U.S. Department of Transportation
Federal Railroad Administration

DRAFT STATEMENT OF WORK FRAMEWORK Version 3
4.1.25 - DRAFT

Corridor Identification and Development Program Step 2 Service Development Plan

A. INTRODUCTION

The Federal Railroad Administration (FRA) Corridor Identification and Development Program (CIDP) is a comprehensive intercity passenger rail planning and development program that will help guide intercity passenger rail development throughout the country and create a pipeline of intercity passenger rail products ready for implementation. Under the CIDP, corridor development will occur in three sequential steps: Step 1 – Corridor Development Initiation and Scope, Schedule, and Cost Estimate for Preparing a Service Development Plan (SDP); Step 2 – Service Development Plan; and Step 3 – Project Development.

The purpose of this document is to provide a scope of work (SOW) framework for conducting a service development plan (SDP) under Step 2 of the CIDP. This document is based on previous service development planning efforts funded by FRA and is intended to provide interested corridor sponsors early expectations about the types and levels of analysis expected to conduct an SDP under 49 U.S.C. § 25101(d) for a new passenger rail corridor. The tasks in an SOW for improvements to, or an extension of, an existing service under the CIDP may be similar to the tasks identified in this document, although some tasks may be scaled back or unnecessary.

FRA will evaluate any prior SDP efforts, including previously completed SDPs or SDP elements, during Step 1 to assess whether those efforts may fulfill some of the subtasks and tasks identified below, or whether updates or modifications to existing analyses is necessary as part of Step 2. Updates or modifications may be necessary due to differences between the previous efforts and what the corridor sponsor proposes under CIDP, as well as the lifespan/timing of the previous work. If previously completed work fulfills one or more of the SDP tasks or subtasks, the deliverable for each subtask or task will be modified to be a summary of the previously completed work.
Completing an SDP under CIDP occurs during the Project Planning stage of the Project Lifecycle as outlined in FRA's Guidance on Development and Implementation of Railroad Capital Projects (January 11, 2023).[1] FRA will consider completion of the SDP under Step 2, other applicable documentation, and corridor readiness when assessing whether a project is ready to advance to the Project Development stage, which includes both environmental review (i.e., under the National Environmental Policy Act (NEPA)) and preliminary engineering, under Step 3 of the CIDP.

The intended audience of this framework includes interested corridor sponsors, partners, stakeholders, and professionals who contribute to completing the tasks outlined herein.

[1] The Guidance on Development and Implementation of Railroad Capital Projects (January 11, 2023) is available at https://railroads.dot.gov/elibrary/fra-guidance-development-and-implementation-railroad-capital-project.

Throughout the document, FRA has provided instructions to help potential corridor sponsors understand the intent of the tasks and subtasks related to preparing an SDP and how the tasks might be tailored for the specific and unique circumstances of individual corridors.

For the purposes of this framework, "work products" are generally required for FRA to ensure methodologies and outputs are developed succinctly and appropriately for specific technical analyses, while "deliverables" represent the substantial completion of an overall task, including the culmination of work products under each task.

ARTICLE 4: STATEMENT OF WORK

4.1 General Project Description

From the late 1800's until the 1940's, Delaware had passenger rail service on the Delmarva Peninsula, transporting people throughout southern Delaware and into eastern Maryland. Passenger rail ended in the 1940s as highway and roadway expansion and improvements occurred on the Delmarva Peninsula.

In the last few decades, the Delmarva Peninsula's population has increased, and its demographics have changed. The peninsula remains a popular resort area but now it has become a retirement destination, especially southern Delaware. Reflecting this growth is a steady increase in economic development. The Diamond State Line Study will examine the feasibility of reestablishing a passenger rail service to service the peninsula's residents, businesses and visitors.

The Diamond State Line seeks to address the acute shortage of viable transportation options in a corridor shed that lacks both a direct interstate highway connection and passenger rail options that other Northeast states and regions enjoy. It will also connect rural and environmental justice communities in the Delmarva peninsula providing enhanced access and mobility to activity centers such as housing, educational institutions, medical facilities, and retail and commercial services. It will restore passenger rail access to and from Delaware's largest cities and towns and provide opportunities for multimodal connections to the communities that swell in numbers during the summer. This project will support DelDOT's goals of enhancing equity by improving transit access to historically underserved communities with inadequate access to life's opportunities.

There are five railroad right of-way owners and operators in the potential alignments (see Subtask 1.1) and multiple jurisdictions – cities, towns, counties and MPOs. Early and effective engagement of these stakeholders will be an important aspect of this project.

The study will evaluate originating service from either the Wilmington Amtrak train station or Newark Regional Transportation Center and terminating in Salisbury, MD and/or Berlin, MD (Figure 1). It will consider both the use of existing freight rail lines and the construction of new rail infrastructure. The study will provide an in-depth analysis of infrastructure needs including switches, sidings, crossings, stations, access paths, parking lots, and safety requirements. The study will outline the scope of environmental study required to comply with NEPA and with the Delaware Climate Plan. The study will analyze socioeconomic data to understand the potential markets for the reintroduction of passenger rail, and the potential benefits for the region. The study will provide a clear picture of the scope of the work that will be required to conduct the study, the timeframe it will take to perform the study, and the cost for preparing the SDP.

Prior to the development of the Statement of Work (SOW), the Delmarva Intercity Rail Feasibility Study Analysis of Route Alternatives in the Delmarva region (2013) and the FRA CID Technical Memorandum Grant Application Updates of Key Elements of the Delmarva Intercity Rail Feasibility Study (2023) were completed. Each of the

aforementioned documents were reviewed as a part of the gap analysis process in CIDP Step 1 and were used, in part, to identify tasks and subtasks that will need to be completed as part of the SOW. Throughout this document references are made to these two documents.

The FRA CID Grant Technical Memorandum, although not a formal previous study, proposes new corridor alignments and destinations to account for changes in right-of-way (ROW) availability (Figure 2). For example, the 2013 study proposed a Lewes spur, which has since been converted to a multi-use trail under the Rails-to-Trails Act. While this does not preclude the return of rail service within the existing right-of-way, it could present challenges or additional costs. The CID Grant Technical Memorandum proposes additional corridor alignment and destination considerations. Due to the wide-ranging impact of re-establishing passenger rail service on the Delmarva Peninsula, no foreseeable or reasonable considerations have been excluded.

4.2 Project Location

The proposed Diamond State Line study area encompasses New Castle, Kent, and Sussex Counties in Delaware, and Worcester and Wicomico Counties in Maryland. The study will consider passenger rail service beginning in the Cities of Wilmington or Newark and terminating in either Salisbury and/or Berlin, MD. The line would run through the cities of Middletown, Dover, and Harrington (Figure 1). It could pass through Seaford, Milford, and/or Georgetown DE depending on the selected terminus. The study will also consider connections to the Delaware resort areas of Lewes, Rehoboth, and Bethany as well as Maryland's eastern shore around Ocean City.

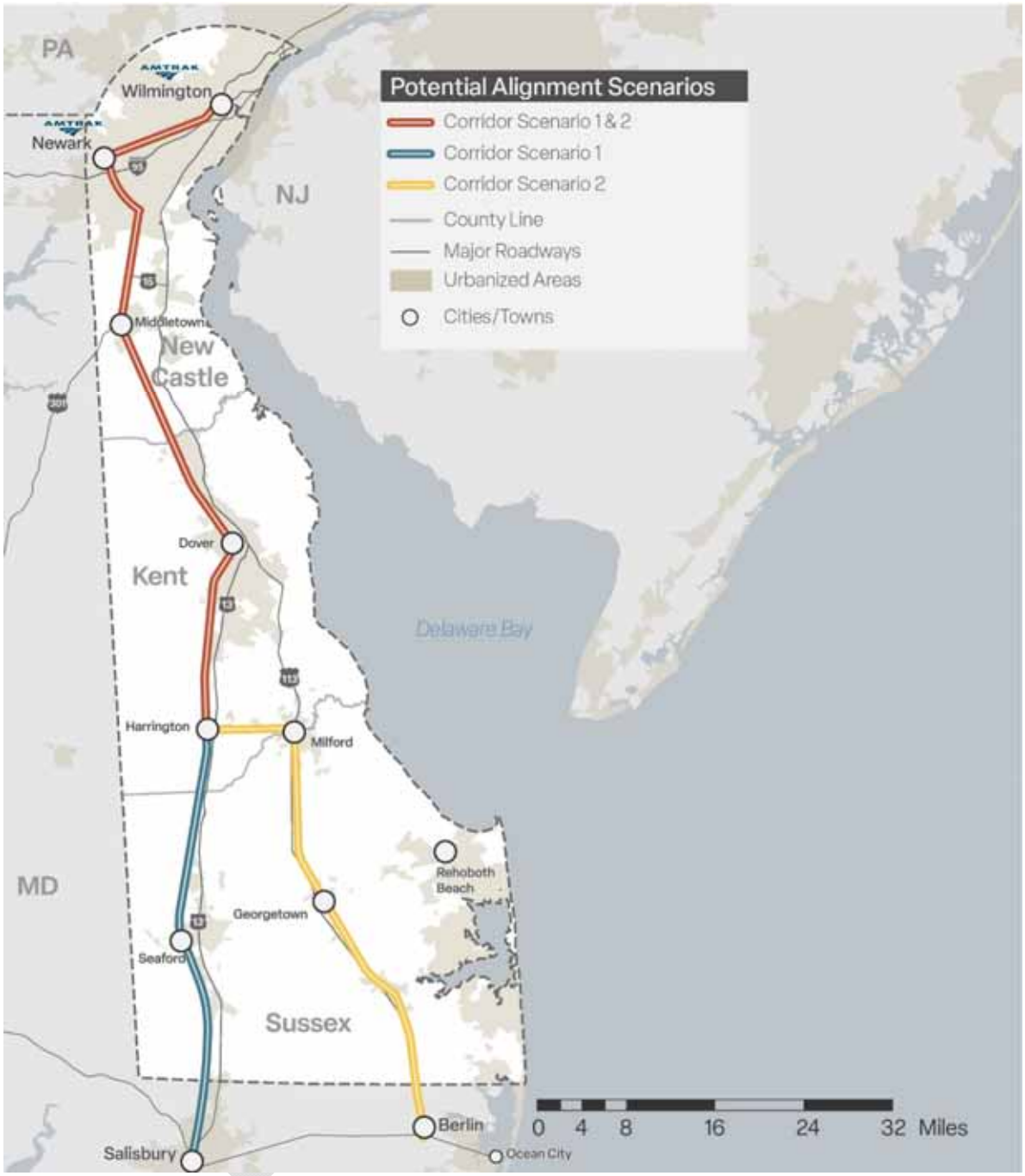

Figure 1: Project Location and Potential Alignments

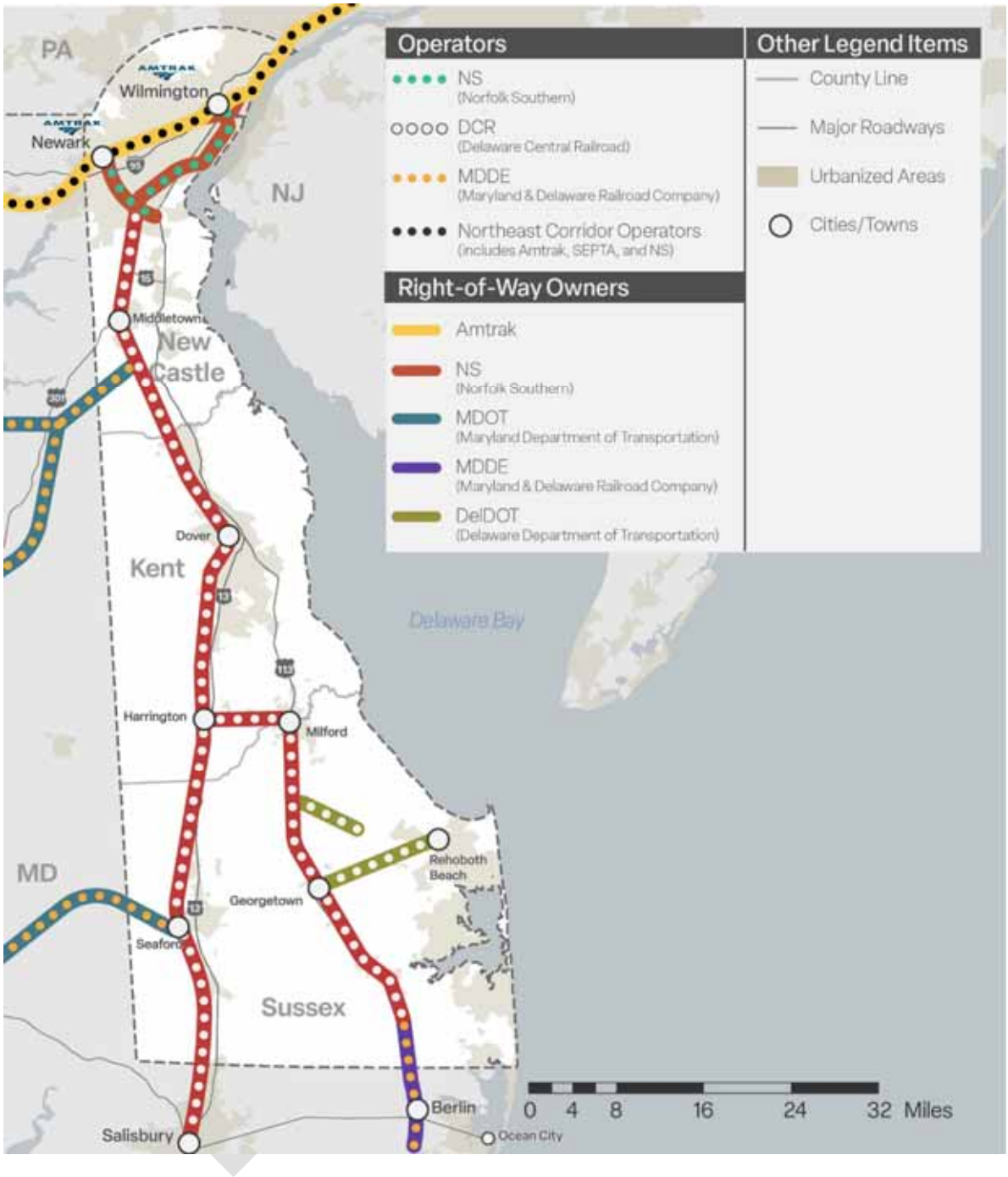

Figure 2: Project ROW Owners and Operators

4.3 Project Scope

This grant will fund the completion of an SDP for the Diamond State Line Corridor in partnership with FRA. The main objectives of an SDP are to identify the draft Purpose and Need Statement for intercity passenger rail development; incorporate an analysis of alternatives supported by technical transportation planning and conceptual engineering; incorporate a high-level analysis and consideration of environmental factors associated

with the alternatives; include input provided through public involvement, coordination with relevant public agencies, and consultation with tribes; and identify the governance structure for the implementation and operation of the Diamond State Line Corridor.

The SDP results in a corridor project inventory that identifies the capital projects necessary to achieve the proposed service. The SDP serves as the foundation for Step 3 Project Development activities under the CIDP.

The Recipient will notify FRA in writing of any requested changes in the Project Scope and will not proceed with the changed scope unless approved by FRA in writing. If approved, changes to the Project Scope may require an amendment to this Agreement.

TASK 1: PROJECT ADMINISTRATION AND MANAGEMENT

Subtask 1.1: Project Administration

The Recipient will perform all tasks required for the Project through a coordinated process, which will involve all affected railroad owners, operators, and funding partners, including:

- Federal Railroad Administration (FRA)
- The National Railroad Passenger Corporation (Amtrak), railroad right-of-way owner and passenger rail operator
- Delmarva Central Railroad (DCR) a subsidiary of /Carload Express, freight operator
- Norfolk Southern, railroad right-of-way owner and freight operator
- Maryland & Delaware Railroad Company (MDDE), railroad right-of-way owner and freight operator
- Delaware Department of Transportation (DelDOT) railroad right-of-way owner
- Delaware Transit Corporation (DTC), an operating division of DelDOT
- Maryland Department of Transportation (MDOT) railroad right-of-way owner and freight operator

The Recipient will facilitate the coordination of all activities necessary for implementation of the Project. The Recipient will:

- Participate in a project kickoff meeting with FRA [if not already held prior to award];
- Complete necessary steps to hire a qualified consultant/contractor to perform required Project work, as necessary;
- Hold regularly scheduled Project meetings with FRA;
- Review and approve work as it is completed; and
- Participate in other coordination, as needed.

WILMAPCO (Wilmington Area Planning Council) is DTC/DelDOT's project partner and will:

- Maintain the project website, ensuring that it is updated as needed,
- Participate in project team meetings, and
- Review project deliverables.

The Project Team will coordinate with the following stakeholders at regular meetings:

- Dover/Kent County MPO
- Sussex County, DE
- Dover, DE
- Middletown, DE
- Harrington DE
- Seaford, DE

- Milford, DE
- Georgetown, DE
- Lewes, DE
- Wicomico MPO
- City of Salisbury, MD
- Town of Berlin, MD
- The National Railroad Passenger Corporation (Amtrak)
- Norfolk Southern (NS)
- Delmarva Central Railroad a subsidiary of Carload Express, Inc. (DCR)
- Southeastern Pennsylvania Transportation Authority (SEPTA)
- Maryland Area Rail Commuter (MARC)
- Delaware Department of Transportation (DelDOT)
- Maryland Department of Transportation (MDOT)
- Maryland & Delaware Railroad Company (MDDE)
- State of Delaware Governor's Office
- Lenape Indian Tribe of Delaware

DTC's engineering consultant will be responsible for the following:

- Assisting Project Manager as requested,
- Performing requested research,
- Developing SPM for Stage 2 Scope of Work, Budget, and Schedule,
- Reviewing and commenting on Step 1 submissions,
- Reviewing and commenting on FRA comments and suggestions,
- Reviewing and considering prior downstate passenger service studies,
- Participating in Step 1 stakeholder informational meeting, and
- Attending monthly team and FRA meetings.

Subtask 1.2: Project Management Plan

The Recipient will prepare a Project Management Plan (PMP) that describes how the Project will be implemented and monitored to ensure effective, efficient, and safe delivery of the Project on time and within budget. The PMP will describe, in detail, the activities and steps necessary to complete the tasks outlined in this Statement of Work.

The PMP will include a Project Schedule and Project Budget for the work to be performed under this Agreement. The Project Schedule will be consistent with the Estimated Project Schedule in Section 5.2 of this Attachment 2 but provide a greater level of detail. Similarly, the Project Budget will be consistent with the Approved Project Budget in Section 6.5 of this Attachment 2 but provide a greater level of detail. In addition, the Project Budget will reflect the project contingency identified in the Approved Project Budget. The amount of the project contingency equals 10% of the total cost of the Tasks identified in Table 6-A, Approved Project Budget by Task. Use of the project contingency will require an update to the PMP.

DTC will accomplish the development of the PMP by coordinating the activities and

responsibilities of all DTC employees and all other project parties. It will accomplish same by performing the following activities:

- Identifying all parties with a stake in the program,
- Holding regular meetings with team members,
- Documenting all meeting discussions,
- Serving as the hub for receiving and distributing all grant correspondence and documents,
- Reviewing and approving consultant work and invoices,
- Reviewing and updating project milestones,
- Regularly reviewing, auditing, and reconciling budget,
- Submitting quarterly reports to FRA in a timely manner,
- Ensuring the performance of the project's QA/QC,
- Submitting the PMP, budget, and schedule for the completion of Step 2, and
- Overseeing and coordinating project closeout with FRA.

The Recipient will submit the PMP to FRA for review and approval. The Recipient will implement the Project as described in the approved PMP. The Recipient will not begin work on subsequent tasks until FRA has provided written approval of the PMP, unless FRA has provided pre-award authority for such work under Section 6.6 of this Attachment 2. FRA will not reimburse the Recipient for costs incurred in contravention of this requirement. FRA may require the Recipient to update the PMP. The Recipient will submit any such updates to FRA for review and approval, and FRA will determine if updates to the PMP require an amendment to this Agreement. The Project Budget and Project Schedule may be revised consistent with Article 5 of Attachment 1 of this Agreement without amending this Agreement.

Subtask 1.3: Near-term Service Development Plan – NOT APPLICABLE

Subtask 1.4: Project Closeout

The Recipient will submit a Final Performance Report as required by Section 7.2 of Attachment 1 of this Agreement, which should describe the cumulative activities of the Project, including a complete description of the Recipient's achievements with respect to the Project objectives and milestones.

Task 1 Deliverables:

- Project Management Plan, Budget, and Schedule
- Final Performance Report

TASK 2: DRAFT PURPOSE AND NEED STATEMENT & STAKEHOLDER COORDINATION

The objectives of Task 2 are to develop a draft Purpose and Need Statement and identify the key stakeholders and coordination approaches to inform the technical analyses of the SDP. The Recipient will not begin work on Tasks 3, 4, and 5 until the draft Purpose and Need Statement, Railroad Stakeholder Coordination Plan, Agency Coordination Plan, and Public Coordination Plan have been completed, submitted to FRA, and the Recipient has received approval, in writing, from FRA.

Subtask 2.1: Draft Purpose and Need Statement

The Recipient will develop a draft Purpose and Need Statement that will serve as the foundation for the analysis of the SDP and the evaluation of infrastructure improvements to be identified through Tasks 3 and 4.

In developing a draft Purpose and Need Statement, the Recipient will consider the broad market conditions that inform the corridor, which may include some of the provisions identified under 49 U.S.C. 25101(c) and include a description of how the corridor would contribute to the development of a multi-State regional network of intercity passenger rail (consistent with 49 U.S.C. 25101(d)(9)). The Recipient will review previously prepared studies to help identify Purpose and Need information, as appropriate (e.g., local planning studies, engineering feasibility studies, etc.). If applicable, the Recipient may rely on a vision statement or information that was developed to support a previous phase of the Diamond State Line Project to inform the draft Purpose and Need Statement. The Recipient will submit the draft Purpose and Need Statement to FRA for review and approval.

The Recipient will develop and refine the draft Purpose and Need Statement, as necessary, to address information collected on the Diamond State Line Project during data collection; transportation analysis; and public, tribal, and agency scoping and involvement. The draft Purpose and Need Statement will be subject to agency, tribal, and public review and comment as part of the subsequent NEPA process in Step 3 of the CIDP.

A Purpose and Needs statement were established in the 2013 Delmarva Intercity Rail Report. Though largely still applicable, the DTC will update and refine the statement, as needed, to reflect current and projected socioeconomic conditions and transportation needs. The draft Purpose and Need Statement will support the environmental concerns analysis and NEPA approach to be developed in Task 5.

Subtask 2.2: Market Analysis

The objective of this subtask is to identify factors, conditions, and characteristics of intercity passenger rail transportation for the Diamond State Line Project. Market analysis considers the existing and projected characteristics of the transportation market to be served. Market analysis typically focuses on broader corridor-wide data trends, such as passenger travel volumes in the corridor by mode, current and future quality of transportation service, and demographic trends.

The goal of market analysis is to identify gaps between current rail service and rail service desired by users and potential users, and to analyze quantitative data for the draft Purpose and Need Statement. Market analysis establishes the context for the role that the proposed rail service will play in that intercity travel market and helps determine the factors to be considered in travel demand forecasting (Subtask 4.3). Information from earlier and relevant planning efforts associated with the corridor, such as regional rail planning efforts, may be utilized to inform market analysis. Market analysis outputs should include travel volumes by mode, service characteristics between major cities, and demographic and macroeconomic trends.

The Receipt will also consider other potential intercity passenger rail efforts that may share the same stations, corridor segments, or geographic markets in the market analysis. The Recipient will submit a Market Analysis Report to FRA for review and approval.

Some components of a market analysis were conducted in the 2013 Delmarva Intercity Rail Report, but that analysis is now outdated and missing key outputs. Therefore, a new market analysis will be performed.

Subtask 2.3: Railroad Stakeholder Engagement Plan

The Recipient will prepare and submit to FRA for approval a Railroad Stakeholder Engagement Plan that will outline the role of the host railroad(s), applicable operating railroads, and the potential corridor service operator(s) in the Diamond State Line Project's Study Area.

The plan will identify involvement activities linked to key milestones in the planning/engineering and alternatives analysis process and align with the schedule from Task 1. Involvement activities will include the corridor sponsor's planned engagement activities with key railroad stakeholders. The Railroad Stakeholder Engagement Plan will include a proposed schedule for completing the Diamond State Line Project analysis that accounts for engagement activities and appropriate review periods with key rail stakeholders. Railroad stakeholder engagement activities identified in the plan will be completed as part of Subtask 2.6 primarily during the completion of Tasks 3, 4, and 5, and all efforts will be summarized and documented in a Stakeholder, Agency, and Public Engagement Summary Report after the completion of Task 5.

The railroad stakeholders include: Amtrak, DCR, NS, and MDDE. Minimal stakeholder engagement occurred as a part of the 2013 study. A Railroad Stakeholder Engagement Plan will be developed to plan future engagement strategies. DTC will coordinate with the FTA Outreach Team for support and direction in developing the appropriate level of outreach with host and operating railroad(s).

Subtask 2.4: SDP Agency Coordination Plan

The Recipient will prepare and submit to FRA for approval an SDP Agency Coordination Plan that will outline the role of public agencies and Federally recognized tribes in the Diamond State Line Project. The plan will identify key contacts within potential state,

local, and federal agencies, and tribal governments with which the Recipient will attempt to consult. The Recipient will engage stakeholders throughout the entirety of this planning phase of the Diamond State Line Project.

The plan will identify involvement activities linked to key milestones in the planning/engineering and alternatives analysis process and align with the schedule from Task 1. Involvement activities may include individual agency or tribal consultation meetings, existing agency or tribal coordination efforts, or developing topic-specific technical working groups. The Agency Coordination Plan will include a project schedule for completing the Diamond State Line Project analysis that accounts for appropriate review and a schedule for corresponding engagement activities with agencies and tribal governments. Agency coordination activities identified in the plan will be completed as part of Subtask 2.6 primarily during the completion of Tasks 3, 4, and 5, and all efforts will be summarized and documented in a Stakeholder, Agency, and Public Engagement Summary Report after the completion of Task 5.

Federal, state, and local agencies have been identified for this corridor. However, this list will need to be reviewed for additional agencies that should be involved, including agencies local to potential stations on the corridor such as municipal and county planning agencies.

Subtask 2.5: Public Coordination Plan

The Recipient will prepare and submit to FRA for approval a Public Coordination Plan that will outline the role of the public in the Diamond State Line Project. The plan will identify key contacts within civic and business groups, public officials, non-federally recognized tribes, relevant interest groups, present and potential riders/users, private service providers/shippers, communities with environmental justice concerns, and the public. If not already identified in the previous two subtasks, the Public Coordination Plan will identify all relevant entities required to be consulted in the preparation of the SDP as identified under 49 U.S.C. § 25101(e).

The plan will identify involvement activities linked to key milestones in the planning/engineering and alternatives analysis process and align with the schedule from Task 1. Involvement activities will include the corridor sponsor's planned engagement activities with key public stakeholders. Activities may also include project-specific public meetings, virtual engagement opportunities, consultation meetings, existing agency coordination efforts, or developing topic-specific technical working groups. The Public Coordination Plan will include a project schedule for completing the Diamond State Line Project analysis that accounts for appropriate review and a schedule for corresponding engagement activities with public stakeholders. Public engagement activities identified in the plan will be completed as part of Subtask 2.6 primarily during the completion of Tasks 3, 4, and 5, and all efforts will be summarized and documented in a Stakeholder, Agency, and Public Engagement Summary Report after the completion of Task 5.

Key community contacts were not identified in the 2013 study. However, as a part of the FRA CID grant application, several elected officials, MPOs, counties, cities/towns, railroads, and other civic business entities provided letters of support. Key contacts will be to be updated, and public coordination plan will be developed under Subtask 2.5.

Subtask 2.6: Engagement Activities

The Recipient will perform the public and agency engagement activities identified in the Railroad Stakeholder Engagement Plan, Public Coordination Plan, and SDP Agency Coordination Plan as part of Subtasks 2.3, 2.4, and 2.5. These activities may include, but are not limited to, project-specific public meetings, virtual engagement opportunities, consultation meetings, existing agency coordination efforts, or conducting topic-specific technical working groups. Engagement activities will be completed primarily during the completion of Tasks 3, 4, and 5, and all efforts will be documented in a Stakeholder, Agency, and Public Engagement Summary Report after the completion of Task 5.

Public and agency engagement activities were not conducted as part of the 2013 study. Engagement activities with state, local and federal agencies along with railroad stakeholders and other interest groups including civic and business groups need to be conducted as part of the Service Development Plan (SDP).

The recipient will determine the appropriate amount of agency and public meetings as part of the approved Coordination Plan(s).

Task 2 Deliverables:

- Draft Purpose and Need Statement
- Draft and Final Market Analysis Report
- Railroad Stakeholder Engagement Plan
- Agency Coordination Plan
- Public Coordination Plan
- Stakeholder, Agency, and Public Engagement Summary Report

TASK 3: ALTERNATIVES ANALYSIS

The objective of this task is to conduct an alternatives analysis to identify preliminary alternatives for the proposed infrastructure investments that satisfy the draft Purpose and Need Statement developed under Task 2. The Recipient will complete Task 3 concurrently with, and supported by, the analytical outputs of Tasks 4 and 5. After completion of the SDP, the preliminary alternatives will be evaluated further in a subsequent NEPA process in Step 3 of the CIDP.

Under each subtask of the Alternatives Analysis, the Recipient will develop, or refine, and evaluate options for satisfying the draft Purpose and Need Statement. These will include options for routes ("Route Options"), service configurations ("Service Options"), and physical infrastructure investments ("Investment Packages"), which will be comprised of multiple individual infrastructure projects (or "Component Investments"). The Alternatives Analysis may also include developing and evaluating "Design Options" for each Component Investment. The Recipient will develop, or refine, and evaluate each type of Option sequentially as separate subtasks, beginning with Subtask 3.1.

Taken together, the Route, Service, and Investment Package Options, and corresponding Design Options carried forward under the respective subtasks will define the preliminary alternatives for the proposed infrastructure investments that will ultimately comprise the corridor project inventory (consistent with 49 U.S.C. 25101(d)(2)(A)).

Under each subtask, the Recipient will first prepare a Methodology Work Product that describes the methodology for conducting the options analysis under that subtask, including:

- The methods to be used for developing or refining options;
- The criteria for evaluating the options to determine which will be carried forward for further screening in the next subtask, including:
- Metrics (quantitative and qualitative) to be used;
- Method of evaluating options against those metrics (i.e., measurement methods); and
- Standards, based on the assessment of options against the identified metrics, for determining which options will be carried forward for further screening in the next subtask;
- The means for incorporating the analytical outputs of Tasks 4 and 5; and
- The means for incorporating stakeholder input in accordance with the coordination plans developed under Task 2.

The Recipient will submit the Methodology Work Product for each subtask in Task 3 to FRA. The Recipient will not commence work on the options analysis for the subtask until FRA has provided written approval of the Methodology Work Product. Following receipt of written approval from FRA, the Recipient will conduct the options analysis for the subtask in accordance with the approved Methodology Work Product.

Upon completing the options analysis for each subtask in Task 3, the Recipient will

prepare and submit to FRA a Final Subtask Work Product. The Recipient will not commence work on the subsequent subtask until FRA has provided written approval of the Final Subtask Work Product.

Upon completion of Subtask 3.4, the Recipient will submit a Preliminary Alternatives Analysis Report that summarizes the work undertaken in each subtask and identifies the preliminary alternatives that will be carried forward for further evaluation as part of the NEPA process in Step 3 of the CIDP.

Subtask 3.1: Route Options Analysis

The Recipient will develop and assess potential routes for the proposed rail line through the Study Area. In conducting the Route Options Analysis, the Recipient will consider the market needs and anticipated operating requirements specified in the draft Purpose and Need Statement.

Subtask 3.1 Diamond State Line Assumptions

The Delmarva Intercity Rail Feasibility Study (2013): Analysis of Route Alternatives should be revisited given the substantial changes in demographics and the economies of Delaware and Maryland since the 2013 study. The 2013 study focused on the feasibility of service between Newark, Delaware and Berlin, Maryland. The methodology utilized to define the route and service options in the 2013 Feasibility Study was based on now outdated demographic, economic, and mobility data.

For Subtask 3.1, the Diamond Line route analysis will evaluate route options in two general corridors based on the presence of railroad right-of-way (ROW). Both corridors would operate along the main spine extending from Amtrak's Wilmington Station or Newark Station and continuing to Middletown, Dover and Harrington. The first corridor extends towards the potential terminus at Seaford, with continued service to Salisbury, MD. The second corridor would branch at Harrington and run east to Milford, and then Georgetown, with continued service to Berlin, MD.

The methodology for the route analysis will include a market analysis of ridership and travel patterns for the northern end of the route of Wilmington, Newark, or Wilmington and Newark. The routing options for the first and second corridor options will be evaluated based on whether the proposed routings serve key markets and institutions in the corridor, support the development of business and community growth, the capacity on shared corridors with existing track, the condition of existing track, stations, and maintenance facilities.

Evaluation methods for route analysis will tie back to the purpose and need that will incorporate the community and stakeholder goals. These methods will identify both qualitative and quantitative measurements such as cost effectiveness (ridership, capital costs) and benefit cost analysis, including time savings, VMT, mobility opportunities for disadvantaged communities. The result of the route analysis will determine what route best meets sponsor goals and community needs along with the infrastructure capacity and requirements. The results will be shared with the public and stakeholders to solicit input.

Subtask 3.1 Work Products:

- Route Options Analysis Methodology Work Product
- Route Options Analysis Final Subtask Work Product

Subtask 3.2: Service Options Analysis

For those Route Options carried forward for further analysis, the Recipient will develop and assess potential viable service and operating options in the Service Options Analysis. In conducting the Service Options Analysis, the Recipient will consider the anticipated operating requirements specified in both the draft Purpose and Need Statement and Subtask 4.1 and identify which service options may be carried forward for further analysis and refinement at both the Investment and Design Option Analyses (Subtasks 3.3 and 3.4). The effort will be completed in coordination with DCR, NS, MDDE, DelDOT, MDOT, other stakeholders, and the Recipient will incorporate appropriate inputs associated with Stakeholder Engagement as part of Task 2. The Service Options Analysis should include, but is not limited to:

- A fleet analysis that identifies the type and quality of preferred train equipment to be used, with technical specifications such as maximum speed, passenger capacity, energy consumption profile, and acceleration and deceleration rates (consistent with 49 U.S.C. 25101(d)(7));
- Signal systems required, including Positive Train Control (PTC);
- Service frequency, operating speeds, and trip times (consistent with 49 U.S.C. 25101(d)(1));
- Fares and fare structure comparisons among proposed services;
- Description of potential service with existing and planned intermodal connections (consistent with 49 U.S.C. 25101(d)(10)); and
- Station locations and maintenance facility locations and, for each, whether it is existing or new and how it maximizes the use of existing infrastructure (consistent with 49 U.S.C. 25101(d)(6)).

Subtask 3.2 Diamond State Line Assumptions

- Service options will be developed based on initial market demand analysis of where and when passengers need to travel along the proposed corridor and route. Alternative frequency and stopping patterns will be evaluated along with the associated fleet or rolling stock alternatives and infrastructure investments. The frequency of service and fleet requirements will be determined interactively with the ridership estimation team. Throughout the analysis, the service options will tie back to the Purpose and Need. The service options will also consider requirements for passenger and freight service in the corridor to reduce conflicts and optimize the network. The service options analysis will also consider the potential transfers to local and intercity transit.

- The measurement methods for route options analysis will evaluate the travel time,

service frequency, safety and fares of the proposed route and service options based on capital investments. The result of the route analysis will determine what route best meets sponsor goals and community needs along with the infrastructure capacity and requirements.

Subtask 3.2 Work Products:

- Service Options Analysis Methodology Work Product
- Service Options Analysis Final Subtask Work Product

Subtask 3.3: Investment Package Options Analysis

For those Service Options carried forward for further analysis, the Recipient will develop and assess Investment Packages along those routes that could achieve the operational requirements specified in the draft Purpose and Need Statement and identify which Investment Packages will be carried forward for further analysis. The Investment Packages will include Component Investments, which are the individual physical investments that make up the Investment Package. The Investment Package Options Analysis will consider the potential phased implementation of physical investments.

High-level infrastructure cost estimates were prepared for the 2013 study. However, these high-level cost estimates are now outdated and did not include all the component investments needed to implement passenger rail service. For Subtask 3.3, the Recipient will update the description of Investment Packages including Component Investments and develop associated capital costs for the route options.

The recipient will coordinate with host railroads (such as NS, Amtrak, MARC, and freight carriers) to model infrastructure improvements to accommodate service options developed in 3.2.

Subtask 3.3 Work Products:

- Investment Options Analysis Methodology Work Product
- Investment Options Analysis Final Subtask Work Product

Subtask 3.4: Design Options Analysis

For each Component Investment included in the Investment Package Options carried forward for further analysis under Subtask 3.3, the Recipient may develop and assess the Design Options, if necessary, for that Component Investment. Conceptual-level design is sufficient for Component Investments that are likely to fall within the scope of a NEPA Categorical Exclusion specified under 23 CFR, part 771. Where there is more than one Design Option for the Component Investment, the Design Options will be evaluated in the subsequent NEPA process in Step 3 of the CIDP.

The 2013 study did not include a methodology for design options analysis or description of design options for each Component Investment. For Subtask 3.4, the DTC will conduct a Design Options analysis as needed for Component Investments.

Subtask 3.4 Work Products:

- Design Options Analysis Methodology Work Product
- Design Options Analysis Final Subtask Work Product

Task 3 Deliverables:

- Preliminary Alternatives Analysis Report

TASK 4: TRANSPORTATION PLANNING

The objective of this task is to conduct technical transportation planning analyses necessary to determine the characteristics of the proposed rail service. The Recipient is responsible for undertaking technical transportation planning activities, as applicable, to support the development and screening of preliminary alternatives, concurrently with Task 3. Task 4 is divided into subtasks, and the completion of each subtask will result in a Final Subtask Work Product summarizing the work undertaken in, and results of, that subtask. The Final Subtask Product for Subtask 4.1 will be submitted to and approved by FRA prior to the Recipient commencing work on any of the subsequent subtasks in Task 4.

The Recipient will provide, prior to the initiation of work under each subtask in Task 4, a Work Product documenting the methodologies to be employed in the work comprising that subtask. The Recipient will submit the Methodology Work Product for each subtask in Task 4 to FRA and will not commence work on a subtask until the Recipient has received approval of the subject Methodology Work Product in writing from FRA.

Task 4 will culminate in a Project Development Report that will document the Diamond State Line Project development outputs for those alternatives included in the Preliminary Alternatives identified at the completion of Task 3.

Subtask 4.1: Operational Requirements and Existing Physical Conditions Data Collection

The objective of this task is to collect all relevant existing physical and operating conditions and other relevant data related to the corridor to appropriately inform the corridor sponsor, FRA, and other key stakeholders before commencing work on any of the other detailed transportation planning activities identified under the remaining subtasks in Task 4. The Recipient will translate the general operational requirements consistent with the draft Purpose and Need Statement and described in the Service Options Analysis from Subtask 3.2 into a set of detailed operating requirements appropriate for supporting the development of Service Options. To the extent practicable, the Recipient will also collect and/or have access to other data on existing conditions relevant to the analysis to be undertaken in Task 4, including, but not limited to, the following:

- Existing train volumes (by operator/train type, and including all transfer, yard, local, and deadhead moves)
- Existing train characteristics (length, trailing tons, horsepower)
- Existing train routings through the Study Area (entry/exit and origination/destination points), including wye movements required of all passenger trains arriving at major passenger terminals
- Specific operating timetables for scheduled services or operating windows for unscheduled service
- Maintenance-of-way window requirements
- Abandoned rail lines and/or connections between rail lines, and/or abandoned/ removed track(s) on existing lines
- Track charts, including yards, industrial leads, etc.
- Existing track conditions, including FRA track class
- Existing junctions, including turnout speeds and parallel diverging moves
- Existing and proposed locations of intercity and commuter platforms
- Location of highway grade crossings and number of lanes
- Aerial photography
- Public and employee timetables
- Existing signal system design and PTC implementation status
- Existing operating practices
- Existing documented survey information, which is readily available in either printed, archived, or digital format.
- Route information including routes operating over-dimensional loads
- Railroad property records including existing right-of-way limits, including demarcation between owners/controllers of different sections of rail line and long- term operating leases
- Aboveground and underground rights lease to utility companies for communications or power facilities along rail lines
- Historical employee and public timetables for operations/services
- National Register of Historic Places-listed, -eligible, and potentially eligible properties
- Design documentation for adjacent highway structures
- Navigable waterways operating through moveable railroad bridges, including frequency of moves
- Locations where local freight activity or freight yard operations may foul main line activities for extended periods of time
- Documentation for other projects under development within the Study Area

To the extent practicable, the Recipient will make available to FRA data on existing conditions relevant to the analysis. The Recipient agrees that it will take no action that could limit FRA's access to such data without the express prior written approval of FRA. Work completed under conditions that limit FRA's access to the data outlined above or any component of the operations modeling analysis such as, but not limited to, methodology for determining type and location of infrastructure improvements, freight and passenger service assumptions that impact existing and future rail operations scenarios, and passenger and

freight performance outputs for draft and final networks will be ineligible for reimbursement if no prior approval from FRA is obtained.

Subtask 4.1 Diamond State Line Assumptions

Some operational requirements and existing physical data were collected in the 2013 Delmarva Intercity Rail Report. However, the 2013 study is missing key components and other elements are outdated, including updated freight schedules and infrastructure improvements or other condition changes since the last study. Therefore, an updated operational analysis is needed for Step 2 that is comprehensive and provides detailed operating requirements to support the development of service options.

Subtask 4.1 Work Products:

- Specification of Detailed Operational Requirements and Data Collection Methodology Work Product
- Specification of Detailed Operational Requirements and Data Collection Final Subtask Work Product

Subtask 4.2: Operations Analysis

The objective of this subtask is to assess the current physical conditions, proposed service characteristics, and other operating characteristics identified under Subtask 4.1 as inputs into an operations analysis that will identify the potential infrastructure and operational needs required to operate the proposed service. In support of the development and screening of alternatives undertaken in Task 3, the Recipient will undertake operations analysis of the various Route and Service Options under consideration to identify infrastructure investments for implementing the Diamond State Line Project. The Recipient will use appropriate tools, including train performance calculators and railroad operations simulation software, in performing the operations analysis. The operations analysis will allow for iterative development and stakeholder feedback. It will also include randomization of modeling scenarios with statistically significant results to ensure reliable corridor operations. Software used for operations modeling will require integration of data from existing infrastructure, freight railroad operations, and other passenger operations identified in Subtask 4.1.

The Recipient will outline the methodology to be used for this task in the Operations Analysis Methodology Work Product. The Recipient will ensure FRA concurs with the operations analysis approach prior to commencing operations analysis through the approval of the Operations Analysis Methodology Work Product. Throughout the operations analysis, the Recipient will maintain an appropriate degree of oversight and transparency. Since the results of operations analysis will be used to identify the corridor project inventory and capital and operating costs in subsequent tasks, the Recipient acknowledges that it is critical that FRA and the Recipient undertake this task with a high degree of confidence that the results of the operations analysis are appropriate and defensible relative to the level of public investment and benefit anticipated.

Subtask 4.2 Diamond State Line Assumptions

A high-level operations analysis was completed as part of the 2013 study but did not include a methodology for conducting the analysis or detailed simulation modeling. Therefore, an updated operations analysis is needed for subtask 4.2 that includes detailed rail simulation modeling of Route and Service options developed in Task 3.

Subtask 4.2 Work Products:

- Operations Analysis Methodology Work Product
- Operations Analysis Final Subtask Work Product

Subtask 4.3: Travel Demand and Ridership Forecasting

The objective of this subtask is to generate reasonable and empirically supported ridership estimation for potential rail service plans so the corridor sponsor can evaluate tradeoffs between different service features in conjunction with ridership estimation under Subtask 4.4. The outputs of the market analysis completed under Subtask 2.2 will also be used to inform this subtask. The Recipient will perform ridership forecasting based on passenger rail travel demand (consistent with 49 U.S.C. 25101(d)(8)(B)). Two major components of travel demand forecasting include developing a travel demand model for the market area (or using a preexisting travel demand model if appropriate) and using the model to generate demand forecasts. Inputs to this effort include, but are not limited to, socioeconomic data and growth rates, trip rates by mode, data regarding traveler's mode choice, station locations, transit connections, equipment technology, operating speeds, land use, etc. Travel demand forecasting methodology, in addition to supporting decision-making between alternatives, should also be rigorous and thorough enough to support a funding decision. The Recipient will also identify base and horizon service years that indicate the anticipated start date of the service and the implementation of the full-service vision. The Recipient will perform additional ridership analysis as refinements are made to the route, station locations, train speed, and other aspects impacting the service plan.

Subtask 4.3: Diamond State Line Assumptions

The 2013 study developed travel demand and ridership forecasts using the Amtrak intercity passenger rail model (proprietary). The Amtrak model did not consider intra-Delmarva trips or seasonality which is a large driving factor behind the purpose and need of the corridor. An updated modeling process, that will include modeling that will not be limited to Amtrak's proprietary model, is needed to account for demographic changes and growth detailed in the 2023 technical memorandum, including factoring in seasonality.

Subtask 4.3 Work Products:

- Ridership Forecasting Methodology Work Product
- Ridership Forecasting Final Subtask Work Product

Subtask 4.4: Revenue Evaluation Analysis

The objective of this subtask is to generate a reasonable revenue evaluation for potential rail service plans in conjunction with the ridership estimation under Subtask 4.3. The Recipient will develop a Revenue Evaluation Analysis with potential operating partners to

support the evaluation and screening of the alternatives undertaken in Task 3 (consistent with 49 U.S.C. 25101(d)(8)(A)). A ticket pricing strategy will be proposed for this service based on comparable services around the country. This information will then be used to generate revenue forecasts from fares and ridership for the Service Options Analysis from Subtask 3.2. The Revenue Evaluation will also detail the boardings and alightings based on varying station locations and other key variables. If applicable, special events will also be analyzed to understand how service fares can impact ridership levels during events. Additional work will include identifying other revenue sources for the Diamond State Line Project (advertising, grants, local contributions, etc.).

A revenue evaluation was completed in the 2013 study using ridership estimates from the Amtrak model and a low-fare/high-fare scenario. Revenue estimates should be updated to account for a more refined pricing structure analysis as well as to reflect new ridership estimates, inflation and updated proposed station locations that include Amtrak, SEPTA, MARC, DTC, MDOT, and other applicable ridership estimate models and fare scenarios.

Subtask 4.4 Work Products:

- Revenue Evaluation Analysis Methodology Work Product
- Revenue Evaluation Analysis Final Subtask Work Product

Subtask 4.5: Station Area and Access Analysis

The objective of this subtask is to identify the location of the stations to be served by the proposed infrastructure, examine how these stations will accommodate the trains and passengers associated with the proposed infrastructure, how passengers will access the stations, and how the stations will be integrated with or connected to other modes of transportation (consistent with 49 U.S.C. 25101(d)(6)). The assessment of the operations for each alternative should be performed to a level sufficient to identify key characteristics, challenges, or impacts to existing and future passenger rail service. The Recipient will prepare a station area and access analysis to include, but is not limited to:

- Determining the operational requirements of stations and station access for the new passenger rail service;
- Maximizing connectivity to existing transit services where available and to future planned services not yet providing service to these specific station locations;
- Accommodating pedestrian, bicycle, micromobility, and other ride-sharing services with efficient access;
- Connecting to major transportation roadway arterials and provision of parking areas;
- Discussing the economic development potential (commercial/residential) at each station area; and
- Developing a conceptual engineering layout for each station, including parking sufficient for Diamond State Line Project projected ridership and operations plans.

The Recipient will submit the Station Area and Access Analysis, as part of the Diamond State Line Project Development report, to FRA for approval.

The 2013 Delmarva Rail study included a brief description of station operations and requirements for station tracks, but a more detailed analysis is required for Step 2. The 2013 study did not evaluate forecasted demand for transfers for existing and new connecting services. For Subtask 4.5, the operational requirements for stations and station access will be updated along with provisions to maximize connectivity to existing and future transit services. The station analysis will include options to accommodate multi-modal access, connections to roadway, connections to proposed DTC services, and parking, economic development potential, and conceptual engineering layout for each station, including parking.

Subtask 4.5 Work Products:

- Station Area and Access Analysis Methodology Work Product
- Station Area and Access Analysis Final Subtask Work Product

Subtask 4.6: Conceptual and Early Preliminary Engineering

The objective of this task is to identify and classify the list of capital projects needed to construct and operate the proposed service. Conceptual engineering converts the required infrastructure identified in the other planning elements into discrete capital projects.

These capital projects will be accompanied by a set of conceptual engineering drawings that include basic visual depictions of the projects, including maps, track charts, conceptual stations, and proposed interlockings. In support of the development and screening of alternatives undertaken in Task 3, the Recipient will develop conceptual and early preliminary engineering for the various Investment and Design Options under consideration that is sufficient to support the analysis identified in the respective subtasks.

The Investment Options Analysis will be supported by conceptual-level engineering that will address, at a minimum and for each Component Investment:

- The specific operational objectives and functional requirements of the Component Investment; and
- The location of the Component Investment for track designs, a linear scale schematic showing track configuration, turnout sizes and type (powered, hand-thrown, etc.), proposed signal locations, distance between signals, limits of signalization, limits of curves with degree of curvature, and proposed speeds, including a comparison (through parallel drawings) of the existing and proposed designs.

The Design Option Analysis will be supported by early preliminary-level engineering that will address, at a minimum and for each Component Investment:

- The physical feasibility of the design;
- The ability of the proposed design to fulfill the operational objectives and functional requirements of the specific Component Investment (as established in the Investment Options Analysis);

- The general constructability of the design, including consideration of potential construction phasing to allow for the continuation of operations during the construction period; and
- The adequacy of the design to support a future, detailed, site-specific environmental analysis of the Component Investment.

For new track infrastructure, scale drawings should include, as appropriate: turnout sizes and type (powered, hand thrown, etc.), proposed signal locations, distance between signals, limits of signalization, limits of curves and curve geometry, gradients, and proposed speeds, including a comparison (through parallel drawings) of the existing and proposed designs.

Conceptual and Early Preliminary Engineering were not completed in 2013 and will need to be developed upon the completion of Task 3.

Subtask 4.6 Work Products:

- Conceptual and Early Preliminary Engineering Methodology Work Product
- Conceptual and Early Preliminary Engineering Final Subtask Work Product

Subtask 4.7: Capital Cost Estimation

The objective of this subtask is to identify the capital cost to design, construct, and implement the proposed service. This includes developing a cost-estimating methodology to document the assumptions for costing the projects as well as a phasing strategy to implement the project that identifies service targets and infrastructure needs by phase.

The Recipient will prepare capital cost estimates for each preliminary alternative including unit cost and quantities relating to core track structures and other components, fleet, management, design and construction management allowances, and contingencies (consistent with 49 U.S.C. 25101(d)(8)(C and D)). At a minimum, these will include an initial high-level cost estimate (based on the Conceptual Engineering developed under Subtask 4.6) to be used to support the Investment Options Analysis, and a more detailed cost estimate (based on the early preliminary-level engineering developed under Subtask 4.6) to be used to support the Design Options Analysis. As the Diamond State Line Project is currently in the planning phase, the capital cost estimation should be commensurate with other planning assumptions and analyses. As the program moves beyond project planning and towards project development (Step 3 of the CIDP) and implementation (beyond the CIDP), capital cost estimation will be further refined. In developing the Capital Cost Estimation Methodology, the Recipient may refer to FRA's Capital Cost Estimating Guidance.

Subtask 4.7 Diamond State Line Assumptions

Capital costs were estimated in the 2013 Study and also updated in the 2023 Technical Memorandum (Section 4.0 for the Berlin/Ocean Pines alignment). However, the 2013 study did not include a phasing strategy nor did the study develop a package of capital

investments needed to implement service. DTC will need to prepare an updated detailed capital cost estimation for the SDP.

Subtask 4.7 Work Products:

- Capital Cost Estimation Methodology Work Product
- Capital Cost Estimation Final Subtask Work Product

Subtask 4.8: Operations and Maintenance Cost Estimation

The objective of this subtask is to convert the identified operating resources such as labor, materials, and services needed to operate the proposed service into an annual cost projected for the planning horizon. The cost estimate for the initial five-year operating period will include a robust and detailed analysis and an escalation factor can be applied to later operating years (consistent with 49 U.S.C. 25101(d)(8)(E)). Operating cost estimates will also include analysis of labor planning needs. The Recipient will prepare general estimates of operating, maintenance, and capital renewal costs for both a mid- and long-term period. The mid- and long-term estimates are intended to convey the level of financial commitment required to maintain the service over time.

Subtask 4.8 Diamond State Line Assumptions

Operating and maintenance estimates out to 2038 were developed in the 2013 Delmarva Intercity Rail Feasibility Study. For the SDP, operations and maintenance estimates need to be updated using a more refined service approach and to reflect increasing costs of railroad operations and maintenance and include estimates of operating, maintenance, and capital renewal costs over a 40-year period and detailed labor planning needs.

Subtask 4.8 Work Products:

- Operations and Maintenance Cost Estimation Methodology Work Product
- Operations and Maintenance Cost Estimation Final Subtask Work Product

Task 4 Deliverables:

- Draft Diamond State Line Project Development Report
- Final Diamond State Line Project Development Report

TASK 5: ENVIRONMENTAL PLANNING

The objective of this task to is to identify key environmental considerations in the development of the alternatives to support future lifecycle stages of the corridor's development, including project-level environmental analysis. The Recipient will perform a high-level and qualitative socioeconomic, cultural, human environment, and natural environmental resource inventory and preliminary effects analysis as part of the development and screening of options, concurrent with Tasks 3 and 4. The Recipient will build upon the findings from environmental-effect analysis to assess potential environmental effects of the preliminary route, service, investment, and design options, and employ the outputs of this environmental-effect analysis to support the screening of those options. Where environmental documentation is not available, the Recipient will perform additional desktop analysis to inventory existing conditions and identify key social, cultural, natural, and physical project concerns. The Recipient will review the environmental resources and determine, with input from agencies, tribes, and the public, the extent of analysis needed for each resource for the subsequent NEPA process in Step 3 of the CIDP.

The Recipient will prepare an Environmental Concerns Analysis Report that will document the potential significant socioeconomic, cultural, human environment, and natural environmental effects of the Preliminary Alternatives identified at the completion of Task 3. The Report will document the anticipated benefits of the corridor's impacts as they relate to other transportation modes, energy consumption, land use, and economic development (consistent with 49 U.S.C. 25101(d) (11 and 12)). The Report will also address possible approaches to completing the project-level environmental review of those alternatives, including the potential NEPA class(es) of action for subsequent environmental document(s) under Step 3 of the CIDP. The Recipient should take into consideration the results of the Investment Package Options Analysis performed in Task 3.3, as well as any component investments proposed, when determining potential NEPA class(es) of action. This report will identify potential programmatic mitigation strategies and anticipated permits and agency clearance requirements that will be needed for the alternatives moving forward for additional consideration during NEPA.

No previous environmental studies have been conducted for the corridor. Therefore, it is anticipated that a full inventory of socioeconomic, cultural, and natural resources, as well as a preliminary effects analysis, will be required to inform the overall FRA NEPA strategy and the NEPA class(es) of action.

Task 5 Work Products:

- Environmental Concerns Analysis Methodology

Task 5 Deliverable:

- Environmental Concerns Analysis Report

TASK 6: FINANCIAL PLANNING AND ECONOMIC EVALUATION

The objective of this task is to clearly identify the financial resources required to implement and operate the proposed service and compare the anticipated benefits that accrue from a project with the anticipated costs of the project over a specified period of time. The Recipient is responsible for developing Diamond State Line Project financial analysis by completing a financial plan and an economic evaluation. The financial plan will clearly identify potential financial resources required to implement and operate the proposed service consistent with 49 U.S.C. 25101(d)(8). Although financial planning and economic evaluation use many of the same data inputs, the economic evaluation should quantify all non-monetary benefits and combine them with the monetary costs and benefits identified under the financial plan.

Task 6 is divided into subtasks and the completion of each subtask will result in a Final Subtask Work Product summarizing the work undertaken in and results of that subtask. Since the economic evaluation is dependent upon the outputs of the financial plan, the Recipient will submit Final Subtask Product for Subtask 6.1 to FRA for approval prior to commencing work on Subtask 6.2.

The Recipient will provide, prior to the initiation of work under each subtask in Task 6, a work product documenting the methodologies to be employed in the work comprising that subtask. The Recipient will submit the Methodology Work Product for each subtask in Task 6 to FRA for approval prior to commencing work on a subtask.

Subtask 6.1: Financial Planning

The Recipient will compete a financial plan that will identify the potential financial resources required to implement and operate the proposed Diamond State Line Project components identified in the Diamond State Line Project Development Report (Task 4) (consistent with 49 U.S.C. 25101(d)(2)(A)(iii)). The financial plan will focus on the direct monetary factors of the Diamond State Line Project and will provide a single financial statement showing the proposed service's financial projections over the course of the planning horizon. The financial analysis will describe the capital and operating dollars needed to implement and operate the Diamond State Line Project and identify sources of capital investment and operating financial support.

As the Diamond State Line Project is currently in the planning phase, the financial planning analysis should be commensurate with other planning assumptions and analyses. As the program moves beyond project planning and toward project development (Step 3 of the CIDP) and implementation (beyond the CIDP), financial planning will be further refined to specify the precise levels of funding needed and explore additional sources of funding. This may include cost-sharing agreements, government grants, loans, and other available funding opportunities.

The 2013 study did not include a financial planning analysis, and a financial plan will need to be developed in Step 2.

Subtask 6.1 Work Products:

- Financial Planning Methodology
- Financial Planning Final Subtask Work Product

Subtask 6.2: Economic Evaluation

The Recipient will complete an economic evaluation that will document the overall impact of the Diamond State Line Project. As the Diamond State Line is currently in the planning phase, the development of project concepts that establish the type and scope of capital improvement that meet the goals and objectives as defined earlier in this document. The Recipient will complete an economic evaluation to identify and compare the capital and operations and maintenance (O&M) costs, associated with and without the proposed Project.

As part of the economic evaluation, the Recipient will complete a financial impact assessment that describes both the potential capital and O&M costs at the appropriate planning year(s) based on the outputs of Tasks 3 through 5.

The financial assessment will include:

- Definition of the no-build scenario
  - Current operations and maintenance costs
- Definition of the build scenario
  - Definition of horizon year
  - Infrastructure planning
    - Capacity evaluation
    - Infrastructure investment needed
- Identify and describe the preliminary alternatives and operational analysis associated with section 1.4 and 4.2

As the project progresses into preliminary engineering the economic evaluation will include both the financial results as described in Subtask 6.1 and the benefits and impacts for the Diamond State Line Project such as operational benefits, travel time savings, air quality impacts, community and economic development, and other user and non-user economic benefits. This is informed by earlier tasks and will be used to assess the transportation-related merits of the service alternative. This can include:

- Identifying risk and funding (short and long-term)
- Preliminary capital cost estimates
- Operations and maintenance expenditures
- Revenue from fares
- Operations and impacts and associated benefits associated with section 4.1 and 4.2 for example:
- Travel time savings
- Reduction in congestion
- Improved reliability
- Reduction in emission
- Facility amenity benefits
- Safety savings

As the project progresses into conceptual engineering under Subtask 4.6, the economic evaluation will include both the financial planning as described in Subtask 6.1 and the benefits and impacts for the Diamond State Line Project such as operational benefits, travel time savings, safety benefits, improved reliability, reduced congestion for multiple modes, air quality impacts, community and economic development, and other user and non-user economic benefits. This is informed by information developed under Tasks 3 through 5 and will be used to assess the corridor benefits. The Recipient will also identify possible risks to the development, implementation, and operation of the project.

The economic evaluation should be commensurate with other planning assumptions and analyses, and documented via an initial spreadsheet analysis. As the program moves beyond project planning and toward project development (Step 3 of the CIDP) and implementation (beyond CIDP), the initial spreadsheet analysis associated with the economic evaluation should be further refined into a detailed benefit-cost analysis, which includes the determination of the overall impact of the proposed project by identifying the costs, benefits, benefit-cost ratio, and net present value.

The economic evaluation should reference USDOT's *Benefit-Cost Analysis Guidance for Discretionary Grant Programs* latest edition, as appropriate.

Subtask 6.2 Work Products:

- Economic Evaluation Methodology
- Economic Evaluation Final Subtask Work Product (to include Economic Evaluation Spreadsheet)

Task 6 Deliverable:

- Financial Planning and Economic Evaluation Analysis Report

TASK 7: GOVERNANCE

The objective of this task is to determine how the corridor program will be administered throughout the project development lifecycle, to include responsibility for construction and ongoing operation of the service. The Recipient will assess potential governance and program administration options for the long-term management structure for design, construction, maintenance, and operations of a future Diamond State Line system.

Options may include private investment, public-private partnerships, and/or publicly funded investment for program delivery and administration. The Recipient will provide organizational charts identifying the roles, responsibilities, and staffing requirements for each entity involved in advancing the corridor throughout each stage of the corridor's project lifecycle. The Recipient will assess governance options allowable under state law and other examples of potential governance structures for other state-supported Amtrak services that fall under Section 209 of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) if applicable/appropriate. The Recipient will facilitate meetings, in coordination with Amtrak (if applicable/appropriate), FRA, and other potential stakeholders, on the governing and operating organization for the future passenger rail service associated with the Diamond State Line Project (consistent with 49 U.S.C. 25101(d)(4). The Recipient will identify all necessary agreements with potential stakeholders to advance the project into Step 3 of the CIDP and into subsequent stages of implementation.

The Recipient will identify key entities necessary to implement the SDP (consistent with 49 U.S.C. 25101(d)(4)) and to progress the corridor including:

- The proposed entity who will manage the corridor's development and operation;
- The proposed entities required to implement the corridor project inventory from Step 2 of the CIDP into Step 3 (consistent with 49 U.S.C. 25101(d)(2)(A)(ii));
- The proposed operator or type of operator for the service; and
- The entities who will comply with all safety and security laws, orders, and regulations (consistent with 49 U.S.C. 25101(d)(5)).

The 2013 study did not include a proposed governance structure. For Step 2, a study is needed to develop a governance report for the long-term management structure for design, construction, maintenance and operations of a future corridor system.

Task 7 Deliverable:

- Corridor Governance Report

TASK 8: PHASED IMPLEMENTATION PLAN

The Recipient will develop a phased implementation plan that identifies the implementation sequencing of the capital project inventory (consistent with 49 U.S.C. 25101(d)(2)) to support the Investments and Design Options identified in Tasks 3.3 and 3.4. The Phased Implementation Plan will identify implementation years and desired service levels for those years based on ridership demand for the Diamond State Line service. The Phased Implementation Plan will identify a schedule of the capital projects required to support the service levels for each of the corresponding service years (consistent with 49 U.S.C. 25101(d)(3)). The Phased Implementation Plan will also include consideration of phasing the project lifecycle stages for each capital project – project development (PE/NEPA), final design, and construction, and the appropriate time to initiate each lifecycle stage for a capital project. The Recipient will identify an initial prioritized list of projects based on service phasing considerations that can be advanced to environmental analysis and preliminary engineering studies to complete Project Development under Step 3 of the CIDP. Additional operations modeling may be required to support the development of the Phased Implementation Plan.

Phased implementation plan was not incorporated in the 2013 study and will need to be created upon the completion of Task 3.

Subtask 8 Work Products:

- Phased Implementation Plan Methodology

Task 8 Deliverables:

- Phased Implementation Plan

TASK 9: DRAFT AND FINAL REPORTS

The Recipient will prepare a draft report of the SDP including the culminating results of the Diamond State Line Project elements (Task 2 through Task 8) that includes an Executive Summary. Following appropriate reviews by the entities expected to participate in carrying out the plan, stakeholders, and the FRA, the draft will be revised based on comments received and a final SDP document will be produced. FRA must provide written approval to the Recipient for completion of the Final Report.

Task 9 Deliverables:

- Draft Service Development Plan
- Final Service Development Plan