Hydrogen Fuel Cell Buses and Fueling Site
(P502408)

Category	Transportation	Date Last Modified	01/06/26
SubCategory	Mass Transit (MCG)	Administering Agency	Transportation
Planning Area	Countywide	Status	Preliminary Design Stage

EXPENDITURE SCHEDULE ($000s)

Cost Elements	Total	Thru FY25	Est FY26	Total 6 Years	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32	Beyond 6 Years
Planning, Design and Supervision	1,310	61	334	915	849	66	-	-	-	-	-
Construction	20,351	-	-	20,351	18,432	1,919	-	-	-	-	-
Other	35	-	-	35	31	4	-	-	-	-	-
TOTAL EXPENDITURES	21,696	61	334	21,301	19,312	1,989	-	-	-	-	-

FUNDING SCHEDULE ($000s)

Funding Source	Total	Thru FY25	Est FY26	Total 6 Years	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32	Beyond 6 Years
Current Revenue: Mass Transit	1,385	-	-	1,385	-	1,385	-	-	-	-	-
Federal Aid	10,533	61	334	10,138	10,138	-	-	-	-	-	-
G.O. Bonds	9,778	-	-	9,778	9,174	604	-	-	-	-	-
TOTAL FUNDING SOURCES	21,696	61	334	21,301	19,312	1,989	-	-	-	-	-

OPERATING BUDGET IMPACT ($000s)

Impact Type		Total 6 Years	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32
Maintenance		1,600	-	-	400	400	400	400
NET IMPACT		1,600	-	-	400	400	400	400

APPROPRIATION AND EXPENDITURE DATA ($000s)

Appropriation FY 27 Request	9,778	Year First Appropriation	FY24
Appropriation FY 28 Request	-	Last FY's Cost Estimate	11,918
Cumulative Appropriation	11,918		
Expenditure / Encumbrances	386		
Unencumbered Balance	11,532		

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 26 hydrogen fuel cell electric buses, which will be procured as

part of the Veirs Mill Road Bus Rapid Transit (BRT) project. The County will partner with industry experts, including the Center for Transportation and the Environment 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 began in FY26 and the facility is anticipated to be completed in FY28.

COST CHANGE

Costs increase due to updated design estimate and increased scope, including a larger electrolyzer, to support additional hydrogen fuel cell buses.

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 EMTOC.

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. In FY26, $1.385 million in Current Revenue was swapped from P501913 for an equivalent amount of Federal Aid to ensure that grant funds are spent in accordance with the FTA grant agreement.

COORDINATION

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