



DRAFT PROJECT REPORT
MAY 30, 2018





Acknowledgments

This Hanover Street Corridor Study report is prepared for the Baltimore City Department of Transportation (BCDOT) with assistance from AECOM, Assedo Consulting, Sabra, Wang & Associates, and Straughan Environmental and funded with a U.S. Department of Transportation (USDOT) Transportation Investment Generating Economic Recovery (TIGER) Grant, which is a means of funding needed transportation projects through the American Recovery and Reinvestment Act, as well as matching funds from Baltimore City.

City of Baltimore

Catherine Pugh, Mayor
Michelle Pourciau, Director of Transportation
Muhammed Khalid, Deputy Director/Chief Engineer

Project Team

BCDOT

Valorie LaCour, Division Chief, Transportation Planning
Linda Taylor-Newton, City Planner
Greg Bauer, Bridge Engineer
Graham Young, Traffic Manager
John Malinowski, Traffic Engineer
Amal Abid, Traffic Signals Engineer
Matthew Warfield, Bike Planner
Frank Murphy, Senior Advisor
Nikia Mack, Community Liaison

AECOM

Janie Tiedeman, Vice President
Dennis Simpson, Transportation Planning Manager
Josh Crunkleton, Transportation Engineer
Nick Corda, Senior Structural Engineer
Romaine Kesecker, Senior Landscape Architect
Ryan Bouma, Urban Planner
Matt Hill, Landscape Designer
Theo Ngongang, Senior Planner
Christine Graziano, Real Estate Economics
Shubha Adhikari, Transportation Planner
Timothy Ryan, Traffic Engineering Manager
Joanna Hiebler, Senior Environmental Specialist
Anthony Dowell, GIS Manager
John Delp, Graphic Designer

Assedo Consulting, LLC

Odessa Phillip, Outreach Manager
Tyler Thomas, Planner and Outreach Specialist

Sabra, Wang & Associates, Inc.

Paul Silberman, Senior Transportation Engineer
Kyle Roberts, Transportation Engineer
Elisa Mitchell, Transportation Engineer

Straughan Environmental, Inc.

Amanda Gould, Environmental Scientist
Chimere Lesane-Matthews, Environmental Planner
Christine Wysocki, Environmental Planner
Sarah Michailof, Cultural Resources Specialist

Special thanks to the business, community, and agency leaders who participated in the Community Advisory Panel and Interagency Advisory Group stakeholder groups that were formed as part of this study.



CATHERINE E. PUGH
MAYOR



DEPARTMENT OF TRANSPORTATION
BALTIMORE CITY



Table of Contents

CHAPTER 1: INTRODUCTION	1
Project History	1
Study Team	2
Study Area.....	2
Public Outreach.....	2
 CHAPTER 2: EXISTING CONDITIONS DATA COLLECTION AND MAPPING.....	2
Review of Area Master Plans	2
Data Collection.....	6
Structures.....	7
Existing Transportation Network	13
Existing Environmental Resources	20
Traffic Data.....	44
Public Outreach.....	48
Summary of Existing Conditions	48
 CHAPTER 3: ECONOMIC MARKET ANALYSIS.....	77
Background	77
Existing Market Dynamics.....	89
Strategic Analysis	91
 CHAPTER 4: ANALYSIS OF THE EXISTING TRANSPORTATION NETWORK.....	99
Barriers to Multimodal Safety, Connectivity, and Accessibility	99
Bridge Structures	108
Existing Roadway Conditions	118
Existing Pedestrian and Bicycle Facilities and Demand	120
Existing Freight Operations.....	128
Existing Transit Services and Operations	130
Existing Traffic Operations.....	141





Public Outreach..... 148

Summary 148

CHAPTER 5: DESIGN OPPORTUNITIES AND CONSTRAINTS..... 158

Roadway..... 158

Pedestrian and Bicycle 159

Transit 169

Freight 179

Urban Design..... 179

Bridge Structures 197

Traffic – Future (2040) Conditions 208

Public Outreach..... 218

Summary 219

CHAPTER 6: CORRIDOR PLAN AND GUIDING PRINCIPLES..... 230

Guiding Principles 230

Short-Term Bridge Maintenance Work..... 231

Corridor Recommendations..... 231

Corridor Cost Estimates 234

Public Outreach..... 237

Next Steps / Key Factors to Advance the Project 237

Summary 240

APPENDICES

- Appendix A – Agency Correspondence
- Appendix B – Existing Market Dynamics Analysis
- Appendix C – Additional Economic Data
- Appendix D – Bridge Cost Estimates
- Appendix E – Corridor Cost Estimates





CHAPTER 1: INTRODUCTION

Project History

The historic Hanover Street Bridge, officially renamed the Vietnam Veterans Memorial Bridge in 1993, was constructed in 1916, and is a major gateway into Baltimore City from I-95 and the Port of Baltimore. This 100-year old drawbridge is located on South Hanover Street and crosses the Middle Branch of the Patapsco River between West Cromwell Street and Waterview Avenue. The bridge is the primary access corridor into the city for many south Baltimore neighborhoods.

In 2016, The Baltimore City Department of Transportation (BCDOT) began a study of improvements to the bridge and adjacent corridor. The goal of the Hanover Street Corridor Study is to identify ways to upgrade and enhance the Vietnam Veterans Memorial Bridge and Hanover Street corridor that will improve accessibility for local and regional motorists to and from the Port of Baltimore, promote better connectivity between Local Bus and Light Rail services, provide the surrounding communities with safe and reliable access to key quality of life resources, and maintain a critical link between existing and planned bicycle and pedestrian trails.

The Hanover Street Corridor Study is the first step in the larger project development process and includes the following:

- Data collection and evaluation to determine how the Hanover Street corridor is currently being used and assess how it is expected to be used in the future
- Assessment of ways to improve mobility and safety for all users of the bridge and the adjacent corridor
- Evaluation of the existing bridge and determining next steps for rehabilitation or replacement of all or some of the structure

The major corridor elements to be considered include pedestrian and bicycle facilities, recreational facilities, transit facilities, freight and goods movement, and safety amenities. All of this data informs the development of the feasibility study for the transportation corridor and the guiding principles for BCDOT to use when finalizing plans to address the future needs. Future steps in the project development process, which are not part of this study, include identifying future funding, conducting planning and environmental regulatory reviews, and performing detailed design and construction of improvements.

The Hanover Street Corridor Study is being funded with a \$1.1 million U.S. Department of Transportation (USDOT) Transportation Investment Generating Economic Recovery (TIGER) Grant, which is a means of funding needed transportation projects through the American Recovery and Reinvestment Act, as well as \$700,000 in matching funds from Baltimore City.

The Work Plan from the TIGER Grant application outlined six milestone tasks, which are discussed in this report:





- Develop and Implement a Comprehensive and Robust Public Outreach Strategy
- Assess Existing Conditions and Collect Data
- Conduct Economic Market Analysis
- Study Existing Transportation Network
- Identify Design Opportunities and Constraints
- Develop Corridor Plan Document

Study Team

The Hanover Street Corridor Study is being led by BCDOT, the project owner. The Study Team is comprised of BCDOT, two stakeholder groups – a Community Advisory Panel (CAP) and an Interagency Advisory Group (IAG), and the consultant team made up of AECOM, Assedo Consulting, LLC, Sabra Wang & Associates, and Straughan Environmental, Inc. More detailed information on the stakeholder groups are provided later in this chapter in the Public Outreach section.

The Study Team will also obtain information from the general public in a series of public meetings throughout the duration of the project.

Study Area

As shown in **Figure 1-1**, the Study Area includes the Vietnam Veterans Memorial Bridge and extends along Hanover Street from Wells Street in South Baltimore to Reedbird Avenue in Cherry Hill, a distance of approximately 1.4 miles. While the Vietnam Veterans Memorial Bridge is a major component of this study, the Study Area also contains the adjacent roadway and neighboring communities so that the relevant engineering and environmental resources of potentially impacted areas are investigated as the study progresses.

Concurrent studies in the area are shown in **Figure 1-2**. These studies include the joint Maryland Transportation Authority (MDTA) and BCDOT I-95 Access Improvements Study and two Port Covington development projects led by Weller Development and Under Armour. The study teams for these projects are working together to share information.

Public Outreach

A key success factor in a planning study is engagement of key stakeholders to educate them and obtain input regarding the study. For the Hanover Street Corridor Study, the Study Team requested feedback from a combination of community, business, and agency sources so that the team could develop a full understanding of the needs, challenges, and desires of the most frequent users of the corridor and those responsible for protecting the facility and the surrounding natural and human environment.





Two stakeholder groups were formed as part of this study – a Community Advisory Panel (CAP) and an Interagency Advisory Group (IAG). The CAP is comprised of representatives from local businesses and community leaders that provide insight into how the corridor is currently being used and advise on the changes the communities have expressed a desire to see. The IAG is comprised of representatives from various federal, state, and city agencies who are tasked with providing information on current and future projects adjacent to the Hanover Street corridor. Information was shared with the general public through three primary methods – a project newsletter, BCDOT’s website, and a series of public meetings. All stakeholder and public meeting summaries are available on the project website: <http://transportation.baltimorecity.gov/tiger/hanover-st/>





Hanover Street Corridor Study

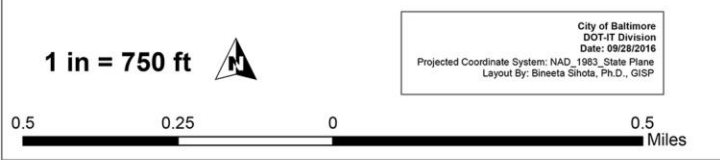
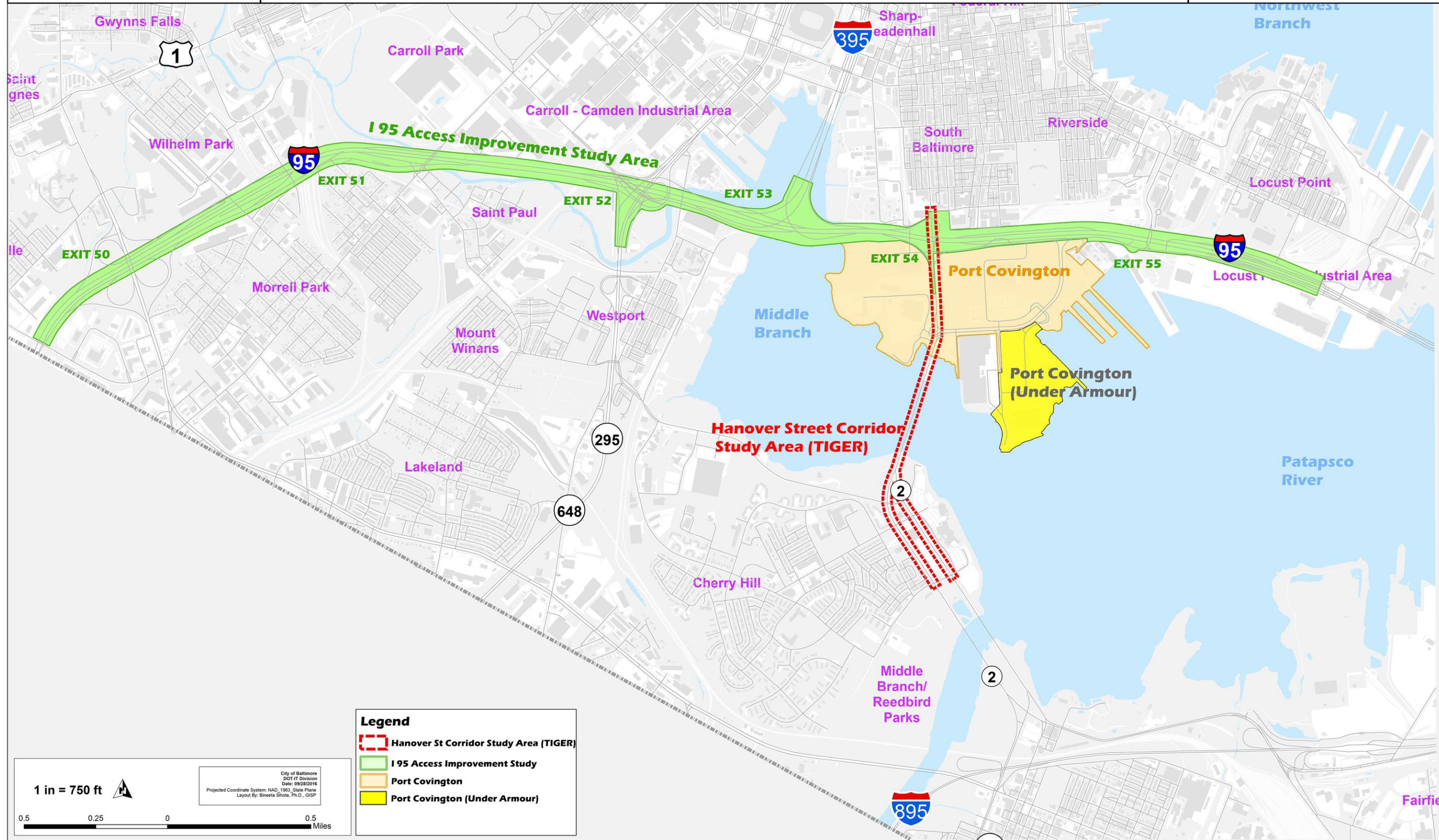
Figure 1-1: Study Area





Hanover Street Corridor Study

Figure 1-2: Other Area Projects



Legend

- Hanover St Corridor Study Area (TIGER)
- I 95 Access Improvement Study
- Port Covington
- Port Covington (Under Armour)

City of Baltimore
 DOT/IT Division
 Date: 09/28/2016
 Projected Coordinate System: NAD_1983_State Plane
 Layout By: Bineeta Sihota, Ph.D., GISP