities and injuries resulting from natural hazards. • Two census tracts, including the district encompassing Scottsville, are above the 90th percentile for heart disease and/or low life expectancy. • Two census tracts are above the 90th percentile for lacking indoor plumbing, and four lack affordable, safe, reliable, and efficient transportation opportunities for citizens. • 4 census tracts are at or over the 90th percentile for energy burden[6]
Butler	4/5	Legacy pollution and climate change	• 4 census tracts are at or over the 90th percentile for energy burden. • Despite I-165 and U.S. 231 running through the county, three of the four LIDAC census tracts experience transportation barriers. • Other issues include a persistent lack of plumbing in one census tract and rates of heart disease and low life expectancy above the 90th percentile.[7]
Edmonson	4/4	Legacy pollution	• Overall poverty rate of 15.8%.

[5] Barren River Area Development District, Allen County Overview. 2022
[6] Council on Environmental, Climate & Economic Justice Screening Tool. November 2022.
[7] Barren River Area Development District, Butler County Overview – BRADD Planning. 2022.

			• In two tracts, energy cost with respect to household income lies above the 90th percentile and transportation barriers also exist above the 90th percentile. • Rates of heart disease are above the 85th percentile in the county, with two tracts surpassing the 90th percentile threshold to be designated the health category of burden. • In the northeast corner of the county, unemployment is above the 95th percentile and 27% of the population aged 25 and older do not hold a high school diploma.[8]
Warren	8		• 3 census tracts are at or over the 90th percentile for energy burden. • Six of the seven clustered around the city center face generally higher rates of poverty, above the 90th percentile. Over 15% of people aged 25 or older in these census tracts do not hold a high school diploma. • Many LIDAC areas have poverty rates above the 90th percentile. Rates of asthma, diabetes, heart disease, and low life expectancy are all above the 90th percentile in some parts of the city. • Housing costs near the center of the city are above the 90th percentile, and other LIDAC designated regions of the county face transportation barriers as well.[9]

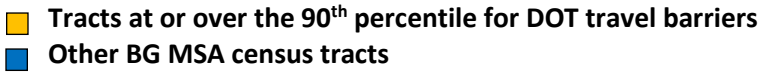
Benefits

The proposed measures for the BG MSA are intended to reduce GHGs and improve sustainability, infrastructure, and community health.

- The electrification of public transit fleets, expansion of public transit, improvement of traffic flow, and development of shared use paths enhance transport efficiency and air quality.
- Developing and distributing solar energy generation allows for cleaner, cost-efficient energy production.
- Developing green spaces has positive environmental and health impacts.

Potential benefits of measure 1.1 and measure 1.1.1: Transportation improvements
The first strategy measure for GHG reduction includes several transportation improvements, such as electrifying the public transit fleet, expanding public transit, and improving routes, expanding shared use paths, and improving traffic flow and efficiency.

Figure 2: BG MSA 2010 census tracts at or over the 90th percentile for DOT travel barriers



[8] Barren River Area Development District, Edmonson County Overview – BRADD Planning. 2022.
[9] Barren River Area Development District, Warren County Overview – BRADD Planning. 2022.

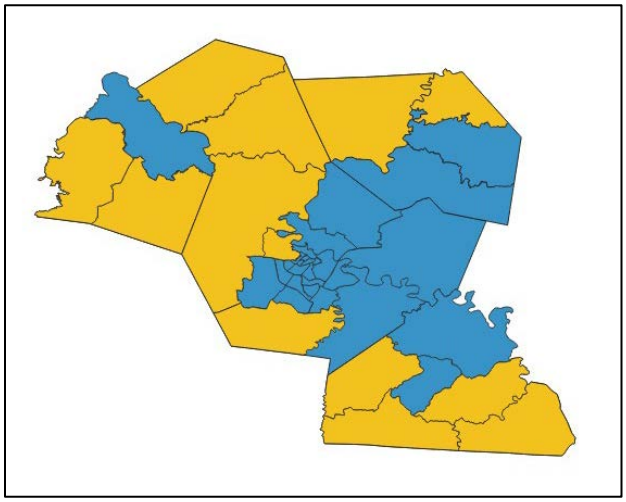


Table 13: Transportation Improvement Strategy

Measure	Benefits
Transportation Improvements	Electrification of the public transit fleet, expansion of public transit and improved routes directly enhance community mobility and accessibility.
Community Resilience	Measures reduce reliance on non-renewable energy sources and promote the use of efficient, eco-friendly transportation alternatives.
Community Beautification	The measure involving expanding shared use paths enhances community aesthetics by adding recreational infrastructures like bike paths and walking trails.
Improved Public Health	All measures indirectly contribute to improved public health by reducing carbon emissions, thereby improving air quality.
Workforce Development	These measures, especially expanding public transit and improving routes, as well as electrifying the public transit fleet, are likely to result in job creation, contributing to workforce development.
Reduced Noise Pollution	Electrification of the public transit fleet as well as the improvement of traffic flow and efficiency can contribute to reduced noise pollution, especially in inner-city and residential areas.

Potential benefits of measure 1.2: Expanded green spaces and mixed-use paths

The fifth strategy in the GHG reduction measures emphasizes land use enhancement, particularly by expanding green spaces within the community.

Table 14: Potential benefits of measure 1.2: Expanded green spaces and mixed-use paths

Measure	Benefits
Community Resilience	Green spaces provide natural landscapes that can absorb rainfall, reducing flood risks, and serve as natural 'carbon sinks,' which helps combat the impacts of climate change.
Community Beautification	The measure involving expanding shared use paths enhances community aesthetics by adding recreational infrastructures like bike paths and walking trails.
Improved Public Health	The expansion of green spaces supports outdoor activities that encourage physical wellbeing, improve mental health, and contribute to improved public health overall.

Workforce Development	The creation and ongoing maintenance of green spaces can lead to job creation opportunities, thus contributing to workforce development.

Potential benefits of measure 1.3: Renewable energy enhancement

The third GHG reduction strategy focuses on enhancing renewable energy via two initiatives: developing solar energy generation and upgrading electricity distribution. By modernizing the electrical infrastructure for improved efficiency and reduced power losses, this strategy aids in reducing emissions. Simultaneously, these measures contribute towards cost savings, increased housing affordability, and enhanced quality of life for the BG MSA community.

Table 15: Potential benefits of measure 1.3: Renewable energy enhancement

Measure	Benefits
Housing Affordability	Advanced distribution systems help reduce electricity losses, producing potential utility cost savings, which directly bolsters housing affordability.
Improved Public Health	Efficient electricity distribution reduces energy loss during transmission, which lessens the overall demand for energy generation. This decrease could lead to a reduction in emissions from fossil fuel-powered plants, improving air quality and public health.
Community Resilience	Infrastructure upgrades can enhance load management and fault isolation, relieving pressure on the power grid during extreme weather events. This supports community resilience and aligns with the shift to renewable energy sources, reducing reliance on traditional fossil fuel-powered energy.
Workforce Development	Upgrading electricity distribution requires skilled labor, creating an increased demand for trained professionals. This implies increased job creation and workforce development in the sector.

b. Community Engagement

LIDAC Priorities and Concerns

The BG MSA has incorporated input by LIDAC through surveying community members across the region. The BG MSA requested that community members share their priorities and concerns related to emissions reduction measures to ensure that the public had an opportunity to participate in the decision-making process. Specifically, to develop a preliminary list of GHG emissions reduction measures, the BG MSA developed a consolidated list of measures from EPA and other sources, and then filtered the list based on CPRG criteria, including emissions reduction potential, implementation, readiness, and LIDAC priority. Table 12 below indicates the results of the LIDAC respondents in order of highest to lowest priorities and concerns.

Table 163: Priorities and concerns of emissions reductions measures corresponding to LIDAC respondents of the public survey

Priority	Concern
Transportation improvements (e.g., bike lanes, walking paths, and transit options, electric vehicle charging)	Unequal impacts and effects in the community
Community resilience, or the ability to withstand extreme weather (e.g., water stations to address heat waves, and resilience hubs for people impacted by blackouts or flooding)	Less reliable energy

Community beautification (e.g., new or improved green spaces, urban trees, bike paths, or walking trails)	Workforce concerns, e.g., loss of established jobs or new skills
Improved public health resulting from decreased air pollution (e.g., capture and store carbon in the electricity sector, implement industry energy efficiency standards, decarbonize electricity generation)	Burdensome regulations
Workforce development/creation of new jobs (e.g., creating positions for renewable energy engineers and solar technicians; attracting talent through green practices)	Land use changes, e.g., areas repurposed for solar generation
Reduced noise pollution, including traffic (e.g., retain existing forests and grasslands to act as noise barriers, expansion of electric vehicle fleets)	Short-term disruptions due to road closures, construction, etc.

Recognizing concerns regarding increased living and utility costs, workforce disruptions, energy reliability, regulatory burdens, changes in land use, and short-term disruptions due to construction, the devised measures and strategies aim to mitigate these impacts. For instance, programs to divert organic waste from landfills and the improvement of stormwater infrastructure have minimal shocks to the community.

Table 17: Strategies to Recognize LIDAC Concerns

Priority	**Strategy**
Transportation improvements (e.g., bike lanes, walking paths, and transit options, electric vehicle charging)	The BG MSA will expand public transit, improve routes, and develop shared use paths. These strategies aim to reduce dependence on personal vehicles and provide more affordable, environmentally friendly transportation alternatives.
Community resilience, or the ability to withstand extreme weather (e.g., water stations to address heat waves, and resilience hubs for people impacted by blackouts or flooding) Improved public health resulting from decreased air pollution (e.g., capture and store carbon in the electricity sector, implement industry energy efficiency standards, decarbonize electricity generation)	The BG MSA will prioritize the development and distribution of solar energy generation. This strategy not only diminishes reliance on carbon-intensive energy sources but also yields improved air quality.
Community beautification (e.g., new or improved green spaces, urban trees, bike paths, or walking trails)	The BG MSA will expand green spaces and plant native trees and shrubs, making strides towards a more appealing urban environment.

Measure strategies and impact on LIDAC

Measure 1.1: Electrify Public Transit

The transportation sector in the BG MSA emits an estimated 22% of overall emissions. Measures under strategy 1 include electrifying the transportation fleet, expanding bus transit, and improving routes, expanding shared use paths, and improving traffic flow and efficiency.

Between all four counties, 11 census tracts are at or above the 90th percentile for possessing barriers to affordable, equitable, reliable, and safe transportation options for citizens, many of which do not have a major interstate or intercounty road channeling through them. Of these 11 census tracts, 10 are identified as LIDACs. Apart from Warren County and the city of Bowling Green, 25% or more of residents in every other county in the BG MSA work outside of their county of residence. As a result, transportation barriers

have a significant impact on the local and regional economy, not to mention the income status of LIDACs in these regions. Even within Bowling Green, transportation disparities disproportionately impact refugee immigrant populations who are reliant on simple, affordable, and reliable public transportation to reach work and receive necessary services.

BG MSA's initiatives are strategically aligned with CPRG's program goals and objectives. As stated in Section 1 of this application, BG MSA will gradually replace the current internal combustion engine (ICE)-powered public transportation fleet of the City of Bowling Green, as well as the ICE-powered public transportation utilized on the campus of Western Kentucky University ("WKU") with electric vehicles to reduce the GHG emissions from the transportation sector between 2026 to 2050. The BG MSA plans to electrify the entire WKU public transportation fleet culminating in 12 buses, 1 trolley, 1 ADA minivan, and 1 truck being electrified. The BG MSA's approach aims to reduce dependence on personal vehicles and provide more affordable, environmentally friendly alternatives to the community members of BG MSA.

Measure 1.1.1: Expand public transit and improve routes

Transportation barriers also impact access to healthcare. Studies by the National Institute of Health show that individuals who reside in nonurban communities, such as in Allen, Butler, and Edmonson Counties, face greater transportation barriers to healthcare access versus those in urban communities. This is often attributable to lack of access to a vehicle and/or longer travel times to see a physician or a specialist. Even in urban areas, a lack of public transit and transit education create transportation barriers, especially for populations who are obese or chronically ill, or have a disability. In Bowling Green, 15% of citizens are disabled, 11% of citizens are 65 years old or older, and 23.3% are below the city poverty line. These populations are more vulnerable to transportation barriers.

BG MSA and WKU's will improve public transit by expanding its reach to populations currently isolated from public transportation access and improving the efficiency of routes. This measure intends to increase the areas serviced by public transit. As public transit ridership improves, the amount of passenger cars on the road contributing to air pollution is reduced, resulting in potential air quality benefits over time. One key goal will be to establish a new bus line that will run from the Bowling Green city center to the local Cabinet for Heath and Family Services office to help vulnerable populations with necessary government programs.

Measure 1.2: Expand green spaces and mixed-use paths

Lack of access to green space is associated with the compounded risks of premature deaths related to extreme temperatures and Property damage related to inland flooding. The agriculture and land management sector in the BG MSA currently emits an estimated 8% of overall emissions. BG MSA will focus on expanding green spaces that enhance urban plant life with native vegetation, including planting local species of trees and low-lying shrubs that do not interfere with overhead power lines. This program will create additional space within the BG MSA to help sequester CO2 over time and offset CO2 created by development and construction. Additionally, the BG MSA will additionally develop multi-use paths to connect residents with their important locations and services in their neighborhoods, such as schools, bus stops, grocery stores, and recreational activities.

Measure 1.3: Developing and distributing solar energy generation

The electricity production and consumption sector in the BG MSA emits an estimated 36% of overall emissions. This strategy will promote renewable energy production and enhance energy efficiency within the BG MSA. This measure centers on implementing small-scale and community shared solar

energy across the BG MSA's residential and commercial areas. This strategy will allow for more cost-effective energy to be deployed to LIDAC households and communities.

5. JOB QUALITY

City of BG and its associated contracts and subcontracts will strive to achieve the highest job quality standards for CPRG implementation funds. One key priority for City of BG and its associates is developing key partnerships with trade schools to provide apprenticeship opportunities. With many of the measures deploying front of the market technology, like utility scale solar, City of BG wants to provide opportunities for trade school students to obtain hands on experience and knowledge to position City of BG for growth in the renewable energy jobs market. Achieving the highest quality job standard will be accomplished through partnership and sub-contract agreements that require compliance with these initiatives. The table below highlights City of BG's strategies to achieve high job quality standards.

Table 18: Job Quality Initiatives and Strategies

Job Quality Initiative	Strategy
Wages	City of BG will comply with all local laws relating to working conditions, such as working hours and minimum wages. Commitments to paying at least the median area income for all workers (where prevailing wage is not required by law). BG will minimize temporary workers and will classify workers properly under applicable laws.
Benefits	When applicable, City of BG will provide benefits including health insurance, a retirement plan, workers' compensation benefits, paid leave and caregiving supports.
Collective Bargaining Agreements	City of BG respects the right to collective bargaining and provides all employees with suitable opportunities for communication in terms of their working conditions.
Formal partnerships with labor organizations and other workers' rights groups	While the City of BG does not currently have any major labor organizations or unions, as Kentucky is a Right-to-Work state, if an organization were to arise City of BG will look to partner.
Use of Project Labor Agreements or Community Workforce Agreements on construction projects	Through sub-contract agreements and contracts City of BG will utilize project labor agreements and community workforce agreements to ensure compliance on construction projects.
Incorporating labor and job quality standards into procurement activities associated with the measure	City of BG will ensure compliance with labor and job quality standards through a standardized procurement process which will be required of sub-contractors as well.
Health and safety plans	City of BG will ensure a safe and accessible workplace through antiharassment training for workers and management, OSHA training to minimize workplace hazards (e.g., OSHA 10 and OSHA 30), and supplemental health and safety training as needed.
Recruitment and Hiring	The City of BG will commit to using qualified apprentices for a portion of the total labor hours). City of BG will incorporate second-chance hiring policies. City of BG prioritizes equal opportunity and will ensure a diverse workforce by setting

	benchmarks and goals to hire individuals from LIDAC communities.

6. PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE

a. Past Performance

Table 19: Past Performance

Project Title/ Assistance Agreement Number	Funding agency and listing number	Description of agreement	Contact from Organization	Overview of agreement
Housing Choice Voucher Program	14.871	City of Bowling Green Housing Division receive federal funds from HUD to administer the voucher program. City of BG is assisting very low-income families, the elderly, and the disabled to afford decent, safe and sanitary housing in the private market.	McNeil, Frank H frank.h.mcneil@hud.gov Portfolio Management Specialist U.S. Department of Housing and Urban Development Office of Public Housing -- Louisville Field Office 502-618-8135	The HCV program began in 1981. Currently, the program assists 750 families and has a funding of close to $4m. BG has been designated as a High Performing Agency for over 10 years and was named the Kentucky's Public Housing Agency of the Year by the Kentucky Housing Association with recommendation by HUD. The Voucher Management System (VMS) review was recently performed by HUD. This review included the financial and voucher utilization side of the program. While the official report is not published yet, BG was notified of an error percentage of 0.02% on financial and 0.17 on voucher utilization side.
Community Development Block Grant Entitlement Program *B-23-MC-21-0009*	14.218	These grant funds provide financial tools to support individuals, families, and communities to address homelessness, affordable	Heath Rico-Storey, PhD (he/him) CPD Representative US Dept of HUD, Louisville Field Office 601 West Broadway, Louisville, KY 40202 www.hud.gov/kentucky Phone: 502-618-8159 Mobile: 502-601-4539	The City previously was requested by HUD to participate in a national webinar to present on best practices for leveraging federal and local funding. The U.S. Department of Housing and Urban Development performs an Annual Community Assessment each year for the City of Bowling Green's CDBG Entitlement

		housing challenges, aging infrastructure, and economic hardships.	Email: anthony.h.rico-storey@hud.gov	Program. Each year HUD acknowledges the City's programmatic accomplishments during the program year and concludes the City has the capacity to carry out its CPD programs and meets its reporting requirements.
Brownfields Assessment and Cleanup Cooperative Agreements *00D59917*	66.818	Grant funds were awarded to conduct community-wide assessments at Brownfields sites potentially contaminated with hazardous substances and/or petroleum products.	Derek Street 61 Forsyth Street Atlanta, GA 30303-8960 Email:Street.Derek@epa.gov Phone: 404-562-4300	The project successfully completed 10 Phase I Environmental Site Assessment, three (3) Phase II Environmental Site Assessments, and a Brownfield Redevelopment Strategy fostering the redevelopment of distressed properties in disadvantaged areas of Bowling Green.
Section 5307 Urbanized Area KY-2023-015-00	20.507	Grant funds are used to provide fixed-route public transit and door-to-door paratransit service.	Emmanuel Ramos General Engineer, P.E. Federal Transit Administration, Region IV Office of Operations & Program Management Phone: 404-865-5627 Emmanuel.Ramos@dot.gov	The Federal Transit Administration completes a Triennial Review every three years for the City of Bowling Green public transit program. Upon completion of the last triennial review, no deficiencies were found with the FTA requirements in 17 areas and the City had no repeat deficiencies from the prior Triennial Review.

b. Reporting Requirements

For each of the assistance agreements listed above City of BG has maintained a history of meeting the reporting requirements of the listed agreements. City of BG will invest program capacity in performing program evidence and evaluation activities and details a plan to publish data, evidence, and evaluation reports publicly during the program lifetime.

The City of Bowling Green receives an Annual Community Assessment (ACA) from the U.S. Department of Housing and Urban Development (HUD) for the City's Community Development Block Grant Entitlement Program. The ACA is based upon a Consolidated Annual Performance Evaluation Report (CAPER) submitted each year by the City to HUD. Each year the CAPER is found by HUD to be acceptable and is marked as reviewed and approved in HUD's Integrated Disbursement and Information System (IDIS).

c. Staff Expertise

The City of BG has the adequate environmental and grant management experience necessary to carry out, track, and report on the measures included in this application. Primary vectors of experience include Matt Powell, the City of Bowling Green's Environmental Director; and Nick Cook, the City of Bowling Green's Grant Manager.

Mr. Powell is a graduate of Western Kentucky University. He began his career with the Kentucky Division of Water and joined the City of Bowling Green in 2007. He directs the city's efforts in environmental compliance and regulation concentrating on Municipal Separate Storm Sewer System program development, implementation, and enforcement. Mr. Powell is the Landfill Manager/Landfarm Operator for the city, teaches the Erosion Prevention and Sediment Control Certification Course, directs the city's efforts in disaster recovery funding, works with community leaders on climate planning, and leads efforts in karst geo-hazard identification and abatement. He has served as the Kentucky representative to the International Erosion Control Association and is a founder of the Kentucky Stormwater Association.

Mr. Cook possesses nearly 20 years of grant management experience. Mr. Cook possesses several certifications including, but not limited to, Kentucky Community Development Block Grant Administrator from the Kentucky Department for Local Government and Economic Development Finance Professional from Grow America (formerly National Development Council). Mr. Cook's expertise comes from managing grants from numerous Federal, state, local, and non-profit agencies. At the Federal level, Mr. Cook has administered grants from the U.S. Department of Housing Urban and Development, U.S. Department of Environmental Protection, U.S. Department of Energy, U.S. Department of Homeland Security, U.S. Department of Transportation, and U.S. Department of Agriculture.

In addition to the millions of dollars in competitive grant funds received on an annual basis, the City of Bowling Green receives in excess of $6 million in formula funding each year from the Federal Transit Administration (FTA), U.S. Department of Housing and Urban Development (HUD) and U.S. Department of Justice (DOJ) for 5307 Small Urbanized Area Public Transit grants, Community Development Block Grants (CDBG), Section 8 Housing Choice Vouchers and more. City staff have effectively managed civil rights compliance with FTA, HUD, DOJ, the United States Department of Agriculture (USDA), the Environmental Protection Agency, and the Federal Highway Administration (FHWA) via the Kentucky Transportation Cabinet (KYTC). Through administering programs from agencies such as HUD, FTA and FHWA, the city has extensive experience with Federal requirements such as the National Environmental Policy Act (NEPA), Davis/Bacon Act, ADA regulations, Civil Rights requirements, Federal Motor Vehicle Safety Standards (FMVSS), and Federal Motor Carrier Safety Regulations (FMCSR).

7. BUDGET

Please refer to Budget_Bowling Green, KY for budget justification information

i. Personnel

The city of Bowling Green will leverage 3 full time employees for the grant administration, program compliance and technical assistance for all 3 measures. These 3 FTE include a project coordinator, a program director, and a grant administrator, with salaries of $32,136, $87,337, and $89,339 respectively. These salaries will be covered over the life of the project totaling roughly $1 million in total direct costs. The City of Bowling Green will also be covering the direct costs for 2 full time master technicians at a salary of $47,739 each.

ii. Fringe Benefits

For the City of Bowling Green the total fringe benefits for all 5 FTE will be $736,125.

iii. *Travel*

N/A

iv. *Equipment*

- Development of EV Charging infrastructure for Public Transit: $798,250
  - The purchase of 13 level 3 fast charging stations and 4 level 2 charging stations to be deployed at a central transportation hub. As well as necessary grid upgrades and installation costs to be contracted out to Bowling Green Municipal Utility.
- The purchase of 13 public transit vans: $5,356,000
  - At an average cost of $412,000 for an EV public transit van and leveraging the federal tax credit 45w BG MSA will purchase 13 public transit vans that comply with all 45w requirements[10].
- Land acquisition for Green Space and Mixed-Use paths: $8,603,757
  - This funding will be used for the initial purchase of 257 acres of non-useable flood plain land around the BG MSA, as well as the expansion of mixed-use paths, green rooftops, and other identified green and mixed use initiatives.
  - This funding is to support measure 1.2, as approved in PCAP measures 1.3 and 5.1, land acquisition costs are being included within the budget request.

v. *Supplies - $0*

vi. *Contractual - $1,045,000*

BG MSA will look to have BGMU complete the necessary electrical grid upgrades and installation of the public infrastructure (i.e. charging stations for public transit electrification). The total budget request for these efforts is $1,045,000.

vii. *Other*

- Subcontract – Western Kentucky University Fleet Electrification - $16,574,760
  - Please refer to the budget attachment for further information
- Subcontract - Warren Rural Electric Co-op - $15,497,040
  - Please refer to the budget attachment for further information

viii. *Indirect Charges – 0*

Total Project Costs: $49,999,999

Expenditure of Awarded Funds

BG MSA Commits to reducing waste, fraud, and abuse by providing exhaustive plans and policies for program oversight, including confidential reporting (e.g., whistleblower protections) and managing conflicts of interest. Throughout the life of the program BG MSA will maintain internal control of the CPRG funds through standardized participation contracts obligated by the subcontractor to sign and will be continually audited and spot-checked throughout the program. BG MSA will ensure the reduction of waste with CPRG funds by looking for efficient fund deployment and partnering with other federal programs, this goes down to local installers installing machinery in a timely and efficient manner, with sub-contractors deploying funds efficiently and targeted. BG MSA will mitigate abuse from contractors through contractual agreement. BG MSA will comply with the requirements in 2 CFR § 200.303 and 2 CFR § 200.332(b) and (d) to provide subawards to eligible subrecipients.

Reasonableness of Costs

[10] Public Power. https://www.publicpower.org/periodical/article/electric-buses-mass-transit-seen-cost-effective#:~:text=An%20average%20diesel%20transit%20bus,bus%2C%20according%20to%20the%20report. Peter Maloney. 2019.

Measures 1.1 and 1.1.1 – Electrify public transit and improve public transit routes
The costs associated with these measures are reflected in the equipment purchase of 13 electric transit buses and 8 EV bus charging stations for BG MSA. This is also inclusive of the cost for BGMU to provide necessary grid infrastructure and site upgrades for the charging station to be built for the EV bus charging hub. This measure also includes the sub-contract with WKU for the electrification of their entire public transit fleet which can be substantiated in appendix A.

Measure 1.2 – Expanded green spaces and mixed-use paths
The costs associated with this measure are detailed in the equipment purchase of $11 million for land acquisition and installation of mixed use paths. These costs have been arrived at by reviewing land acquisition costs of unusable flood plains and recently completed mixed-use path projects in and around BG MSA.

Measure 1.3 – Developing and distributing solar energy generation
The costs associated with this measure are detailed in the land acquisition for the solar facility and the subcontract with WRECC, these costs are in line with industry average and are substantiated in appendix B.