

SOUTH JERSEY TRANSPORTATION PLANNING ORGANIZATION

ITEM 2105-22: Approving the Selection of AECOM Technical Services, Inc., as the Consultant for the FY 2021 Air Quality Assistance Technical Study

PROPOSAL

At its May 10, 2021 meeting, the SJTPO Technical Advisory Committee recommended that the Policy Board approve the selection of AECOM Technical Services, Inc., (AECOM) in association with Sobers Consulting LLC (DBE firm) for the SJTPO FY 2021 Air Quality Assistance technical study.

BACKGROUND

The Request for Proposal (RFP) for this project was issued on April 8, 2021, with proposals due on April 28, 2021. This technical study seeks consultant assistance to help SJTPO conduct its regional emissions analysis for the release of the upcoming FFY 2022-2031 TIP. The emergence of a new regionally significant project, following the approval of SJTPO's RTP 2050 conformity determination, has necessitated a new regional emissions analysis.

The Notice of Availability of Requests was sent to approximately 250 contacts. One (1) proposal was received from AECOM Technical Services, with Michael Baker International, and Sobers Consulting LLC as the DBE. While the initial cost proposal was \$35,995.00, after extensive negotiations and modifications to the scope, the final cost was negotiated to be \$19,742.00 with a 15.71% DBE participation.

This project is funded out of SJTPO's FY 2021 UPWP as Task 21/401 FY 2021 Air Quality Technical Assistance, which is funded in the amount of \$20,000 (\$12,000 initially with a reallocation of \$8,000 from SJTPO's Office Equipment line item). The task was added to the FY 2021 UPWP as a two-year study, with an anticipated project completion date of July 30, 2021.

Narrative

A

A: Narrative

Background

The transportation system in Atlantic, Cape May, Cumberland, and Salem Counties is vital to the economic health of the region. To maintain this health, people and goods must be able to move throughout the region efficiently. As the regional Metropolitan Planning Organization, the SJTPO is responsible for helping to maintain the success of the transportation system in southern New Jersey while maintaining conformance with National Ambient Air Quality Standards (NAAQS) as promulgated by the Clean Air Act Amendments of 1990 and ensuing legislation and regulations.

This project will demonstrate the compliance of the SJTPO with the Air Quality Conformity regulations and support for the upcoming FY 2022-2031 Transportation Improvement Program (TIP) and 2050 Regional Transportation Plan (RTP 2050).

The AECOM team previously assisted SJTPO and NJDEP in multiple rounds of air quality conformity, developing the Motor Vehicle Emission Simulator (MOVES) inputs, and calculating regional emissions for New Jersey statewide SIP. We will use our extensive experience to complete SJTPO regional emissions analysis required for the transportation conformity determination of the FY 2022-2031 TIP and RTP 2050 and provide necessary coordination with NJDOT and NJDEP.

Technical Approach

Several factors related to travel demand model post-processing must be accounted for while performing the regional Air Quality Conformity Analysis:

8-HOUR OZONE STANDARD

In October 2015, based on its review of the air quality criteria for ozone and related photochemical oxidants, the EPA revised the primary and secondary NAAQS for ozone to protect public health and welfare (80 FR 65292). The EPA revised the levels of both standards to 0.070 ppm, and retained their indicators, forms (fourth-highest daily maximum, averaged across three consecutive years) and averaging times (eight hours). Under the Clean Air Act, the EPA Administrator must make all attainment designations within two years after a final rule revising the NAAQS is published.

The SJTPO region is part of the Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE 8-Hour Ozone Nonattainment Area. It is currently classified as a Marginal Nonattainment Area. All four counties in the SJTPO region were designated non-attainment and classified as “marginal - nonattainment” for this pollutant. Because it is nonattainment, pursuant to the Clean Air Act, the State needs to prepare a State Implementation Plan (SIP) to demonstrate its plan for attaining the 8-Hour Ozone National Ambient Air Quality Standard. Although the NJDEP is the primary author of the SIP, the agency relies on MPOs (in this case, SJTPO), to derive transportation activity data from the travel demand model. The activity data is an important input to the MOVES emission model that is used to calculate on-road transportation emission quantities for the SIP.

Through the past two decades, the AECOM Team has directly supported SJTPO and the NJDEP with expert technical guidance, ensuring that air quality modeling and analysis is undertaken to meet all EPA and FHWA requirements. This work has included assistance in establishing volatile organic compound (VOC) and oxides of nitrogen (NOx) Motor Vehicle Emission Budgets (MVEB) and support demonstrating that the SJTPO transportation Plan and its updates conform to the overall plan to reach the region’s air quality goals. AECOM has also developed custom software and post-processing packages to estimate the variety of daily and annual

The AECOM Team brings unique skills and innovation to the project:

- Leadership role in NJDOT’s Air Quality Working Group
- Leading role in on-road emission data development - SIP and NEI - in NJ and PA
- MOVES temporal files prepared by the Team accepted by USEPA as the basis for national defaults
- Developed and enhanced the SJTPO regional travel model
- Direct support for NJDOT in emission related matters
- Innovative off-model travel forecasting and emission estimation methods

emissions for four counties in the SJTPO region; this

process will be applied to develop input data and emission summaries for the proposed SIP.

MOVES AND PPSUITE

The AECOM Team has applied MOBILE and MOVES emission models for air quality analysis in the SJTPO region for more than a decade. Since 2013 MOVES has been used with the South Jersey Travel Demand Model (SJTDM) post-processor. AECOM both developed data for, and implemented, the MOVES2014b emission model to support NJDEP with 2020 NEI tasks and SJTPO with FY 2020-2029 TIP Air Quality Conformity determinations.

AECOM and Baker have worked extensively with the evaluation of MOVES, providing feedback to NJDOT's Air Quality Working Group with respect to data development and implementation. This working group has included NJDOT, NJDEP, SJTPO, NJTPA and DVRPC. Working group meetings have provided a useful forum for AECOM and Baker to achieve a thorough understanding of MOVES methods, data, and results. AECOM has directly supported NJDEP's efforts to use MOVES for the most current round of SIP preparation. The lessons learned in that endeavor will help us to meet SJTPO's needs for this project more efficiently.

PPSUITE is a travel demand model and emissions analyzer post-processing tool that links the current SJTPO travel model to MOVES. PPSUITE has been in use in New Jersey and nearly a dozen other states and jurisdictions for over 20 years and has achieved a high level of maturity and technical strength. In conjunction with this work and similar work for other states, AECOM's PPSUITE post-processing software has been thoroughly revised, tested, and validated in its support for the MOVES software.

The AECOM Team will utilize the EPA's latest release of MOVES2014b with the movesdb20181022 default database as the emissions forecasting program. Together, PPSUITE and MOVES provide the most comprehensive and flexible available platform for transportation network and emissions analysis. Its use by NJDEP to analyze emissions for prior SIP revisions, and by the NJDOT and the NJTPA for their emissions modeling activities, and by neighboring states and MPOs as well (PennDOT, Lehigh Valley, PA and Baltimore MD), indicates both its acceptance in the broad emissions analysis community and the depth of support that is offered not only by the consultant team, but also by peer users. We will continue to actively monitor the EPA's progress in updating MOVES and related

modeling requirements. In response, we will continue to prepare appropriate software updates and input data.

MOVES2014B SETTINGS AND INPUTS

The PPSUITE/MOVES2014b package has already been installed at SJTPO and applied for FY 2020-2029 TIP Air Quality Conformity determinations. AECOM is continually enhancing its PPSUITE software to support the MOVES2014b version. Input data – statewide and county specific – has been updated for MOVES2014b by AECOM with support and guidance from the NJDOT and the NJDEP. This data will be used for the proposed project emissions estimate runs.

The latest CENTRAL/PPSUITE/MOVES setup installed at SJTPO includes a daily vehicle miles traveled (VMT) input option that will be applied for SJTPO daily ozone precursors estimates. That upgrade makes MOVES input VMT consistent with information generated by the regional travel demand model.

HPMS VMT ADJUSTMENTS

Before travel activity data can be calculated, the VMT calculated from the travel demand model's traffic assignment process must be adjusted to match reported VMT quantities from the Highway Performance Monitoring System (HPMS). The current data for the 2018 base year has been used for 2020 NEI. These VMT adjustments will apply for FY 2022-2031 TIP emissions estimate. It is understood that for the FY 2021 air quality analysis, AECOM will continue to use 2018 base year HPMS adjustments and will not need to develop and apply the 2019 base HPMS adjustments.

Scope of Services

TASK 1. COORDINATION

This Task covers project management activities including communications and progress reporting. The AECOM team will establish an effective means of coordinating and reporting work activities to the SJTPO PM and staff.

At the beginning of the project the AECOM PM will prepare a schedule depicting major work elements, activities, and timeline. The PM will submit this schedule at the kick-off meeting/conference call for the SJTPO review and approval. The AECOM team will follow the approved schedule as closely as

possible throughout the course of the project, with any changes subject to approval of the SJTPO PM.

The timeline for the technical analysis and air quality reports is very short, therefore, weekly status reports will be provided to the SJTPO PM in addition to the coordination calls during Task 2 work effort. We will provide all related inputs, process, outputs, and documents to SJTPO for their record. The AECOM PM will coordinate with the SJTPO PM to determine the best process for data and document transfer. The AECOM Team understands importance of timely determination, reporting and adoption of the Transportation Conformity and FY 2022-2031 TIP and will make additional effort to maintain project's timeline.

AECOM will provide QA/QC of the process and deliverables according to industry standards and the high-quality management requirements set by ISO standards. Our approach to quality follows the international standard for quality management systems (QMS), ISO 9001.

Project deliverables for **Task1: Coordination** will include the following:

Deliverable 1: AECOM Team will provide weekly progress reports to the SJTPO PM via email and progress conference calls during Task 2 technical work. We will organize a project kick-off meeting/conference call and completion timeline conference calls with SJTPO PM and staff.

TASK 2. REGIONAL EMISSIONS ANALYSIS FOR THE FY 2022-2031 TIP AND 2050 RTP

The following steps will be undertaken to complete the South Jersey FY 2022-2031 TIP and Regional RTP 2050 Transportation Conformity analysis and determinations. The AECOM Team will use MOVES2014b emission model ~~or the latest MOVES3, if required~~. At this time, SJTPO will use the existing travel demand model and an operational CENTRAL/PPSUITE post-processor associated with that model in support of the emissions estimates using MOVES.

The AECOM Team understands that coding of regionally significant, non-exempt transportation projects into the proper South Jersey Travel Demand Model (SJTDM) highway and transit networks and other input files will be done by the SJTPO staff. SJTPO will provide AECOM with the loaded highway network from the SJTDM for the 2030, 2040 and 2050 scenario years. We will

provide quality assurance by reviewing the SJTDM resulting networks to ensure required information such as functional class, model volume, vehicle-miles traveled, and average speeds are reasonable, as well as monitoring project effects on the emission estimates for each scenario and year.

Interagency Consultation

It is understood that SJTPO will be responsible for coordination with the Interagency Consultation Group (ICG) and consultant team will not be involved in the coordination.

Emissions Calculations for Conformity Determination

Combinations of computer programs centered on the MOVES and PPSUITE post-processor programs will be used to analyze FY 2022-2031 TIP and 2050 RTP conformity in the SJTPO region. The PPSUITE software has been developed by AECOM and has been used by SJTPO, the NJDOT the NJDEP and NJTPA for emissions estimation in New Jersey.

PPSUITE has consistently been shown to meet all the Federal guidelines and regulations for regional Conformity Analysis as specified in Transportation Conformity Rule 40 CFR Part 93. PPSUITE has repeatedly provided the local data that was the subject of SJTPO's certification by federal agencies.

MOVES and PPSUITE input data are fully reliant on local (i.e. MPO and State) data developed by the AECOM Team in collaboration with NJDEP and NJDOT. No MOVES national default activity data is used for the Conformity analysis.

~~MOVES input data development associated with the scenario years will be completed within this task.~~

AECOM understands that SJTPO will obtain permission from the ICG to use 2017 vehicle registration data for emission model age distribution and source type population inputs that were used for FY2020 air quality conformity analysis.

AECOM will apply emission model, post-processing software, input data, and setup that was used for FY2020 air quality conformity analysis.

Emissions calculations will be generated with the use of SJTPO's travel demand model, MOVES2014b emission model and related non-activity data. Based on the RFP, we anticipate that SJTPO staff will provide complete model run results for 2030, 2040 and 2050 scenario year. The AECOM Team will run MOVES2014b to conduct emissions estimates of the TIP and RTP scenarios.

Emissions will be calculated for two categories of pollutants: VOC and NOx. CO does not need to be reported and is not necessary for this conformity determination.

Conformity Report

The AECOM Team will provide a technical memorandum summarizing the emission estimate methodology and results for summer weekday VOC and NOx for three scenario years. We will provide summaries of VMT, speed, criteria pollutant quantities, and other relevant information to support drafting of the conformity report by SJTPO staff. The AECOM Team member Sobers Consulting will assist with generating data summaries and review of the post-processing outputs for accuracy and consistency and will provide quality control of the reporting files, data, and recommendations.

The AECOM Team will assist the SJTPO staff in finalizing the conformity report by reviewing the draft report, supplying notes regarding the emission estimation methodology, and providing general quality control.

We will create a backup DVD for SJTPO. Also, full copies of PPSUITE/MOVES input and output files, for all scenarios, will be provided on this DVD.

Project deliverables for Task 2: Regional Emissions Analysis for the FY 2022-2031 TIP and RTP 2050 will include the following:

- **Deliverable 2.a: QA/QC of Loaded Transportation Networks:** The AECOM Team will receive loaded transportation networks from SJTPO and perform quality review to ensure model links are accurate; (i.e., have accurate functional classifications, facility types), and model volumes, VMT, average speeds, and other outputs are reasonable. At the end of the review process, we will provide a technical memorandum summarizing

edits/adjustments to network and/or any other input and output files.

- **Deliverable 2.b: Reporting of Emissions Results:** The AECOM Team apply CENTRAL/PPSUITE/MOVES to estimate emissions and will develop a set of tables of overall emissions quantities for TIP and RTP scenarios of VOC and NOx for summer season. This table will compare the estimates to the established budgets and a Pass or Fail grade will be given for each pollutant. ~~We will provide technical assistance if any additional support or additional scenario runs (beyond the standard runs) are required within the agreed project budget.~~
- **Deliverable 2.c: Data Delivery:** A data DVD (or file transfer) with MOVES backup information, run specifications and databases and related inputs, following USEPA's standard format will be provided to support USEPA's conformity determination review. AECOM will also transfer to SJTPO air quality conformity process inputs, programs, and raw outputs for conformity run scenarios.

The FY2021 Emission Modeling Assumptions:

- AECOM will continue to use 2018 base year HPMS adjustments and will not need to develop and apply the 2019 base HPMS adjustments.
- SJTPO will confirm ICG concurrence for the latest planning assumptions.
- SJTPO will obtain a permission from the ICG to use 2017 vehicle registration data for emission model age distribution and source type population inputs that were used for FY2020 air quality conformity analysis.
- AECOM will apply emission model, post-processing software, input data, and setup that was used for FY2020 air quality conformity analysis.
- AECOM will complete one iteration of loaded model network review for each scenario years and run one additional iteration of emission analysis for each scenario years, if necessary.
- Sobers Consulting will provide detailed data and report review and quality control.

Staffing Plan

B

B: Staffing Plan (rev)

Staffing Plan

The staffing plan for the proposed work is shown in the following table. Altogether the AECOM Team will expend 140 person hours:

- | | |
|--|--------------------|
| • AECOM | 122 hours |
| • Michael Baker International | 0 hours |
| • Sobers Consulting LLC | 18 hours |
| • Total | 140 hours |

Sobers Consulting LLC is a certified Disadvantaged Business Enterprise (DBE). Sobers Consulting has been allocated 15.71% of the project's budget.

Several elements of this project cannot be determined at this time including:

- Additional, unanticipated meetings beyond those highlighted above (Task 1)
- The number and extent of analyses needed to achieve air quality / emissions requirements and targets beyond specified in this Request for Proposal (Tasks 2).

Should additional efforts be needed to complete any task item, AECOM will alert SJTPO as soon as possible. AECOM will then work with SJTPO to identify the best way to proceed while remaining within the available budget.

FY 2021 Air Quality Assistance Staffing Plan

Name	Title	Rate	Hours		
			Task 1	Task 2	Total
AECOM					
Ira Quiat	Project Director	\$ [REDACTED]	2	0	2
Anna Aleynick	Project Manager	\$ [REDACTED]	10	30	40
Paola Moncada	Transportation Planner	\$ [REDACTED]	0	0	0
Yogesh Patel	Transportation Planner	\$ [REDACTED]	0	36	36
James Crettela	Quality Review	\$ [REDACTED]	0	4	4
Priyal Pandya	Environmental Engineer	\$ [REDACTED]	0	40	40
	Sub-total hours		12	110	122
Sobers Consulting LLC					
Terrence Sobers	Principal	\$ [REDACTED]	4	14	18
	Sub-total hours		4	14	18
Summary of All Firms			16	124	140

Project Schedule

C

C: Project Schedule

The project schedule is shown in the following table. As specified in the RFP, Notice To Proceed is assumed to be on or about June 11, 2021. The regional emissions analysis for the FY 2022-2031 TIP and RTP 2050 will be completed by June 30, 2021 and final delivery of all files and documents will be made by July 30, 2021.

Task	FY 2020 Air Quality Assistance	Estimated
	Notice to Proceed	June 11, 2021
	Kickoff Meeting	June 14, 2021
1.a.	Project progress reports and coordination	June 14, 2021 – July 30, 2021
2.a.	Travel demand model results review and technical summary	June 14 – June 25, 2021
2.b.	Emission modeling and reporting; additional scenario runs	June 14-Jun 30, 2021
2.c.	Technical documentation and data DVD to SJTPO	July 30, 2021

Total Cost

D. TOTAL COST

D

D: Total Costs (rev)

The total cost of the proposed services is \$19,742. The DBE participation is covered by Sobers Consulting LLC. 15.64% of the project cost will be by the DBE consultant.

Costs by task are as follows. A comprehensive tabulation of hours and costs by task and person is provided on the following pages.

Task	Task Name	Cost per Task
Task 1	Coordination	\$2,977
Task 2	Regional Emissions Analysis for the FY 2022-2031 TIP and RTP 2050	\$16,685
	Expenses	\$80
	Total	\$19,742

Breakdown of all other Charges

EE

E: Breakdown of All Other Charges (rev)

FY 2021 Air Quality Assistance

June 11, 2021 - July 30, 2021

SUMMARY BUDGET FORM**LABOR COSTS**

Direct Labor	\$6,380
Overhead at 131.94%	\$8,418

Subtotal Labor	\$14,798
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NON-SALARY DIRECT EXPENSES

Graphics	\$0
Travel	\$0
Postage	\$80

Subtotal Non-Salary Direct Expenses	\$80
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SUBCONSULTANTS

Sobers Consulting LLC (DBE)	\$3,088
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Subtotal Subconsultants	\$3,088
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FIXED FEE (12%)	\$1,776
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TOTAL	\$19,742
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DBE Participation	15.64%
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Cost Proposal/Budget Detail

FY 2021 Air Quality Assistance Cost Proposal/Budget Detail

Name	Task		Total Hours	Total Direct Labor	Multiplier (Overhead * Fee)		Total Labor Cost
	1	2			Percent	Cost	
AECOM							
Hours	12	110	122	\$6,380	159.77%	\$10,194	\$16,574
Michael Baker International							
Hours	0	0	0	\$0	173.73%	\$0	\$0
Sobers Consulting LLC							
Hours	4	14	18	\$3,088	0.00%	\$0	\$3,088
Sub-total hours	16	124	140	\$ 9,468		\$ 10,194	\$19,662

Direct Expenses

Printing / Reproduction	\$0
Travel	\$0
Data Purchase	\$0
Postage	\$80
Graphics	\$0
Subtotal Direct Expenses	\$80

TOTAL **\$19,742**

AECOM **\$16,654**

Sub-Consultants

Baker	\$0
Sobers Consulting (DBE)	\$3,088
TOTAL	\$19,742

AECOM

FY 2021 Air Quality Assistance

Cost Proposal/Budget Detail

Firm: AECOM

Name	Title	Hourly Rate	Hours per Task		Total Hours	Direct Labor	Overhead		Fee		Labor cost
			1	2			Percent	Cost	%	Cost	
Ira Quiat	Project Director		2		2		131 94%	\$264	12.0%	\$56	\$520
Anna Aleynick	Project Manager		10	30	40		131 94%	\$3,599	12.0%	\$759	\$7,087
Paola Moncada	Transportation Planner				0		131 94%	\$0	12.0%	\$0	\$0
Yogesh Patel	Transportation Planner			36	36		131 94%	\$2,112	12.0%	\$446	\$4,159
James Crettela	Quality Review			4	4		131 94%	\$202	12.0%	\$43	\$397
Priyal Pandya	Environmental Engineer			40	40		131 94%	\$2,240	12.0%	\$473	\$4,411
Sub-total hours			12	110	122	\$6,380		\$8,418		\$1,776	\$16,574

Direct Expenses

Printing / Reproduction	\$0
Travel	\$0
Data Purchase	\$0
Postage	\$80
Graphics	\$0
	\$0
Subtotal	\$80
AECOM Total	\$16,654

FY 2021 Air Quality Assistance
Cost Proposal/Budget Detail
Firm: Sobers Consulting LLC

Name	Title	Hourly Rate	Hours per Task		Total Hours	Direct Labor	Overhead		Fee		Labor cost
			1	2			Percent	Cost	%	Cost	
Terrence Sobers	Principal		4	14	18		0.0%	\$0	0.0%	\$0	
Sub-total hours			4	14	18			\$0		\$0	

Direct Expenses

Printing / Reproduction	\$0
Travel	\$0
Data Purchase	\$0
Postage	\$0
Graphics	\$0
Subtotal	\$0
TOTAL	\$3,088

SOUTH JERSEY TRANSPORTATION PLANNING ORGANIZATION

RESOLUTION 2105-22: Approving the Selection of AECOM Technical Services, Inc. as the Consultant for the FY 2021 Air Quality Technical Assistance Technical Study

WHEREAS, the South Jersey Transportation Planning Organization (SJTPO) is the Metropolitan Planning Organization (MPO) designated under Federal law for the southern region of New Jersey including Atlantic, Cape May, Cumberland, and Salem Counties; and

WHEREAS, the Fiscal Year 2021 SJTPO Unified Planning Work Program includes Federal Highway Administration planning funds for this project; and

WHEREAS, the Notice of Availability of Requests was sent to approximately 250 contacts on April 8, 2021; and

WHEREAS, the Request for Proposal (RFP) announcement and supplemental materials were also posted on the publicly accessible SJTPO website; and

WHEREAS, one (1) proposal was received; and

WHEREAS, the SJTPO Technical Advisory Committee (TAC), at their April 12, 2021 meeting, vested consultant selection authority in a committee consisting of one representative from the New Jersey Department of Transportation (NJDOT), Atlantic County, and SJTPO staff, which reviewed and evaluated the proposals in accordance with SJTPO's published criteria; and

WHEREAS, the Consultant Selection Committee recommends AECOM Technical Services, Inc., in association with Sobers Consulting LLC serving as the Disadvantaged Business Enterprise (DBE) firm; and

WHEREAS, the SJTPO TAC, at their May 10, 2021 meeting, endorsed the recommendation of the Consultant Selection Committee; and

WHEREAS, this project is expected to be funded out of Task 21/402, Air Quality Technical Assistance, which was recently amended into the Fiscal Year 2021 SJTPO Unified Planning Work Program within a budget of \$20,000.00; and

WHEREAS, the project cost is \$19,742.00 with a 15.71%, DBE participation, compared with SJTPO's DBE/ESBE goal of 13.23%.; and

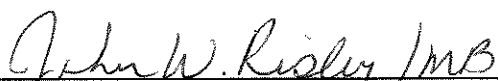
NOW, THEREFORE, BE IT RESOLVED, that the Policy Board of the South Jersey Transportation Planning Organization hereby approves the above selection for the FY 2021 Air Quality Technical Assistance technical study, with a maximum fee of \$19,742.00; and

BE IT FURTHER RESOLVED, that the Policy Board authorizes the Executive Director to execute scope of work and cost modifications to the original contract amount, provided that funding is available and such modifications have been approved by the NJDOT and the SJTPO.

BE IT FURTHER RESOLVED, that the Policy Board requests that the South Jersey Transportation Authority execute the appropriate contractual arrangements with the consultant on behalf of the SJTPO.

Certification

I hereby certify that the foregoing is a correct and true copy of a resolution adopted by the Policy Board of the South Jersey Transportation Planning Organization at its meeting of May 24, 2021.



John W. Risley, Secretary/Treasurer