

COVER PAGE

1. Project Title

Enhanced Air Quality Monitoring in Stamford's South End and West Side Neighborhoods

2. Applicant Information

City of Stamford
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Stamford, CT 06901

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3. Set-Aside

No set-aside

4. Brief Description of Applicant Organization

The City of Stamford is a unit of local government in Connecticut. Stamford seeks to promote wellness, prevent disease, and proactively protect the health and safety of its residents.

5. Project Partners

South End Neighborhood Revitalization Zone
– Terry Adams

Boys & Girls Club of Stamford – Rowena
Track

West Side Neighborhood Revitalization Zone –
Jeff Stella

Stamford Senior Center – Christina Crain

People Friendly Stamford – Chris Dawson

Stamford Health – Laura Jordan

Charter Oak Communities – Vin Tufo

Stamford Department of Health – Jody Bishop-
Pullan

Family Centers – Robert Arnold

Connecticut Department of Energy and

Domus – Michael Duggan

Environmental Protection – Tracy Babbidge

6. Project Location

The South End (Census Tract 222) and West Side (Census Tracts 214 and 215) neighborhoods of Stamford, CT.

7. Air Pollutant Scope

Nitrogen dioxide (NO₂), particulate matter (PM_{2.5}), and ozone (O₃)

8. Budget Summary

EPA Funding Requested	Total Project Cost
\$68,755	\$68,755

9. Project Period

November 1, 2022 to October 31, 2025

10. Short Project Description

Working with residents, the City of Stamford has developed plans for a comprehensive air quality monitoring program, focused on nitrogen dioxide (NO₂), particulate matter (PM_{2.5}), and ozone (O₃). Air quality monitoring will benefit historically marginalized residents in Stamford's South End and West Side neighborhoods with a goals of: (1) building the capacity to measure air pollution in real-time, (2) providing data to support strategies that mitigate air pollution, and (3) improving local health outcomes. Key outputs include the community meetings, the installation of air quality monitors, and the development of a public web site; outcomes include increasing resident awareness, affecting behavior change, and reducing health disparities.

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I. Project Summary and Approach

A. Overall Project – Stamford is a mid-sized community (population 135,470) situated on the north shore of the Long Island Sound, approximately 35 miles from New York City. It is the economic engine of Southwestern Connecticut and the state’s only locality that has seen significant growth over the past 20 years. This majority-minority municipality (50.7% non-White) includes a thriving downtown as well as the intermodal Stamford Transportation Center, the most highly utilized rail station between New York City and Boston. Key business sectors include retail, hospitality and food services, health care, telecommunications, information technology, financial services, transportation, and education.

Stamford’s South End (Census Tract 222), immediately south of downtown, has emerged as a dynamic neighborhood with new, high-density residential development and related commercial uses. Census Tract 222 is 57.7% minority, with concentrations of Black/African American (16.6%) and Hispanic (36.4%) persons. According to the U.S. Census Bureau, poverty in Census Tract 222 is 13.3%, which is almost 35% more the state rate. Approximately 35.4% of residents are foreign-born and a language other than English is spoken in 44.6% of homes. Exactly 14.5% of residents do not have a high school degree. The estimated population of Census Tract 222 is 6,568 people.

Stamford’s West Side experiences significant economic distress. Consisting primarily of Census Tracts 214 (an Opportunity Zone) and 215 (an Area of Persistent Poverty), the West Side comprises approximately one square mile. The West Side neighborhood suffers from poor quality housing stock, aging infrastructure, income inequality, and extended unemployment. This environmental justice area includes a substantial minority (83.6%) population. The West Side is strongly Hispanic (51.0%) and Black/African American (28.2%). Exactly 46.4% of residents are foreign-born and a language other than English is spoken in 60.3% of homes. The U.S. Census Bureau reports poverty rates of 15.4% in Census Tract 214 and 18.1% in Census Tract 215, compared to 9.2% in Stamford, 9.9% throughout Connecticut, and 13.4% across the United States. The household median incomes in Census Tracts 214 and 215 are \$46,566 and \$43,357, respectively. Nearly half of area residents (49.5%) do not have a high school degree. The estimated population of Census Tracts 214 and 215 is 13,728 people.

People are the product of their environment. Historically, toxic industries and traffic pollution have disproportionately impacted Stamford’s South End and West Side. Poor air quality is a systemic issue that people of color face. There is a strong link in the South End and West Side neighborhoods between poverty and chronic disease, deteriorating residents’ quality of life. These areas exhibit some of the worst asthma rates in the community (108.5-142.5 documented asthma cases per 10,000 people based on hospitalizations and emergency room visits).

Degraded air quality affects the health and life expectancy of residents. According to a 2019 *Community Health Needs Assessment*, chronic heart and lung disease are prevalent in Stamford. Heart disease is rated as the second top cause of death in the city. Health disparities are also concentrated in economically-distressed areas. While the life expectancy of North Stamford is 86.1, the life expectancy of residents living in the South End and West Side neighborhoods is 78.1 – a difference of 8 years.

Working with residents, the City of Stamford has developed plans for a comprehensive air quality monitoring program, focused on NO₂, PM_{2.5}, and O₃. Air quality monitoring will benefit historically marginalized communities in Stamford, meeting the Justice40 Initiative’s definition of disadvantaged neighborhoods experiencing low incomes, persistent poverty, racial segregation, and substandard housing. The project is designed to improve local health outcomes. The City of Stamford will partner with neighborhood associations, non-profits, and other stakeholders to gather input, share results, and develop

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mitigation strategies. The goal of the initiative is to build the capacity of residents to measure air pollutants in real-time. Commercially-available technologies will be deployed across areas with disproportionate asthma rates and other health disparities. A web site will also be developed to share air quality data.

Specifically, the City of Stamford seeks to:

- Organize an Air Quality Monitoring Working Group – A working group composed of neighborhood association representatives, community leaders, and other key stakeholders will be formed to steer the project. Working group members will be diverse in age (youth and senior), ethnicity, and background to ensure that the team reflects the demographics of Stamford. They will provide input on neighborhood outreach, monitor locations, web site design, and other project deliverables.
- Conduct Community Meetings – The City of Stamford will host a series of three (3) community meetings to roll out its air quality monitoring program, including virtual sessions as needed. Local outreach activities will target residents of the South End and West Side neighborhoods, particularly sensitive populations. The purpose of this engagement is to share information, collect feedback, and describe next steps. Input will also be gathered on the placement of air quality monitors and access to real-time data. Personnel from the hospital (Stamford Health), Stamford Department of Health, and Connecticut Department of Energy and Environmental Protection will be available to share information on the health impacts of poor air quality. Meetings will occur after work hours, be centrally located, and provide child-care to maximize participation.
- Install Air Quality Monitors – Utilizing asthma concentration maps, three (3) air quality monitors will be installed on community centers, schools, fire stations, libraries, and other key locations across the South End and West Side neighborhoods. The City of Stamford is interested in deploying Aeroqual AQY-R or comparable equipment, which will measure NO₂, PM_{2.5}, and O₃. These air pollutants contribute to asthma, chronic heart/lung disease, and other health disparities in the impacted areas. The AQY-R uses MOMA (or “MOment MAtching”) virtual network calibration to achieve accurate air pollutant measurement. A sophisticated algorithm will compare data from all AQY-Rs in the network (as well as the nearest EPA-approved reference station) to detect and correct for sensor drift. The unit can be mounted to walls, poles, or railings. Data is transmitted to cloud servers every minute, ensuring that air quality information is truly available in real-time. On-board storage will guarantee that no data ever gets lost. At each sensor, a write-up will be posted with a brief description of what the equipment is doing. A QR code will also be featured at the monitor locations where people can register to receive access to the data.
- Develop an Air Quality Monitoring Web Site – A third-party provider will be contracted to develop a publicly-facing web site. The web site will present South End and West Side residents with real-time air quality information through a user-friendly dashboard. This online tool will educate community members how to make lifestyle decisions based on their local air quality, helping people determine when it is safe for outdoor activities. SMS text messages will also provide users with Air Quality Index (AQI) alerts.
- Outreach and Promotion – The City of Stamford will conduct robust marketing efforts to promote the availability of local air quality information. Outreach will include flyers, presentations, articles, videos, social media, and other communication tools. Community-based organizations such as West Side Neighborhood Revitalization Zone, South End Neighborhood Revitalization Zone, People Friendly Stamford, Charter Oak Communities, Family Centers, Domus, Boys & Girls Club of Stamford, and Stamford Senior Center will support efforts to reach minority and low-income populations. All materials will be translated into Spanish.
- Measure Project Results – The project team will develop metrics to ensure that the project achieves

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planned outputs and outcomes. A dedicated project manager will be appointed to certify on-time, on-budget delivery of project results. All air quality data will be tracked, measured, and reported to the U.S. Environmental Protection Agency (EPA) through quarterly reports and other communications. A final report will also be prepared and made available to the public.

B. Project Significance – Stamford’s South End and West Side neighborhoods have historically been economically challenged. The South End was the waterfront home of the community’s former manufacturing base and once contained many contaminated brownfields (since cleaned up with EPA Brownfields funding). The West Side neighborhood still struggles, with major transportation corridors (I-95, U.S. 1, West Broad Street) bisecting the area. Traffic congestion in these areas contributes to asthma-inducing vehicle emissions. NO₂ reacts with other chemicals in the air to form both particulate matter and ozone. Both of these are harmful to residents when inhaled due to their effects on the respiratory system.

The proposed project has been developed to address the health needs and concerns of South End and West Side residents. These neighborhoods show the highest incidence rates of asthma across all of Stamford – 108.5-142.5 documented asthma cases per 10,000 people based on hospitalizations and emergency room visits, compared to a low of 15.1 asthma cases per 10,000 in North Stamford. The areas also experience high rates of chronic heart/lung disease and have a low life expectancy (78.1 years compared to 86.1 in North Stamford). In early 2022, the City of Stamford launched an air quality monitoring pilot program in response to the anxieties of affected populations. Ten (10) low-cost PurpleAir monitors were deployed across the community to measure PM_{2.5} pollution. The installation of three (3) highly-sensitive AQY-R or comparable air quality monitors, measuring NO₂, PM_{2.5}, and O₃ in the South End and West Side neighborhoods, will build upon Stamford’s capabilities.

Vigorous air quality monitoring in the South End and West Side neighborhoods, supported by both the City of Stamford and community members, will provide both residents and policymakers with the tools necessary to improve health outcomes. A publicly-facing web site will be developed to share real-time air quality data. With this information, residents with health disparities will be able avoid outdoor activities on days when the AQI is poor. Local and state elected leaders will also have data necessary to make informed policy decisions that can mitigate air pollution. Already, the City of Stamford is investing in strategies such as Complete Streets and transit-oriented development that can encourage walking/biking and minimize vehicle trips and emissions. Air quality monitoring that identifies NO₂, PM_{2.5}, and O₃ hot spots can help decision makers target future pollution reduction efforts.

The overall goal of the project is to improve health outcomes in the South End and West Side neighborhoods. Exposure to outdoor pollutants can induce asthma symptoms and decrease lung function. Better air quality will lead to reduced asthma hospitalizations and emergency room visits, fewer new cases of asthma, less prevalence of chronic heart/lung disease, diminished risk of mental health disorders and impaired cognitive development, and decreased rate of premature deaths.

The specific audience served by the project includes the South End and West Side neighborhoods, with a population of more than 20,000 residents. These diverse areas (57.7% and 83.6% minority, respectively) include high concentrations of children under 18 (26.8% in Census Tract 214, 28.4% in Census Tract 215, and 15.1% in Census Tract 222, among the highest rates in all of Stamford), seniors (60 years and above: 17.4% in Census Tract 214, 12.2% in Census Tract 215, and 7.7% in Census Tract 222), and disabled residents (13.0% in Census Tract 214, 6.7% in Census Tract 215, and 9.0% in Census Tract 222).

II. Community Involvement

A. Community Partnerships – Partners have been chosen because their clients/constituents include

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sensitive populations in Stamford’s target areas. The missions of the following organizations align with reducing air pollution and improving health outcomes in the South End and West Side neighborhoods:

Partner Name	Organization Description	Project Roles & Commitments
South End Neighborhood Revitalization Zone	Neighborhood association	Working group member; host for community workshops; outreach to affected residents; and input on monitoring locations, web site design, and other project deliverables.
West Side Neighborhood Revitalization Zone	Neighborhood association	Working group member; host for community workshops; outreach to affected residents; and input on monitoring locations, web site design, and other project deliverables.
People Friendly Stamford	Bike/pedestrian advocacy organization	Working group member; outreach to affected residents; input on monitoring locations, web site design, and other project deliverables; and support for strategies that reduce emissions in pollution hot spots.
Charter Oak Communities	Public housing authority	Working group member; outreach to affected residents, particularly residents within affordable housing; and input on monitoring locations, web site design, and other project deliverables.
Family Centers	Social services agency	Working group member; outreach to affected residents, particularly families with children; and input on monitoring locations, web site design, and other project deliverables.
Domus	Youth services provider	Working group member; outreach to affected residents, particularly families with children; and input on monitoring locations, web site design, and other project deliverables.
Boys & Girls Club of Stamford	Youth services provider	Working group member; outreach to affected residents, particularly families with children; and input on monitoring locations, web site design, and other project deliverables.
Stamford Senior Center	Senior services provider	Working group member; outreach to affected residents, particularly seniors; and input on monitoring locations, web site design, and other project deliverables.
Stamford Health	Hospital	Working group member; and participant at community workshops, sharing air quality/health information.
Stamford Department of Health	Local health agency	Working group member; and participant at community workshops, sharing air quality/health information.
Connecticut Department of Energy and Environmental Protection	State environmental agency	Participant at community workshops, sharing air quality/health information.

In 2022, the City of Stamford contracted with the Wilbur Technical Services, LLC, a recognized authority in the air monitoring industry, to launch a pilot program with ten (10) low-cost PurpleAir monitors. Wilbur Technical Services, LLC, will be engaged to support the roll out of Aeroqual AQY-R or comparable equipment in the community. JustAir, which helps cities bring greater transparency into the disparities of air quality, will also be secured to develop a publicly-facing web site and a system providing proactive SMS text alerts. In addition, the City of Stamford will partner with local community centers, schools, fire stations, libraries, and other key locations for the placement of air quality monitors.

B. Community Engagement – Project partners and Stamford’s residents at large will be involved in the design, planning, and performance of proposed monitoring efforts. Community engagement will include:

- Air Quality Monitoring Working Group – The working group will include representatives of West Side Neighborhood Revitalization Zone, South End Neighborhood Revitalization Zone, People Friendly Stamford, Charter Oak Communities, Family Centers, Domus, Boys & Girls Club of

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Stamford, Stamford Senior Center, Stamford Health, and Stamford Department of Health. Working group members will be responsible for sharing the perspectives of their various constituencies. This project team will provide input on neighborhood outreach efforts, locations of air quality monitors, web site design, and other project deliverables.

- **Community Meetings** – A series of three (3) community meetings will launch the air quality monitoring program. The purpose of this engagement is to share information, collect feedback, and describe next steps. Input will also be gathered on the placement of air quality monitors and access to real-time data. Personnel from the hospital (Stamford Health), Stamford Department of Health, and Connecticut Department of Energy and Environmental Protection will be available to share information on the health impacts of poor air quality. Meetings will occur after work hours, be centrally located, and provide child-care to maximize participation.
- **Air Quality Monitoring Web Site** – A publicly-facing web site will be developed to present South End and West Side residents with real-time air quality information through a user-friendly dashboard. This online tool will educate community members how to make lifestyle decisions based on their local air quality, helping people determine when it is safe for outdoor activities. SMS text messages will also provide users with AQI alerts.
- **Outreach and Promotion** – The City of Stamford will conduct robust marketing efforts to promote the availability of local air quality information. Outreach tools will include articles, flyers, presentations, video, social media, and a dedicated web page. Community-based organizations such as the West Side Neighborhood Revitalization Zone, South End Neighborhood Revitalization Zone, People Friendly Stamford, Charter Oak Communities, Family Centers, Domus, Boys & Girls Club of Stamford, and Stamford Senior Center will support efforts to reach BIPOC populations. All materials will be translated into Spanish and other appropriate languages.
- **Final Report** – A final report will be prepared to share project results with the community.

III. Environmental Justice and Underserved Communities

South End – New development in Stamford’s South End (Census Tract 222) has raised the neighborhood’s economic profile. However, this majority-minority area (57.7% non-White) still experiences distress. According to the U.S. Census Bureau, poverty in Census Tract 222 is 13.3%, which is almost 35% more the state rate. A significant portion of South End residents are foreign-born (35.4%), a language other than English is spoken in 44.6% of homes, and 9.2% of households rely upon Food Stamp benefits. The following chart provides a demographic profile of the South End:

	Census Tract 222	Stamford	Connecticut	United States
Minority	57.7%	50.7%	33.1%	39.3%
No High School Degree	14.5%	10.8%	9.4%	12.0%
Median Household Income	\$91,996	\$93,059	\$78,444	\$62,843
Poverty	13.3%	9.2%	9.9%	13.4%
Unemployment	5.5%	4.6%	4.0%	3.4%
Age Under 18	15.1%	20.5%	20.8%	22.6%
Age 60 and Over	7.7%	20.4%	23.6%	21.8%
Disabled	9.0%	8.2%	11.2%	12.6%

According to the EPA’s EJSCREEN tool, the South End ranges between the 87th and 96th percentiles for Connecticut environmental indicators, and between the 76th and 95th percentiles nationally, for airborne pollutants and health risks. See results below:

Environmental Indicator	Percentile in Connecticut	Percentile in United States
PM _{2.5}	88	78

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Ozone	87	81
Diesel PM	90	81
Air Toxics Cancer Risk	88	80
Air Toxics Respiratory Hazard	87	76
Traffic Proximity and Volume	96	95

West Side – The West Side neighborhood lies within Census Tracts 214 (an Opportunity Zone) and 215 (an Area of Persistent Poverty). The majority-minority area (83.6% non-White) includes a mix of residential, commercial, and industrial properties. Median household incomes (\$46,566 in Census Tract 214 and \$43,357 in Census Tract 215) in this high cost-of-living area are approximately 30% less than national levels. Poverty is also higher (15.4% in Census Tract 214 and 18.1% in Census Tract 215) than the national rate (13.4%). The West Side includes significant Guatemalan (16.7%), Haitian (11.8%), Ecuadorian (9.4%), Peruvian (6.1%), and Columbian (3.4%) populations. EPA investment will provide direct benefits to minority and low-income residents as demonstrated in the chart below:

	Census Tract 214	Census Tract 215	Stamford	Connecticut	United States
Minority	78.5%	89.3%	50.7%	33.1%	39.3%
No High School Degree	14.0%	27.9%	10.8%	9.4%	12.0%
Median Household Income	\$46,566	\$43,357	\$93,059	\$78,444	\$62,843
Poverty	15.4%	18.1%	9.2%	9.9%	13.4%
Unemployment	8.0%	6.3%	4.6%	4.0%	3.4%
Age Under 18	26.8%	28.4%	20.5%	20.8%	22.6%
Age 60 and Over	17.4%	12.2%	20.4%	23.6%	21.8%
Disabled	13.0%	6.7%	8.2%	11.2%	12.6%

According to the EPA’s EJSCREEN tool, the West Side area ranges between the 94th and 98th percentiles for Connecticut environmental indicators, and between the 84th and 97th percentiles nationally, for airborne pollutants and health risks. See results below:

Environmental Indicator	Percentile in Connecticut	Percentile in United States
PM _{2.5}	95	86
Ozone	94	90
Diesel PM	97	88
Air Toxics Cancer Risk	95	85
Air Toxics Respiratory Hazard	95	84
Traffic Proximity and Volume	98	97

Stamford’s South End and West Side neighborhoods experience greater health disparities due to their closer proximity and exposure to environmental hazards. The area’s demographic profile also contributes to its greater susceptibility to the adverse effects of air pollution, including genetic predisposition, chronic medical conditions, lack of health care access, and poor nutrition. COVID-19 has further eroded quality of life in the South End and West Side neighborhoods, affecting BIPOC populations more acutely.

Proposed air quality monitoring in the South End and West Side neighborhoods will promote equity and benefit underserved populations. The project will address disproportionate health outcomes from pollution in these areas, including high asthma rates and low life expectancy. Asthma rates in the target areas are the worst in the community (108.5-142.5 documented asthma cases per 10,000 people based on hospitalizations and emergency room visits). Chronic heart and lung disease are also prevalent in Stamford

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according to a 2019 *Community Health Needs Assessment*. Heart disease is rated as the second top cause of death in the city. Finally, the life expectancy of residents living in the South End and West Side neighborhoods is also low – 78.1 versus 86.1 in North Stamford, a difference of 8 years.

Stamford’s project meets the goals of the Biden Administration’s Executive Order on *Advancing Racial Equity and Support for Underserved Communities through the Federal Government*, as well as the Justice40 Initiative. With EPA support, Stamford seeks to focus local efforts on reducing pollution and minimizing adverse impacts in the South End and West Side neighborhoods.

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

A. Expected Project Outputs and Outcomes – EPA resources will enable Stamford to conduct robust air quality monitoring in the South End and West Side neighborhoods. Three (3) air quality monitors will be installed on community centers, schools, fire stations, libraries, and other key locations to measure NO₂, PM_{2.5}, and O₃. A web site will be developed to present residents with real-time air quality information through a user-friendly dashboard. Outreach and promotional efforts will raise awareness in Stamford of air quality challenges and present opportunities for community members to change behaviors. Long-term, air quality monitoring will present decision makers with tools necessary to adopt policy changes that can reduce pollution and improve health outcomes. Expected outputs and outcomes include:

Task	Outputs	Outcomes
Organize an Air Quality Monitoring Working Group	<ul style="list-style-type: none"> 10-person working group Bimonthly meetings Development of project game plan 	<p><i>Short-term – Knowledge</i></p> <ul style="list-style-type: none"> Increased awareness of community air quality challenges <p><i>Real-time access to NO₂, PM_{2.5}, and O₃ air quality data</i></p> <ul style="list-style-type: none"> Education on the impacts of air quality on health <p><i>Intermediate – Behavior Changes</i></p> <ul style="list-style-type: none"> Improved understanding of when to avoid outdoor activities during poor AQI days Local/state policy actions that mitigate air pollution hot spots <p><i>Long-term – Less Pollution and Better Health Outcomes</i></p> <ul style="list-style-type: none"> Lower NO₂, PM_{2.5}, and O₃ emissions Reduced asthma hospitalizations and emergency room visits Fewer new cases of asthma Less prevalence of chronic heart/lung disease Diminished risk of mental health disorders and impaired cognitive development Decreased rate of premature deaths
Conduct Community Meetings	<ul style="list-style-type: none"> Development of meeting materials and presentation Three (3) community meetings 	
Install Air Quality Monitors	<ul style="list-style-type: none"> Deployment of three (3) air quality monitors in South End and West Side neighborhoods Collection of NO₂, PM_{2.5}, and O₃ air quality data 	
Develop an Air Quality Monitoring Web Site	<ul style="list-style-type: none"> Development of public web site Launch of AQI text alerts Real-time dissemination of air quality data to residents 	
Outreach and Promotion	<ul style="list-style-type: none"> Development of flyers, presentations, articles, videos, social media, and other communication tools 	
Measure Project Results	<ul style="list-style-type: none"> Quarter progress updates Final report 	

A. Performance Measures and Plan – The following metrics will help to track, measure, and report progress on project outputs:

Task/Outputs	Performance Measures
<i>Air Quality Monitoring Working Group</i> : 10-person working group; bimonthly meetings; and project game	<ul style="list-style-type: none"> # of people/organizations on working group # of working group meetings

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plan	<ul style="list-style-type: none"> • Completion of project game plan
<i>Community Meetings</i> : meeting materials and presentation; and three (3) community meetings	<ul style="list-style-type: none"> • Completion of meeting materials and presentation • # of community meetings held • # of people participating at community meetings
<i>Air Quality Monitors</i> : three (3) air quality monitors; and NO ₂ , PM _{2.5} , and O ₃ air quality data	<ul style="list-style-type: none"> • Procurement of air quality monitor vendor • # of air quality monitors installed • Availability of NO₂, PM_{2.5}, and O₃ air quality data
<i>Air Quality Monitoring Web Site</i> : public web site; AQI text alerts; and real-time dissemination of air quality data to residents	<ul style="list-style-type: none"> • Contract with third-party web site developer • # of visitors to web site • # of SMS text alert subscribers
<i>Outreach and Promotion</i> : flyers, presentations, articles, videos, social media, and other communication tools	<ul style="list-style-type: none"> • Volume of materials developed • # of people reached with outreach and promotion efforts
<i>Measure Project Results</i> : quarter progress updates; and final report	<ul style="list-style-type: none"> • # of quarterly reports submitted • Completion of final report

To assess progress toward project outcomes, the following metrics will be used:

Outcomes	Performance Measures
<i>Short-term – Knowledge</i> : increased awareness of community air quality challenges; real-time access to NO ₂ , PM _{2.5} , and O ₃ air quality data; and education on the impacts of air quality on health	<ul style="list-style-type: none"> • Continued partner engagement • Resident survey measuring increased air pollution awareness and understanding of health impacts
<i>Intermediate – Behavior Changes</i> : improved understanding of when to avoid outdoor activities during poor AQI days; and local/state policy actions that mitigate air pollution hot spots	<ul style="list-style-type: none"> • Resident survey measuring changes in behavior based on air quality data • Adoption of local/local policies that address air quality in the South End and West Side neighborhoods
<i>Long-term – Less Pollution and Better Health Outcomes</i> : lower NO ₂ , PM _{2.5} , and O ₃ emissions; reduced asthma hospitalizations and emergency room visits; fewer new cases of asthma; less prevalence of chronic heart/lung disease; diminished risk of mental health disorders and impaired cognitive development; and decreased rate of premature deaths	<ul style="list-style-type: none"> • Air quality monitoring results showing reduced pollution • Hospital records showing improved health outcomes • Results of next <i>Community Health Needs Assessment</i>

The proposed project meets Goal 4 of EPA’s 2022-2026 Strategic Plan in that air quality monitoring will support “low-income and marginalized communities that for decades have been overburdened with air pollution and other environmental hazards.”

Timeline and Milestones – The City of Stamford proposed the following project schedule:

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| <ul style="list-style-type: none"> • <u>Month 1</u>: Grant award • <u>Month 2</u>: Convene working group and initiate bimonthly meetings • <u>Month 3</u>: Develop project game plan • <u>Months 4-5</u>: Promote and conduct community meetings • <u>Month 6-8</u>: Procure monitoring equipment vendor and third-party web site developer | <ul style="list-style-type: none"> • <u>Month 9</u>: Identify monitor locations • <u>Months 10-11</u>: Install air quality monitors • <u>Months 12-13</u>: Develop public web site and text alert system • <u>Month 14</u>: Launch web site and text alerts • <u>Months 15-20</u>: Outreach to promote air quality monitoring tools • <u>Months 22-36</u>: Ongoing air quality monitoring |
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- Month 34: Community survey
- Months 35-36: Compile final report

V. Quality Assurance Statement

See attached description of the project's quality assurance and quality control practices.

VI. Programmatic Capability and Past Performance

A. **Past Performance** – The following four (4) grant-funded projects demonstrate the City of Stamford's capacity to effectively implement environmental projects:

- EPA – National Clean Diesel Funding Assistance (10/1/2019 thru 6/30/2021): The City of Stamford received EPA funding to replace seven outdated refuse vehicles with new lower emission models. The project was completed in a timely manner with one extension related to COVID and delayed supply chain issues. This closed project met the intended outcome of reducing air pollution.
- CT Health Foundation – State Vaccine Equity Partnership Grant (9/1/2020 thru 6/30/2021): The City of Stamford was awarded \$100,000 from the Connecticut Health Foundation to support its COVID response efforts. The local health department used the funding to hire 15 Community Health Workers and conduct door-to-door vaccination canvassing. The project met the intended outcomes of outreach and direct services related to the pandemic. The project is closed out with no outstanding issues.
- CT Department of Transportation – Elder and Demand Response Transportation (recipient since 2017): The City of Stamford receives approximately \$128,000 annually to provide on-demand transportation services for seniors and individuals living with disabilities. Taxi vouchers and other door-to-door transportation services are provided to those who otherwise are unable to get to doctor's appointments, visit a pharmacy, or purchase groceries. The project continues to meet the intended outcomes of providing essential transportation services.
- CT Department of Public Health – Epidemiology and Laboratory Capacity Funding (5/1/2020 thru 11/17/2022): The CT Department of Health awarded the City of Stamford a \$704,298 cooperative agreement to respond to the COVID outbreak in the community. To date, funding has been effectively spent on COVID testing and vaccinations. The project is ongoing.

B. **Reporting Requirements** – All reporting requirements have been met for the projects above:

- EPA – National Clean Diesel Funding Assistance (10/1/2019 thru 6/30/2021): The City of Stamford's Grants Office worked with the Solid Waste and Recycling Department to gather data and submit the quarterly programmatic and financial reports in a timely manner throughout the grant period. The final reports for programmatic and financial tracking were submitted on time and all funds were requested and received prior to close out.
- CT Health Foundation – State Vaccine Equity Partnership Grant (9/1/2020 thru 6/30/2021): The City of Stamford's Grants Office worked closely with the Department of Health to administer the grant. Data was collected, analyzed, and submitted quarterly to the CT Health Foundation.
- CT Department of Transportation – Elder and Demand Response Transportation (recipient since 2017): The City of Stamford's Grants Office works collaboratively with the Social Services Administration to administer this annual funding. Data is collected on a quarterly basis and submitted to the CT Department of Transportation by the required deadlines. Quarterly reports include financial and programmatic information.
- CT Department of Public Health – Epidemiology and Laboratory Capacity Funding (5/1/2020 thru 11/17/2022): The City of Stamford's Grants Office and Department of Health work collaboratively to ensure that funds dedicated to COVID are spent appropriately. Quarterly progress and financial reports for the prime and subrecipients are submitted in a timely manner. Requests for reimbursement include the required documentation. Monitoring of all subrecipients is conducted for compliance.

WORKPLAN

C. Staff Expertise – Key staff who will support the project include:

- **Ted Jankowski** – Mr. Jankowski has served as the Director of Public Safety, Health, and Welfare for the City of Stamford since 2012. He is responsible for the administration, supervision, and performance of all municipal functions related to police, fire, health, social services, rescue, emergency medical services, emergency management and homeland security. Mr. Jankowski has 30+ years of safety, emergency response, emergency management, and incident command experience. Ted holds a Bachelor’s in Business Administration from New York University and a Master’s in Homeland Security from the United States Naval Postgraduate School.
- **Jody Bishop-Pullan, RDH, BS, MPH** – Ms. Bishop-Pullman is the Acting Director of the Department of Health for the City of Stamford. She is responsible for enforcing state and federal public health code and local regulations and ordinances. Ms. Bishop-Pullman has 40+ years of experience in the health sector. She received a Bachelor’s in Dental Hygiene from the University of Bridgeport and a Master’s in Public Health from Southern Connecticut State University.
- **Janeene Freeman** – Ms. Freeman is Special Assistant to the Mayor and Director of Partnerships and Community Engagement. She most recently served as the Director of Education and Youth Development at Fairfield County’s Community Foundation, where she was responsible for leading the organization’s education grantmaking. Prior to joining the Community Foundation, Ms. Freeman worked for New Haven-based Northeast Charter Schools Network, where she served as the Chief Executive Officer. She holds a Bachelor’s in Government from Wesleyan University and a Master’s in Public Administration from Columbia University.
- **Anita Carpenter** – Ms. Carpenter is the Grants Officer for the City of Stamford. Her responsibilities include managing a portfolio of federal, state, and local funding for capital and operating expenses. This includes the multi-million dollar American Rescue Plan and CARES Act funding. Ms. Carpenter brings more than 28 years of experience with federal and state funding administration, serving as a Grants Analyst for non-profits, units of government, tribal entities, and Tribal Nations. She holds a Bachelor’s in Political Science from Rhodes College.

VII. Budget

A. Budget Detail

Line Item & Itemized Cost	EPA Funding
Personnel	
N/A	\$0
TOTAL PERSONNEL	\$0
Fringe Benefits	
N/A	\$0
TOTAL FRINGE BENEFITS	\$0
Travel	
N/A	\$0
TOTAL TRAVEL	\$0
Equipment	
Three (3) air quality monitors with licenses, measuring NO ₂ , PM _{2.5} , and O ₃ @ \$9,900/unit	\$29,700
Nine (9) replacement NO ₂ and O ₃ sensors @ \$695/unit	\$6,255
Nine (3) replacement PM _{2.5} sensors @ \$200/unit	\$1,800
TOTAL EQUIPMENT	\$37,755
Supplies	
Outreach materials and supplies	\$1,500
TOTAL SUPPLIES	\$1,500

WORKPLAN

Contractual	
Air quality monitor installation, training, data validation, and tech support	\$15,000
Web site development with air quality data integration	\$12,500
TOTAL CONTRACTUAL	\$27,500
Other	
Community meeting expenses	\$2,000
TOTAL OTHER	\$2,000
Indirect Charges	
N/A	\$0
TOTAL INDIRECT	\$0
TOTAL FUNDING	\$68,755
TOTAL PROJECT COSTS	\$68,755

B. Reasonableness of Costs

- **Personnel:** No expenses are included in the budget for personnel costs. The City of Stamford will manage the project with local funds.
- **Fringe Benefits:** No expenses are included in the budget for fringe benefits. The City of Stamford will pay fringe benefits with local resources.
- **Travel:** No expenses are included in the budget for travel.
- **Equipment:** The budget includes \$29,700 to purchase three (3) AQY-R or comparable air quality monitors (with licenses). The cost of these monitors is \$9,900 per unit. Air quality monitors will be installed on community centers, schools, fire stations, libraries, and other key locations across the South End and West Side neighborhoods. Funding for the replacement of NO₂/O₃ (\$625/unit or \$6,255 total) and PM_{2.5} (\$200/unit or \$1,800 total) sensors is also included in the budget.
- **Supplies:** The budget includes \$1,500 for outreach expenses, including the development of flyers, presentations, videos, and other materials. This information will be used to promote community engagement opportunities as well as market the availability of the public web site.
- **Contractual:** The City of Stamford will contract with an environmental expert to implement its air quality monitoring program. The budget includes \$15,000 for assistance in selecting equipment, identifying locations, installing sensors, training users, data validation services, and tech support. A second contract of \$12,500 will be awarded to a web site developer that will integrate air quality data into user friendly dashboard. This contractor will also create an SMS text alert system that will share AQI index information with registered users.
- **Other:** The budget includes \$2,000 to support logistical expenses at three (3) community meetings, including facility charges, A/V equipment, and other on-site costs.
- **Indirect Charges:** No expenses are included in the budget for indirect charges.

C. Expenditure of Awarded Funds – The City of Stamford is fully prepared to manage the costs of its proposed air quality monitoring program. The project team has a track record of delivering projects on-budget and on-time. The City of Stamford has an exemplary history of managing federal grants, having received numerous EPA, U.S. Department of Housing and Urban Development, U.S. Department of Transportation, and other federal grants over the years. It has the financial management systems, policies, and guidelines in place to account for all federal spending. The City of Stamford’s Grants Office will also be involved in administering EPA funding. This department is responsible for procurement, accounting, billing, reporting, and auditing related to federal awards. The City of Stamford has never been cited for an adverse OMB Circular A-133 audit finding and has never been required to comply with “high risk” terms or conditions under OMB Circular A-102.