



BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

Jamey Tesler, Acting MassDOT Secretary and CEO and MPO Chair
Tegin L. Teich, Executive Director, MPO Staff

WORK PLAN

DORCHESTER BAY CITY REDEVELOPMENT DRAFT ENVIRONMENTAL IMPACT REPORT MODELING SUPPORT

APRIL 8, 2021

Project Identification

Project Number 97866

Client

Massachusetts Department of Transportation (MassDOT)
Client Supervisor: Lionel Lucien

Project Supervisors

Principal: Ed Bromage
Manager: Drashti Joshi

Funding Source

MassDOT SPR FFY 2021 Contract

Contract Number 112660

Schedule and Budget

Schedule: 6 months after work commences

Budget: \$94,500

Schedule and budget details are shown in Exhibits 1 and 2, respectively.

Background

In December 2020, pursuant to the Massachusetts Environmental Policy Act (MEPA), the Secretary of Energy and Environmental Affairs issued a Certificate on the Environmental Notification Form for the Dorchester Bay City (DBC) project that outlined the Commonwealth's requested scope of work for the required Draft Environmental Impact Report (DEIR). As stated in the scoping certificate, given the overall size of the development and the regional context of the project, MassDOT, Metropolitan Area Planning Council (MAPC), and the Massachusetts Environmental Protection Agency (MEPA) office strongly recommend the use of the services of the Central Transportation Planning Staff (CTPS) for transportation modeling.

Accordia Partners, LLC, acting as the developer, proposed the redevelopment of the approximately 20-acre former Bayside Expo Center site at 200 Mount Vernon Street, and approximately 13 acres of land at 2 Morrissey Boulevard (collectively, the Project Site). The Project as proposed would comprise the construction of a mixed-use redevelopment totaling approximately 5.9 million square feet of building program across the Bayside Site and the 2 Morrissey Site, including approximately 1,740 residential units; approximately 4,008,000 square feet of office, research and development, life sciences and/or potentially academic uses (referred to as office/research); and approximately 155,000 square feet of retail/restaurant use. The site would also include 2,650 parking spaces and approximately 3,000 bicycle parking spaces located within buildings and throughout the Project Site. Recently the developer also acquired the Boston Teacher's Union site, which will expand the site development footprint.

The Project Site is highly transit-oriented due to its proximity to the MBTA JFK/UMass Station, which is served by the Red Line, Commuter Rail, local bus routes, and private buses. The project site has access to the local and regional roadway network via local connections to Morrissey Boulevard and William J. Day Boulevard, and the nearby I-93 ramps at the Columbia Road interchange (Exit 15, Dorchester, South Boston).

This scope of work details the tasks CTPS will conduct in support of the developer's transportation analysis to be included in the project's DEIR.

Objectives

CTPS support is needed to produce four scenarios that forecast highway and transit use of the region for the year 2040. The No-Build scenario for 2040 will be consistent with the Long-Range Transportation Plan (LRTP) recommendation, and the two build scenarios will add the proposed DBC development and trip activity into the site to understand how the transportation infrastructure is used. This work will provide the foundation to submit an impact study to MEPA.

The scenarios included in this scope are as follows:

1. 2016 Base Year
2. 2040 No-Build
3. 2040 Build Land Use
4. 2040 Build Mitigation Package

The objective of this modeling study is to provide insight into potential impacts on the transportation system resulting from the proposed development using travel demand model forecasts.

Work Description

CTPS will support MassDOT and the developer and its project team by providing data and analysis.

Task 1 Coordinate with Project Team and Oversee Project

CTPS will work with MassDOT and consultants to help develop travel demand forecasts and respond to questions related to the tasks described below.

Products of Task 1

- Administrative activities and internal coordination
- Coordination with the study team
- Document review
- Response to questions

Task 2 Calibrate and Validate 2016 Base Year and Review Future Model Inputs

The travel demand model has been calibrated at the regional level and must be reviewed, recalibrated, and potentially refined to best reflect the specific corridors being studied and to ensure reasonable sensitivity in the model to the proposed scenarios. CTPS will work with the developer's consultant to refine the model in the study area. To expedite the modeling process for supporting DEIR filing in a reasonable time frame, CTPS will send the consultant a TransCAD network file.

Subtask 2.1 Highway Network Changes/Modifications

The network file will include travel lanes by direction; posted speed; free flow speed; centroid connectors; and lane hourly capacity by direction. The network will contain data for the base year 2016, and the forecast year 2040. The consultant will edit these files and return them to CTPS where they will be used to inform the CTPS base year model validation. The consultant may suggest the addition of local roads or adjustment to centroid connectors in the simulation network, which will improve traffic flow. The consultant should provide input on the configuration of centroid connector in the Build scenario, reflecting the inclusion of the project and project driveways.

For the highway network, the consultant will also provide traffic counts (segment volumes) for use in the calibration/validation of the base year model. The counts will be for the following time periods and will be normalized to reflect average 2016 weekday conditions. Counts are only needed within the study area during the following periods.

- AM peak period (6:00 am to 9:00 am)
- PM peak period (3:00 pm to 6:00 pm)

Subtask 2.2 Transit Network Changes/Modifications

CTPS will also send the consultant team the TransCAD files showing the bus routes that serve the area. The consultant team will review and update the bus route and operating characteristic data (headways and bus stop locations) and return them to CTPS where they will be used to inform the CTPS base year model validation.

The consultant will also provide CTPS with ridership data for 2016 for the bus routes in the study area and JFK/UMass transit station.

Subtask 2.3 Existing and Future Land Use Assumptions

CTPS will also send the consultant team the land use data for the following selected transportation analysis zones (TAZ): 355, 356, 357, 358, and 359. Note, no zone splitting has been budgeted for this project. The data will be for the base year 2016 and forecast year 2040. The consultant will confirm that these data are correct. The consultant will also provide CTPS with the Build Land Use data for 2040. The data will be in the format required by the CTPS model. That is, all household data will include marginal data regarding household size, income, workers, and auto availability. CTPS will use these land use data to inform updates and edits to the model files.

Upon receipt of all these data (in TransCAD format as much as possible), CTPS will update the model files in the area and perform the necessary model calibration.

The developer and its consultants are responsible for providing the following information to CTPS for the DBC study area.

- Review of the roadway and transit networks in the study area and identification of any edits to roadway and transit attributes and network structure. These data will be provided in TransCAD format
- Review and feedback regarding centroid connector placement in the study area with and without the project
- List and location of intersections that are being studied
- List of transit services that need to be analyzed
- Transit and roadway count information entered into the TransCAD model data fields.
- Review of land use assumptions
- Build Land Use assumptions for 2040

Products of Task 2

- Calibrated model for the 2016 base year

- Land use assumptions and trip ends for the selected TAZs
- Aggregated trip tables summarized by mode and time of day
- TransCAD subarea network with assigned highway volumes and congested travel speeds (AM peak period and PM peak period) for the study area
- Transit ridership data (AM peak period and PM peak period) for the services of interest

Task 3 Develop and Analyze 2040 No-Build Alternative

Pivoting off of the updated 2016 travel demand model refined in the previous task, CTPS will develop a 2040 No-Build scenario that is consistent with the land use and transportation assumptions assumed in the Boston Region MPO 2040 LRTP with some minor modifications possible in the study area. This will be used to compare with the build alternative. The developer and its consultants are responsible for providing the following information to CTPS for the study area.

- Review of the 2040 No-Build roadway and transit network in the study area and identification of any edits to roadway and transit attributes and network structure
- Examination and feedback on land use by TAZ in the study area

Products of Task 3

The following summaries will be prepared for the build alternative by peak period and direction:

- Land use assumptions and trip ends for selected TAZs
- Aggregated trip tables summarized by mode and time of day
- TransCAD subarea network with assigned highway volumes and congested travel speeds (AM peak period and PM peak period) for the study area
- Transit ridership data (AM peak period and PM peak period) for the services of interest

Task 4 Develop and Analyze 2040 Build Land Use Alternative

Based on 2040 No-Build scenario from Task 3 and model efforts from previous tasks, CTPS will develop a 2040 Build Land Use scenario based on site development land use assumptions provided by developer's consultants. The developer and its consultants are responsible for providing the following information to CTPS for the study area.

- Land use by TAZ in the study area

Products of Task 4

The following summaries will be prepared for the build alternative:

- Land use assumptions and trip ends for selected TAZs
- Aggregated trip tables summarized by mode and time of day
- TransCAD subarea network with assigned highway volumes and congested travel speeds (AM peak period and PM peak period) for the study area.
- Transit ridership data (AM peak period and PM peak period) for the services of interest

Task 5 Develop and Analyze One 2040 Build Mitigation Package Alternative

CTPS will work with the developer's consultant to identify and test one mitigation package alternative. The mitigation package may include roadway and/or transit changes in one package. Based on 2040 Build scenario from Task 4, the developer and its consultant are responsible for developing the mitigation package. The developer's consultant will submit the following proposed mitigation as TransCAD files for inclusion in the modeling effort. The developer and its consultants are responsible for providing the following information to CTPS for the study area.

- The 2040 mitigation infrastructure changes on roadway and/or transit network in the study area and any edits to roadway and transit attributes and network structure

Products of Task 5

The following summaries will be prepared for the build alternative:

- TransCAD subarea network with assigned highway volumes and congested travel speeds (AM peak period and PM peak period) for the study area.
- Aggregated trip tables summarized by mode and time of day
- Transit ridership data (AM peak period and PM peak period) for the services of interest

Task 6 Document DEIR Modeling Methodology and Results

CTPS staff will document the methodology and results of the analysis to support DEIR submission.

Product of Task 6

Documentation describing the methodology and results

The Boston Region Metropolitan Planning Organization (MPO) operates its programs, services, and activities in compliance with federal nondiscrimination laws including Title VI of the Civil Rights Act of 1964 (Title VI), the Civil Rights Restoration Act of 1987, and related statutes and regulations. Title VI prohibits discrimination in federally assisted programs and requires that no person in the United States of America shall, on the grounds of race, color, or national origin (including limited English proficiency), be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination under any program or activity that receives federal assistance. Related federal nondiscrimination laws administered by the Federal Highway Administration, Federal Transit Administration, or both, prohibit discrimination on the basis of age, sex, and disability. The Boston Region MPO considers these protected populations in its Title VI Programs, consistent with federal interpretation and administration. In addition, the Boston Region MPO provides meaningful access to its programs, services, and activities to individuals with limited English proficiency, in compliance with U.S. Department of Transportation policy and guidance on federal Executive Order 13166.

The Boston Region MPO also complies with the Massachusetts Public Accommodation Law, M.G.L. c 272 sections 92a, 98, 98a, which prohibits making any distinction, discrimination, or restriction in admission to, or treatment in a place of public accommodation based on race, color, religious creed, national origin, sex, sexual orientation, disability, or ancestry. Likewise, the Boston Region MPO complies with the Governor's Executive Order 526, section 4, which requires that all programs, activities, and services provided, performed, licensed, chartered, funded, regulated, or contracted for by the state shall be conducted without unlawful discrimination based on race, color, age, gender, ethnicity, sexual orientation, gender identity or expression, religion, creed, ancestry, national origin, disability, veteran's status (including Vietnam-era veterans), or background.

A complaint form and additional information can be obtained by contacting the MPO or at http://www.bostonmpo.org/mpo_non_discrimination. To request this information in a different language or in an accessible format, please contact

Title VI Specialist
Boston Region MPO
10 Park Plaza, Suite 2150
Boston, MA 02116
civilrights@ctps.org
857.702.3700 (voice)
617.570.9193 (TTY)

Exhibit 1

ESTIMATED SCHEDULE

Dorchester Bay City Redevelopment Draft Environmental Impact Report Modeling Support

Task	Month					
	1	2	3	4	5	6
1. Coordinate with Project Team and Oversee Project	[Task bar spanning months 1 through 6]					
2. Calibrate and Validate 2016 Base Year and Review Future Model Inputs	[Task bar spanning month 1]					
3. Develop and Analyze 2040 No-Build Alternative		[Task bar spanning months 2 and 3]				
4. Develop and Analyze 2040 Build Land Use Alternative			[Task bar spanning months 3, 4, and 5]			
5. Develop and Analyze One 2040 Build Mitigation Package Alternative				[Task bar spanning months 4 and 5]		
6. Document DEIR Modeling Methodology and Results			[Task bar spanning months 3, 4, 5, and 6]			

Exhibit 2
ESTIMATED COST
Dorchester Bay City Redevelopment Draft Environmental Impact Report Modeling Support

Direct Salary and Overhead	\$94,500
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Task	Person-Weeks				Direct Salary	Overhead (106%)	Total Cost
	M-1	P-5	P-4	Total			
1. Coordinate with Project Team and Oversee Project	0.4	3.0	3.0	5.9	\$10,342	\$10,963	\$21,305
2. Calibrate and Validate 2016 Base Year and Review Future Model Inputs	0.0	2.0	2.0	4.0	\$6,862	\$7,273	\$14,135
3. Develop and Analyze 2040 No-Build Alternative	0.0	2.0	2.5	4.5	\$7,584	\$8,039	\$15,622
4. Develop and Analyze 2040 Build Land Use Alternative	0.0	2.0	2.5	4.5	\$7,584	\$8,039	\$15,622
5. Develop and Analyze One 2040 Build Mitigation Package Alternative	0.0	2.0	3.0	5.0	\$8,306	\$8,804	\$17,110
6. Document DEIR Modeling Methodology and Results	0.4	1.0	1.5	2.9	\$5,197	\$5,509	\$10,706
Total	0.8	12.0	14.5	26.8	\$45,874	\$48,626	\$94,500

Other Direct Costs	\$0
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TOTAL COST	\$94,500
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Funding
 MassDOT SPR FFY 2021 Contract #112660