Legislation Details (With Text)

File #:	24-2191	**Name:**	
Type:	Grant Application	**Status:**	Agenda Ready
File created:	5/16/2024	**In control:**	City Council Legislative Meeting
On agenda:	6/25/2024	**Final action:**	
Title:	Consideration of a Resolution for a Grant Application to the United States Department of Transportation for the Strengthening Mobility and Revolutionizing Transportation Program. [ROLL-CALL VOTE].		
Sponsors:			
Indexes:			
Code sections:			
Attachments:	1. 24-2191_Attachment 1 - Resolution.pdf, 2. 24-2191_Attachment 2 - Presentation.pdf, 3. 24-2191_Signed Resolution		

Date	Ver.	Action By	Action	Result

City of Alexandria, Virginia

MEMORANDUM

DATE: JUNE 18, 2024

TO: THE HONORABLE MAYOR AND MEMBERS OF CITY COUNCIL

THROUGH: JAMES F. PARAJON, CITY MANAGER /s/

FROM: ADRIANA CASTAÑEDA, DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES

DOCKET TITLE:
Consideration of a Resolution for a Grant Application to the United States Department of Transportation for the Strengthening Mobility and Revolutionizing Transportation Program. [ROLL-CALL VOTE].

ISSUE: Request to submit an application for the 2024 Strengthening Mobility and Revolutionizing Transportation Program (SMART) discretionary grant program to the United States Department of Transportation (USDOT).

RECOMMENDATION: That the City Council:

1. Approve a resolution to support the submission of up to $2,000,000 for Stage 1 Planning and Prototyping grant for the integration of AI-powered road quality and sign detection into our asset management process.

2. Authorize the City Manager to apply to the SMART discretionary grant program and enter into any agreements with USDOT to accept and implement the grant.

BACKGROUND: The USDOT's SMART Grant Program offers funding for projects that use technology to improve transportation safety and efficiency. The program is funded at $100 million annually for fiscal years 2022-2026. SMART grants are awarded through a two-stage process. In stage one, eligible entities can apply for grants of up to $2 million to develop their projects. Stage two grants of up to $15 million are available to expand projects that successfully complete stage one. The program is designed to encourage innovation in transportation systems and communities. It funds projects that use new and existing technologies to address real-world transportation challenges.

Stage 1 SMART grants fund projects to develop plans for implementing new transportation technologies. The goal is to either create a strong implementation plan with clear performance measures or decide not to proceed if challenges arise (barriers, limitations, underperformance).

The program prioritizes projects that improve safety, reliability, resilience, equity, climate, and partnerships. Ideally, projects will be scalable, promote data sharing, workforce development, and clear measurement of success. This program aligns with goals outlined in the City's Smart Mobility Framework and Strategy 5 of Alexandria's Mobility Plan Smart Mobility Chapter.

DISCUSSION: Alexandria's proposal aims to tackle asset management challenges through AI-enabled detection technology. It seeks to establish a dynamic, real-time inventory of pavement conditions and traffic signs. This initiative aims to improve road repaving prioritization fairness, digitize roadway signs for maintenance and policy communication, and support safe autonomous vehicle deployment.

Currently, the City assesses pavement conditions every three years through contractor evaluations, leading to outdated information due to rapid changes caused by utility work. Additionally, reliance on resident-submitted 311 tickets for identifying potholes and repairs leads to an inequitable distribution of resources. The project aims to shift the process to a more proactive approach to maintaining City infrastructure by continuously monitoring pavement conditions using existing City vehicles' routes, such as buses or garbage trucks to enhance service delivery equity and roadway condition accountability.

Furthermore, Alexandria lacks a real-time inventory of traffic signs. The proposed technology can detect roadway quality while simultaneously mapping sign locations, readability, and reflectivity. Various vendors offer similar technologies using different detection and recording methods.

This Planning Grant will assess multiple vendors' accuracy in a pilot area. Upon identifying a suitable tool, the Stage 2 Implementation Grant will scale up the project. The Virginia Tech Transportation Institute's expertise, a collaborative City partner on Smart Mobility projects, will play a crucial role in ensuring the new tools' accuracy.

FISCAL IMPACT: There is no fiscal impact as the SMART program requires no local match; however, there is a potential for future savings should the program be able to replace the City's pavement condition assessment.

ATTACHMENTS:

1. Resolution
2. Presentation

STAFF:

Emily A. Baker, Deputy City Manager
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Hillary Orr, Deputy Director, Transportation, T&ES
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