

STP/SNK Transit Projects

Project Name	Smart Technologies Advancing Regional Transportation (START)
Applicant Name	Southwest Ohio Regional Transit Authority
Applicant Title	Service Analyst
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Project Information

The Southwest Ohio Regional Transit Authority (SORTA) provides public transportation in Butler, Clermont, Hamilton and Warren Counties to approximately 506,229 inhabitants within a service area that extends across approximately 262 square miles. In 2017, SORTA provided 14,265,533 transit rides through the fixed-route bus service and has a goal of reaching 20 million by 2021 through the SORTA's strategic plan, Reinventing Metro.

The Cincinnati MSA is the largest in the State of Ohio with 2.17 million people according to the U.S. Census Bureau's 2015 estimates (27th largest in the nation). OKI estimates that between the years of 2010 and 2040 the eight county region will grow from 1.9 million to 2.2 million residents, an 11% increase, which will demand more out of Cincinnati's public transportation options. According to OKI, 21% of Greater Cincinnati's vehicle miles traveled are congested which is anticipated to worsen by 2040. Approximately 20% of downtown workers utilize public transportation, reducing the need for additional parking as well as mitigating congestion.

SORTA has initiated a Smart Technologies Advancing Regional Transportation (START) program, with the goal of becoming a smarter, greener, and more sustainable organization for the Greater Cincinnati region while addressing service and congestion challenges noted above. We are requesting funding from this STP grant to be applied towards the implementation of the START program. Through this program, SORTA is evaluating green technologies to incorporate into the future strategy of the organization. These technologies include green diesel, CNG, electric, and hydrogen fuel cells. Currently SORTA is purchasing green diesel buses, and expects to be purchasing zero emission buses and infrastructure by the date of implementation of this grant, to be integrated into the existing diesel fleet, and thus move steadily towards a greener bus profile.

SORTA is requesting \$5,697,764.80 in STP funding through this application for the replacement of sixteen (16) 40-foot transit vehicles with clean diesel technology buses. This will enable SORTA to replace our aging fleet at a quicker pace. SORTA will maintain the fleet using the Transit Asset Management Plan (TAM), which will provide a more robust way to track the life of our transit vehicles. This project will significantly improve the state of good repair of the transit fleet in the Cincinnati region, while lowering emissions and providing more accessible, reliable service for transit riders.

In summary, SORTA will use the requested funding from

Upload Project Location Map	http://funding.oki.org/wp-content/uploads/ninja-forms/5/Service-Area-2018.pdf
design FY	
designrequestedfunds	
designlocalmatch	
Total Design Estimate	#{CALC:DESIGNTOTAL}
Design Local Match	{CALC:DESIGNPERCENT}%
PE-Row Services FY	
perequestedfunds	
pematch	
PE total Cost	\$0.00
PE Local Match	0%
Right-of-Way FY	
rowrequested	
row match	
Row Total Cost	\$0.00
Row Local Match %	0%
Utilities FY	
utilitiesrequested	
Utilities Local Match	

Utilities Total Cost	\$0.00
Utilities Match %	0%
Construction FY	2022
constructionrequested	5697764.8
constructionmatch	2441899.2
Construction Total Cost	8,139,664.00
Construction Match %	30.00%
Requested Funds Total All	\$5,697,764.80
All Requested Match	\$2,441,899.20
All Projects Total Estimate	\$8,139,664.00
Total Local Match % All	30.00%
Bike FY	
bikerequested	84000
bikematch	36000

Bike Total Estimate	120,000.00
Add KYTC "State Forces" oversight charge of 10% of design cost or minimum \$5000 to total design amount. Attach a certified cost estimate.	
An adopted ADA Transition Plan is in place for our jurisdiction.	no
Date of Adoption, if applicable	Transition Plan is not applicable for our project since it does not involve street or sidewalk design
An adopted Title VI Plan is in place.	yes
Date of Adoption, if applicable Copy	March 15, 2016
I understand that non-federal match is required as a condition of receiving federal funds and hereby pledge those funds for this project.	no
I understand that as the applicant, I am responsible for providing funds for cost overruns. If additional federal funds are received our jurisdiction will provide non-federal funds as match.	yes
I understand that if we accept federal funds and cancel or delay the project that future applications to OKI may be subject to penalty as described in the application.	yes

<p>I understand that as a condition of receiving federal funds, I hereby pledge to maintain the federal investment in a reasonable and prudent manner through its useful life.</p>	<p>yes</p>
<p>Name</p>	<p>Dwight Ferrell</p>
<p>Title</p>	<p>General Manager/Chief Executive Officer</p>
<p>Organization</p>	<p>Southwest Ohio Regional Transit Authority</p>
<p>Date</p>	<p>05/31/2018</p>
<p>What is the Type of Project</p>	<p>Replacement or expansion of revenue vehicles</p>
<p>What is the anticipated impact on ridership from this project?</p>	<p>High increase in ridership</p>
<p>Please Explain:</p>	<p>Reliability:</p> <p>With an aging fleet of buses, commuters who rely on the transportation system to get to work suffer when these older vehicles fail. For example, SORTA's express ridership fell 4.5% from 2015-2016, as our riders expect reliable service - especially when they have alternative options.</p> <p>Positive Customer Experience:</p> <p>SORTA's riders desire an enjoyable experience when they are riding the bus. The buses scheduled for replacement have exceeded their useful life which means the amenities and often cleanliness do not correlate to what riders define as enjoyable. These new buses will also have additional amenities that include wi-fi and charging stations which have just recently been tested in our fleet.</p>

<p>What is the project impact on safety and security?</p>	<p>High</p>
<p>Please Explain:</p>	<p>Safety and security are always at the top of SORTA's priorities. SORTA is tasked with getting people from their origin to destination safely and reliably. The new bus procurement will come equipped with wi-fi that in addition to improving the rider experience, will greatly improve the safety and security of the fleet. This is because the wi-fi enables immediate access by first responders to security camera videos rather than having to wait for a download of the video after an event takes place.</p>
<p>What is the time to implementation after funding is granted?</p>	<p>0 to</p>
<p>What is the system impact of the project?</p>	<p>Impact on system & passengers</p>

<p>Please Explain:</p>	<p>The capital expenditure for replacement buses impacts both the system and the passengers. The impact on the system is ensuring SORTA has a fleet capable of operating the current miles and hours of service. An aging fleet compromises SORTA's ability to make pullouts and operate long distance routes. With newer replacement buses, passengers will see a return on investment in the reliability, safety, and efficiency of the replacement buses on all routes.</p> <p>OKI's 2040 Regional Transportation Plan recognizes the region's transit needs, and noted that "bus replacement programs and the ability to switch to hybrid or alternative fuel vehicles are important to all the transit systems in the region." The Plan further notes the need for efficient and timely service, stating "to attract additional transit ridership and spur more people to choose transit over single occupancy vehicle travel, transit professionals have shared that efficient and timely service is a key motivator." Also, the report noted that "improvements in the quality of transit service can also increase bus ridership. The START project aligns with the above goals by promoting the adoption of new alternative fuel technology, and moving to place newer, higher quality buses on the roads that promote system reliability and a positive customer experience.</p>
<p>What is the condition of existing transit agency assets to be upgraded or replaced?</p>	<p>Poor</p>

<p>Please Explain:</p>	<p>SORTA has 101 vehicles over their useful life of 12 years as recommended by the Federal Transit Administration (FTA). By FY2022, when new buses from this grant award could be ordered, that number increases to 138 - which is 38.6% of the total fleet requirement. Operating these older buses results in higher maintenance costs, higher emissions, less reliable service, and lower on-time-performance. The maintenance costs for buses older than 12 years is \$1.36/mile, while a bus one (1) year old is \$0.17/mile, which is a 700% increase in maintenance cost per mile.</p> <p>From a maintenance prospective, purchasing additional high quality buses with proceeds from this grant, will allow SORTA to operate buses at longer intervals with reduced downtime compared to operations under the current aging fleet. Currently, the average fleet age is 8.3 years.</p> <p>SORTA's current average fleet age is 25% higher than the closest sister transit system Transit Authority of Northern Kentucky (TANK) at 6.2 years (2017) and 38% higher than peer transit system Central Ohio Transit Authority (COTA).</p>
<p>Will your project have any impact(s) on any of the following OKI identified Environmental Justice groups? Check all that apply.</p>	<p>minority, elderly, zero-car-household, Low-income, Disabled</p>
<p>Describe any direct or indirect permanent benefits of your project on the identified EJ groups?</p>	<p>SORTA provides service for minority, elderly, zero-car households, low-income, and disabled persons through our fixed route bus service as well as our paratransit access service.</p>
<p>During the implementation phase, will the project have a temporary or permanent negative impact on any of the OKI identified EJ groups listed above? If yes, please describe the impact and how it will be mitigated:</p>	<p>During the implementation phase the project will not have a temporary or permanent negative impact on the environmental justice populations.</p>

<p>Will the completed project have a negative impact on any of the OKI identified EJ groups? If yes, please describe the permanent negative impact(s) and how it will be mitigated:</p>	<p>The project is a replacement of vehicles for SORTA, so there will be no negative impact for the environmental justice populations.</p>
<p>Please outline your communication plan with any of the OKI identified EJ groups related to the project. (i.e. public meetings, bilingual information, develop community liaisons):</p>	<p>SORTA has a three year Title VI Plan that is currently good through 2018. SORTA will be initiating a new plan later this year that will involve public input with our disparate impact and disproportionate burden clauses. The current plan denotes that the service area is 32% minority and 17% low-income on average. The clauses provide a framework for analysis of service and/or fare changes that need to be analyzed according to the Civil Rights Act. SORTA holds public meetings as well as provides electronic submissions for all service and fare changes. For this project and the Reinventing Metro Plan, SORTA has received feedback from customers about the amenities they would like to see provided on the bus. Some of the new amenities include wi-fi, in seat chargers, and new seat hardware for a cleaner experience. All route information is available in both English and Spanish on our website and in paper form.</p>
<p>Employment, Employment Bonus and Investment Bonus: How does the project provide economic vitality in the project area?</p>	<p>SORTA continues dialogue with businesses that need transportation options because their job applicants do not own their own vehicle.</p> <p>The work through The Connected Region with the Cincinnati Chamber will enhance the awareness of the need for transportation options to support economic vitality.</p> <p>Dwight Ferrell is a board member of REDI which promotes ready for development sites for uses such as office, manufacturing, and industry. SORTA works closely with REDI to determine areas of new job growth for future expansion opportunities.</p> <p>Approximately 20% of Cincinnati's downtown workforce is served by SORTA through the fixed-route service. Data from AllTransit, the largest source of transit connectivity, access, and frequency data in the U.S., reports that over 350,000 jobs are accessible within a 30-minute transit ride of downtown Cincinnati.</p>

<p>Air Quality/Energy: Will the project reduce Vehicle Miles Traveled (VMT), Vehicle Hours Traveled (VHT) or both?</p>	<p>emissions-reductions-transit-or-diesel-retrofits</p>
<p>Please explain:</p>	<p>SORTA is dedicated to reducing air pollution through procurement of clean fuel vehicles. Every year the advanced technology designed for transit buses, and adopted by SORTA, has a positive impact on the emissions released into the air. The green diesel buses SORTA is proposing to purchase with funding from this grant are older 2006 and 2009 diesel buses in the fleet of 357. These green diesel buses use "mini-hybrid" technology that replaces the hydraulically driven cooling system with an electronically driven cooling system. This EMP "Mini-Hybrid" thermal system is designed and manufactured by Engineered Machine Products (EMP). The name, Mini-Hybrid; was selected because use of diesel buses equipped with this system will result in fuel consumption savings comparable to the fuel reduction benefits of a diesel-electric (hybrid) bus. Buses equipped with EMP systems have been in operation at SORTA for the past six years and have experienced a ten (10) percent reduction in fuel consumption over buses with hydraulically driven cooling systems. The data collected on EMP equipped mini-hybrid buses shows an average of 4.2 miles per gallon of diesel fuel. Conventional buses with hydraulically driven cooling system average 3.8 miles per gallon.</p>
<p>Does this project create new or enhance existing intermodal connections?</p>	<p>no</p>

<p>If yes, please describe:</p>	<p>The START project will provide new buses to connect with the Cincinnati Bell Connector, Butler County Regional Transit Authority (BCRTA), Clermont Transportation Connection (CTC), and the Transit Authority of Northern Kentucky (TANK), as a vital part of the regional multi-modal transportation system as well as with the partnership with rideshare provider Uber and the Uber Mobility Lab.</p> <p>The buses acquired will also enhance existing intermodal connections by ensuring SORTA can continue to provide service to transit centers and park and ride locations, which supports intermodal travel including, personal vehicles, bikes, and walking. All new bus procurement's will be equipped with bike racks on the front of the vehicle.</p>
<p>% replacement</p>	<p>100</p>
<p>% expansion</p>	<p>0</p>
<p>Please Explain</p>	<p>The 5,697,764.80 million request through this grant will all go towards replacement buses. SORTA is behind on the bus capital replacement schedule for its fleet of 357 transit vehicles, resulting in buses being operated past their designated useful life. As of 2022 there will be 136 buses in the fleet that are over 12 years old. Thus, funding from this grant will assist SORTA in replacing buses at a quicker rate which increases the reliability of the public transportation system, reduces maintenance costs, and decreases the total emissions from bus operations.</p>
<p>Please indicate all that apply</p>	<p>is-the-project-located-in-a-town-neighborhood-center-or-downtown-area, is-the-project-located-in-an-area-with-a-mix-of-uses-with-a-central-focus, is-the-project-located-along-a-functionally-classified-major-collector-or-higher-roadway-with-urban-development-characteristics, Is the project located in an area that is experiencing strong growth pressures and expected and/or planned to develop into a mixed use/multi modal center?</p>

<p>Explain:</p>	<p>SORTA prides itself in its ability to access many different areas of Greater Cincinnati with fixed route transportation. One of the newest areas that have opened include the Oakley Station development which now includes the Oakley Transit Center opened in May 2018. This mixed-use development provides housing, office, retail, and recreation opportunities for people across the region.</p> <p>SORTA also operates in residential neighborhoods such as North College Hill, Norwood, Walnut Hills, Western Hills, Anderson Township, etc. which areas all have a mix of uses, a central focus, and urban development characteristics.</p>
<p>Will this project serve brownfield or greyfield properties, or areas where infrastructure is underutilized?</p>	<p>yes</p>
<p>Explain:</p>	<p>SORTA services a large area of Greater Cincinnati including prime areas of brownfield development like the Midpoint Crossing site in Bond Hill or 2100 Section Road in Amberley Village that the Greater Cincinnati Redevelopment Authority is targeting for redevelopment. These sites including the nearby transit service will be promoted to companies who will bring jobs to the Cincinnati region to enhance our growing regional economy.</p>
<p>Are efforts to avoid, minimize or offset/compensate for environmental impacts planned as part of this project (e.g. wetlands, forests, streams, noise)?</p>	<p>yes</p>
<p>Explain:</p>	<p>Residents are always concerned about noise pollution in their neighborhoods. New diesel buses are designed to be quieter than the ones that will be replaced from 2006 and 2009 models.</p>

Are green infrastructure strategies planned as part of this project (e.g. contiguous corridors to reduce habitat fragmentation, innovative stormwater runoff techniques)?	no
Explain:	The project does not require any construction of roadway infrastructure so no green infrastructure strategies are planned.
Does this project abut or directly impact any potentially sensitive environmental resources (as identified in state conservation plans, maps or inventories)?	no
Explain:	The bus procurement will not have any impact on sensitive environmental resources.
Comprehensive Plan (or other): Is the project consistent with the jurisdiction's comprehensive plan?	no
Title of Plan:	PLAN Cincinnati
Date Adopted:	November 21, 2012
Contact Person:	Katherine Keough-Jurs
Page Number(s) where project is identified and/or referenced:	130-145
Planning Area: Please identify the planning area (location) in relation to the proposed transportation project.	

<p>Public Participation: Generally describe the public participation process for the plan (Include page references to specific examples, where applicable).</p>	
<p>Core Contents: Generally describe the contents of the applicable plan related to the following elements: transportation, land use, economic development, public facilities, housing, natural resources, recreation, intergovernmental coordination and capital improvements. For example, are each of these elements included in the plan? Was appropriate inventory and analysis completed for these elements? Were goals objectives and policies set for these elements? If not, why not (e.g., resource limitations, characteristics of the jurisdictions)?</p>	
<p>Land Use/Transportation Relationship: Generally describe the relationship between land use and the proposed transportation project as set forth in the plan? For example, is new development in the area creating need for the project? Is new development planned for/expected that the project will serve? (Include page references to specific examples).</p>	
<p>Local Match: How much additional local match is being provided OVER the required match?</p>	10%
<p>Project Delivery History: Has the applicant had any programmed projects miss their originally programmed date?</p>	no

Specify projects: (see application instructions for negative points associated with this factor)	
<p>Technology: Describe elements of your project that encourage the implementation of new technologies, automation, advance materials, etc, in transportation.</p>	<ol style="list-style-type: none"> 1. Green diesel is one technology already being implemented of several technologies that are part of SORTA's START initiative. Three additional technologies SORTA is evaluating for future strategy implications include compressed natural gas (CNG), electric batteries, and hydrogen fuel cells. It is possible that one or more of these technologies will be part of SORTA's strategy by FY2022, when the project will be entering implementation phase. 2. SORTA is installing wi-fi on all new buses for customers to use, and also for use by emergency respondents in the case of emergencies, threats, or other issues that require an official to access the cameras inside the vehicle. Emergency responders will be able to remotely take control of the camera through special software. 3. All new bus procurement's by SORTA will come with automated passenger counters which count passengers boarding and alighting at stops. This data is valuable to SORTA as it is used to plan route changes and consolidate unnecessary bus stops in the system. These buses will help continue to push towards the target of being 100% APC equipped. Once the buses are 100% equipped SORTA will also be able to use the data for ridership counts which will make it more accurate than the fareboxes.
Supplemental Information Provided by the Applicant Insert Links or supplemental information as appropriate (maximum 5 pages please)	http://funding.oki.org/wp-content/uploads/ninja-forms/5/Asset-Evaluation-5-31-18.xlsx , http://funding.oki.org/wp-content/uploads/ninja-forms/5/Cost-Estimate-for-2021.pdf