Hydrogen Fuel Cell Buses and Fueling Site
(P502408)

Category	Transportation	Date Last Modified	06/10/24
SubCategory	Mass Transit (MCG)	Administering Agency	Transportation
Planning Area	Countywide	Status	Preliminary Design Stage

EXPENDITURE SCHEDULE ($000s)

Cost Elements	Total	Thru FY23	Est FY24	Total 6 Years	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	Beyond 6 Years
Planning, Design and Supervision	1,199	-	967	232	232	-	-	-	-	-	-
Construction	1,655	-	-	1,655	1,655	-	-	-	-	-	-
Other	9,064	-	-	9,064	7,614	1,450	-	-	-	-	-
TOTAL EXPENDITURES	11,918	-	967	10,951	9,501	1,450	-	-	-	-	-

FUNDING SCHEDULE ($000s)

Funding Source	Total	Thru FY23	Est FY24	Total 6 Years	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	Beyond 6 Years
Federal Aid	11,918	-	967	10,951	9,501	1,450	-	-	-	-	-
TOTAL FUNDING SOURCES	11,918	-	967	10,951	9,501	1,450	-	-	-	-	-

OPERATING BUDGET IMPACT ($000s)

Impact Type		Total 6 Years	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30
Maintenance		2,000	-	400	400	400	400	400
NET IMPACT		2,000	-	400	400	400	400	400

APPROPRIATION AND EXPENDITURE DATA ($000s)

Appropriation FY 25 Request	(2,958)	Year First Appropriation	FY24
Appropriation FY 26 Request	-	Last FY's Cost Estimate	-
Cumulative Appropriation	14,876		
Expenditure / Encumbrances	-		
Unencumbered Balance	14,876		

PROJECT DESCRIPTION

This project implements green hydrogen technology in transit for the first time in the State of Maryland. The new hydrogen fuel production and fueling station will operate at the County's David F. Bone Equipment Maintenance and Transit Operations Center (EMTOC) in Gaithersburg. This facility will power the County's first 13 hydrogen fuel cell electric buses (FCEBs), which will be procured as part of the Veirs Mill Road Bus Rapid Transit (BRT) project. The County will partner with industry experts, the Center for Transportation and the Environment (CTE) and Trillium, to implement the project.

ESTIMATED SCHEDULE

Initial planning, including a Program of Requirements, was completed as part of the County's Zero Emissions Transition Plan in FY23. Preliminary design will begin in FY24 and the facility will be completed in FY26.

COST CHANGE

Cost decrease due to shifting funding for hydrogen buses to Bus Rapid Transit: Veirs Mill Road (P501913).

PROJECT JUSTIFICATION

This project will reduce carbon emissions, increase the reliability and sustainability of the bus fleet, and is an essential step in the transition to a zero-emissions fleet to reach the goals in the County's Climate Action Plan. The new hydrogen fuel production facility will produce hydrogen fuel that is greener than traditional fossil fuel-based hydrogen, as the fuel will be produced from water using zero-emission electrolysis. Similarly, fuel cell electric buses can provide uninterrupted service on bus routes that have a standard daily range of over 150 miles, which is beyond the maximum range currently allowed by zero-emission battery-electric buses.

OTHER

Electricity needed to produce hydrogen fuel at this facility will be generated by a solar microgrid to be constructed at the David F. Bone Equipment Maintenance and Transit Operations Center.

FISCAL NOTE

Funding for this project includes a Low or No Emission Grant from the Federal Transit Administration, appropriated via an FY24 supplemental in Federal Aid for the amount of $14,875,975. In FY25, grant funding in this project was shifted to Bus Rapid Transit: Veirs Mill Road (P501913) to reflect funds from this grant and the county's required match to be used to purchase fuel cell electric buses for the new BRT service.

COORDINATION

Federal Transit Administration, Department of General Services, Department of Finance, Department of Permitting Services, Utility Companies, Industry Expert Partners