1. Introduction

This EA describes the potential transportation and environmental effects from the construction and operation of the CCT Project. This document was prepared in accordance with the NEPA of 1969 and requirements of the U.S. Department of Transportation, FTA, and MDOT MTA. The FTA is the lead federal agency for this Project, while the MDOT MTA is the Project sponsor. The U.S. EPA, the NIST, the USACE, and the NCPC are cooperating agencies.

Funding for final design and construction, including right-of-way acquisition for the CCT, has been deferred until FY 2023. Lower than expected fuel prices and gas tax collection resulted in a shortfall of $746 million in overall MDOT revenue for state transportation projects. Of the $746 million shortfall, approximately $78 million was deferred, which had previously been allocated to fund CCT final design and right-of-way acquisition. If funding for the CCT becomes available via increased gas tax revenue, private interests, county or city funds, the CCT may move forward on finalizing the EA, updating design, and entry into FTA's Capital Investment Grant Program, prior to FY 2023.

1.1 Project Description

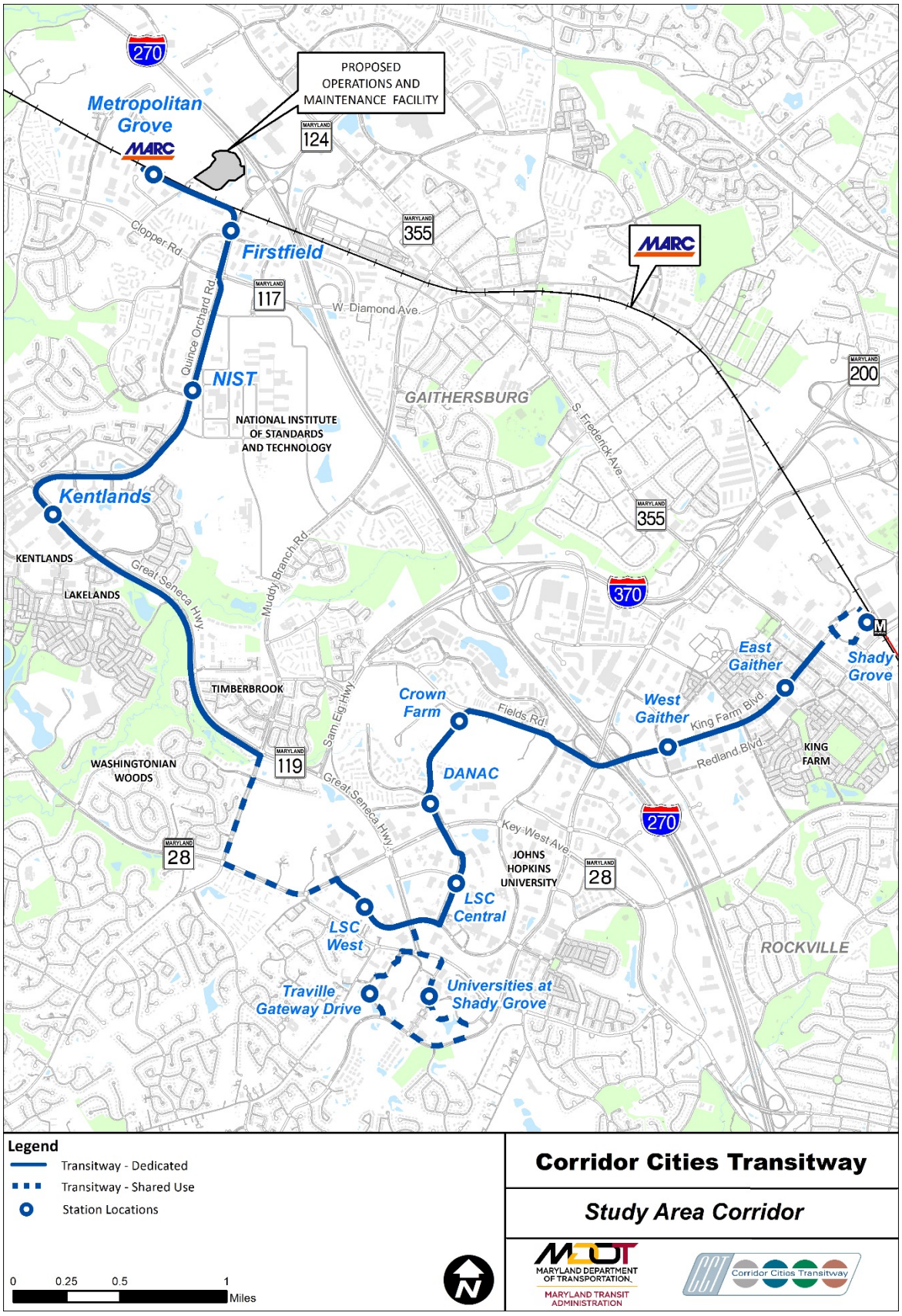
The CCT Project involves the operation of BRT service from the Metropolitan Grove MARC Station to the Shady Grove Metrorail Station. The study area corridor, shown in **Figure 1-1,** is located in Montgomery County, Maryland, within the I-270 corridor. The I-270 corridor serves commercial vehicles and commuters to Washington, DC, through the "Corridor Cities" of Gaithersburg, Rockville, and, ultimately, Germantown, Clarksburg, and Frederick.

The BRT service would operate for approximately nine miles and include 13 stations along the alignment. The CCT Project would operate at street level, separated from existing traffic, allowing for fast and reliable operation of service. The majority of the proposed alignment is located directly adjacent to or on existing transportation right-of-way that MDOT MTA has acquired or plans to acquire for the Project.

Why Bus Rapid Transit as the mode?
Bus Rapid Transit (BRT) systems take the benefits of light rail systems and combine them with affordability of bus technology. With their own dedicated roadways, lanes, efficient boarding aspects, and passing availabilities, BRT systems provide commuters with an efficient, affordable, and easy way to travel.

The CCT Project would provide fast and efficient travel along the I-270 corridor, serving both local trips and long-distance commutes. In particular, the Project would provide transit service to new and existing centers of commerce and residential development, including the transit-oriented mixed-use development of King Farm in the City of Rockville; and the Life Sciences Center community, Crown Farm, Metropolitan Grove (Watkins Mill), and Kentlands in the City of Gaithersburg. Furthermore, the CCT Project would provide direct connections with transit services extending into the District of Columbia and other regional destinations by way of the Metrorail Red Line at Shady Grove, the MARC Brunswick Line at Metropolitan Grove, and local bus service.

Figure 1-1: Study Area Corridor



1.2 Project Purpose and Need

1.2.1 Purpose

The purpose of the CCT Project is to improve connectivity, mobility, and livability; increase transit capacity; and improve regional air quality by providing premium transit service in the corridor. The CCT Project would help to:

- Improve inter-modal connections in the corridor;
- Increase transit capacity and meet transit demand;
- Enhance mobility;
- Support economic development and local government master plans to enhance the livability of communities in the corridor; and
- Improve regional air quality by increasing transit use.

1.2.2 Need

The need of the CCT Project results from:

- Lack of reliable connections among existing transit routes (including MARC, Metrorail, and local bus network);
- Existing transit service, which is at or near capacity and transit demand and ridership are forecasted to grow in the future;
- Roadway congestion, which contributes to unpredictable and slow travel times for automobiles and buses in the corridor;
- Demand for managed growth and economic development in the region which continues to grow; and
- A regional goal to improve air quality by providing alternatives to automobile usage.

Lack of connections among existing transit routes: The rapid growth and high-density development in the corridor have created the need for new connections among existing roadway and transit routes in the area. The study area corridor is currently served by WMATA Metrorail Red Line and MARC Brunswick Line rail services, as well as several bus services. Rail transit routes in the study area corridor were developed decades ago and continue to provide regional access to the urban employment center of Washington, DC. However, the growth in the corridor has occurred without new connections to or extensions of existing transit infrastructure. Consequently, transit has become increasingly difficult to access, hindered by the lack of connectivity between bus and rail transit.

Twelve bus lines, including ten Montgomery County Ride On routes, one MDOT MTA route, and one WMATA route, provide bus transit throughout the study area corridor. None of these bus lines provide direct, rapid access to the major activity centers of employment and residences along the study area corridor. Instead, the bus routes offer partial connectivity by reaching only select destinations and bypassing others. For instance, individual routes that depart from Shady Grove Metrorail Station typically reach only one or a few employment centers before returning to their origin. Many of the routes also circumvent large residential/mixed-use developments, such as Crown Farm and Kentlands, leaving many commuters living in the study area corridor with limited transit options for efficiently reaching the rail stations or other destinations within

the corridor. Lastly, there are no bus lines that directly connect to both the Metrorail and MARC station in the study area corridor, as the CCT Project would.

Existing transit service is at or near capacity and transit demand and ridership are forecasted to grow in the future: Demand for transit service and its related infrastructure is expected to grow substantially as planned growth in the study area corridor materializes over time. New residential neighborhoods and commercial centers, both planned and currently under construction, are expected to generate new demand for transit services. A larger population will result in more potential riders relying on existing transit routes, and new centers of employment and retail sales will result in more potential destinations located in the study area. Furthermore, increased vehicular traffic accompanying population and employment growth is expected to worsen congestion on study area corridor roadways, potentially influencing more people to choose transit as an alternative to driving.

There is substantial demand for existing bus service in the corridor, and ridership demand is expected to substantially increase for the existing 12 bus lines by 2035. Depending on the route, these increases range from about 30 percent to greater than 50 percent.

There is a high demand for existing rail transit service in the study area corridor; an average of over 13,000 people board the Metro Red Line every day at the Shady Grove Station. This number is expected to increase by 20 percent by 2035, resulting in over 2,600 new riders utilizing the service each day. The demand for transit in the study area is strong and is forecasted to continue to grow. The CCT would provide a more direct connection to the Shady Grove Metrorail Station. For commuters departing Shady Grove Metrorail Station desiring to reach destinations within the study area corridor, eight bus lines are available. However, only one bus line, WMATA J7/J9 (I-270 Express Line), travels through the corridor, but does not connect to any destinations within the study area corridor. Also, there are no bus lines that directly connect to both the Metrorail and MARC station in the study area corridor.

Roadway congestion which contributes to unpredictable and slow travel times for automobiles and buses in the corridor: Buses and automobiles traveling in the study area corridor are faced with daily congestion problems, and conditions are projected to worsen by 2035. Continuing development in the study area corridor would lead to new jobs and residences generating new trips, increasing the overall volume of vehicles on the study area roadways. According to U.S. Census American Community Survey (ACS) five-year estimates, approximately 80 percent of workers living in the study area corridor use private automobiles for their daily commutes—and just under 12 percent use public transportation.

While bus lines provide travelers with alternatives to single-occupancy vehicles, existing bus services must move in general traffic and are therefore subject to the same frequent delays from roadway congestion as single-occupancy vehicles. Congested roadways mean buses cannot consistently operate on schedule and travel times are not predictable; therefore, existing local bus routes are unable to compete with travel times of single-occupancy vehicles. This dilemma directly contributes to the majority of commuters' decisions to utilize single-occupancy vehicles on the road.

Because the study area corridor is largely developed, expanding or building new roadways to address the congested conditions on the existing roadway system would be difficult. The projected increases in employment and population will exacerbate the existing conditions. The impacts of these traffic conditions on bus service are already substantial, and future conditions will be worse.

Demand for managed growth and economic development in the region continues to grow: Montgomery County is expected to grow by nearly 100,000 new households between 2010 and 2035. This projection places Montgomery County second only to Fairfax County, Virginia for future growth in the DC Metropolitan region. Additionally, by 2035, County employment is projected to increase by nearly 40 percent from 506,000 employed residents to 703,000. These projections are displayed in **Table 1-1**.

Table 1-1: Montgomery County Forecasted Population Growth

Geographic Area	Category	2010	2035	Projected Increase 2010-2035 (%)
Montgomery County	Population	979,996	1,181,997	20.6
	Employment	506,000	703,000	38.9
	Households	360,500	453,000	25.7
Study Area Corridor (1/4 mile buffer)	Population	19,920	39,047	96.0
	Employment	31,204	60,411	93.6
	Households	7,921	16,998	114.6

Source: MWCOG Round 8.0 Cooperative Forecasts

Implementation of the CCT Project and other planned local and regional transportation projects establishes a foundation for economic development projects throughout the corridor. Within the study area corridor, with a current total of over 15 million square feet, more than 12,000 residential units, 29,000 office jobs, and 1,900 retail jobs have been approved for development. Much of this current and future economic and residential development is designed to be supported by transportation improvement projects like the CCT Project and several projects in the study area corridor have been specifically designed as transit-oriented development. Notable examples of these projects that emphasize high-density, mixed uses, and transit accessibility include Belward, Kentlands, Crown Farm, and Watkins Mill Town Center.

A regional goal to improve air quality by providing alternatives to automobile usage: Montgomery County is currently classified as an EPA Non-Attainment area for ground-level ozone. This designation indicates that the area falls short of EPA National Ambient Air Quality Standards (NAAQS), and could potentially pose harm to human health and livability. Ground-level ozone is the main component of smog, and is currently one of the Washington Metropolitan Region's most serious air pollution problems.

This harmful type of ozone is produced when vehicles emit volatile organic compounds (VOCs) and nitrogen oxides (NOx) that chemically react in sunlight. Because VOC and NOx emissions are greater at lower vehicle speeds, traffic congestion, especially on sunny, hot days, leads to higher levels of ground-level ozone and smog. Traffic congestion in the study area corridor contributes to these air quality problems, but transit can help reduce vehicle emissions by carrying more

passengers, using less fuel, and producing fewer emissions per traveler than cars. However, existing bus transit routes operating in mixed traffic are still regularly subject to traffic slowdowns which can result in higher air pollution emissions.

Under the federal Clean Air Act (CAA), the Metropolitan Washington Region's 2013 Constrained Long-Range Transportation Plan (CLRP) is required to conform to regional air quality improvement goals. Once the CLRP is drafted, it is analyzed via emissions modeling to ensure that the projects in the plan, when considered collectively, contribute to the air quality improvement goals embodied in the CAA Amendments of 1990. Clean air legislation provides that a metropolitan planning organization may not approve any transportation project that does not conform to the approved state implementation plan for the attainment of clean air standards. Federal activities may not cause or contribute to new violations of air quality standards, exacerbate existing violations, or interfere with timely attainment or required interim emission reductions towards attainment.

The CCT Project, along with numerous other transportation improvement projects throughout the Washington Metropolitan Region, is currently included in the most recent CLRP. According to the 2013 Metropolitan Washington Council of Governments (MWCOG) report, *Air Quality Conformity Determination of the 2013 CLRP and the FY2013-2018 Transportation Improvement Plan for the Washington Metropolitan Region*, mobile source emissions for each analysis year of the CLRP adhere to all ozone season VOC and NOx emissions budgets established by the Metropolitan Washington Air Quality Committee. The purpose and need focuses on meeting the current and future regional transportation needs of the area. The project is intended to contribute to achieving the region's air quality goals as part of an integrated, multi-modal regional transportation plan.

For additional details, refer to the CCT *Purpose and Need Statement* (**Appendix F**).

1.3 Applicable Laws and Regulations

The following laws, regulations, and executive orders are applicable to the CCT Project.

1.3.1 Laws

- National Environmental Policy Act of 1969 (42 U.S.C. § 4321 et seq)
- National Historic Preservation Act of 1966 (54 U.S.C. §300101 et seq)
- Endangered Species Act of 1973 (16 U.S.C. § 1531 et seq)
- Clean Air Act Amendments of 1990 (42 U.S.C. § 1251-1376)
- Federal Transit Laws [49 U.S.C. § 5301 et seq]
- U.S. Department of Transportation Act of 1966 (49 U.S.C. § 303 and 23 U.S.C. § 138)
- Land and Water Conservation Act of 1956 (16 U.S.C. § 460)
- Uniform Relocation Assistance and Real Property Act of 1970 (42 U.S.C. § 4601 et seq)
- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d-2000d-4)
- Americans with Disabilities Act of 1990 (42 U.S.C. § 12101 et seq)
- Clean Water Act of 1972 (33 U.S.C. §1251 et seq)

1.3.2 Regulations and Guidance

- The Council on Environmental Quality (CEQ) "*Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act*" (40 CFR, Parts 1500-1508)
- Advisory Council on Historical Preservation "*Protection of Historic and Cultural Properties*" (36 CFR, Part 800)
- FTA and FHWA "*Environmental Impact and Related Procedures*" (23 CFR, Part 771)
- FTA Circular 4703.1 "*Environmental Justice Policy Guidance for Federal Transit Administration Recipients*"
- FHWA "*Parks, Recreation Areas, Wildlife and Waterfowl Refuses, and Historic Sites*" [Section 4(f)] (23 CFR, Part 774)
- State of Maryland Tidal Wetlands Act
- State of Maryland Nontidal Wetlands Protection Act
- Code of Maryland Regulations (COMAR)

1.3.3 Executive Orders (EO)

- EO 11988, *Floodplain Management*. 42 FR 26951, Signed May 24, 1977 (Amended January 30, 2015)
- EO 11990, *Protection of Wetlands*. 43 FR 26961, Signed May 24, 1977
- EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. 59 FR 7629, Signed February 11, 1994
- EO 13166, *Improving Access to Services for Persons with Limited English Proficiency*. 65 FR 50121, Signed August 11, 2000
- EO 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*. 72 FR 33504, Signed January 24, 2077
- EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*. 74 FR 52117, Signed October 5, 2009