TASK 3

DATA MANAGEMENT AND SYSTEMS ANALYSIS

TASK 3 OVERVIEW

This task is a core MPO and RTPO function. All data, analysis and tools from this task are intended to facilitate informed decision-making by elected and governing officials for other tasks identified in this UPWP including the MTP, the TIP, and the CMP. The data is applied to the planning process to identify transportation issues, test scenarios, propose solutions, and evaluate activities to be implemented. This task includes collecting, analyzing, maintaining, reporting, and applying data to inform policy decisions. Information in tabular, database, geospatial, and other formats are used. The products are updated and compiled in various formats and made available to SRTC staff, staff from other state and local governments, and the public. This task also involves maintaining various user licenses and agreements and updating computer hardware and software. SRTC will be developing a formalized data program that includes many of the subtasks below. The program will standardize data processes,

SRTC staff coordinates and develops systems and information management tasks with member jurisdictions, STA, WSDOT, Environmental Protection Agency, Washington State Department of Ecology, Spokane Regional Health District and Spokane Clean Air Agency.

TASK 3 MAJOR MILESTONES AND PRODUCTS

- Update regional building permit database. (April 2024 and April 2025)

- Update and refresh maps and other data visualizations for the MTP. (June 2025)

- Update of base and forecast year models using new land use to coincide with MTP update. (December 2024)

- Update data tables used in Social Equity Mapping Tool as new Census and ACS data tables are made available. (December 2024)

- Update SRTC's paper bicycle map and print copies for distribution. (June 2025)

- Implement the SRTC Board adopted Data Application for Transportation Analysis (DATA) design plan. This plan includes several critical investments in data acquisition and tool development. Investments include a household travel survey, travel demand model improvements, passive data, updated traffic counts, land use management system, and an online data hub. (December 2023)

- Develop (March 2024) and implement a data program with the goal of organizing all of SRTC's continuous data acquisition, cleaning, analysis and reporting tasks under a single documented program. Subtasks within the program could include the following:

    - Organize technical documentation into a single document

    - Condense task schedules into a single (two year) Gantt chart

    - Develop standard data request procedure and architecture

    - Build additional data products into online data hub

    - Make recommendations for data improvements and necessary budget allocations

SUB-TASK 3.1

DATA AND SOFTWARE MANAGEMENT

Data and software management includes maintaining a variety of datasets used to support regional planning and technical analysis work. It also involves administering and updating SRTC's data analysis and visualization software, as needed. This task supports the MTP, TIP, CMP, and other tasks detailed in the work program.

Ongoing/Continuous Activities

- Acquire, update, and maintain various tabular, database, and geospatial datasets.
- Update and maintain datasets on SRTC's ArcGIS Online portal.
- Collaborate with other agencies to update and share data products and analyses.
- Assess data management process, catalog data sources, develop data architecture plan and recommendations.
- Research new developments in GIS and information technology for analysis and public dissemination of data and plans.
- Administer, update, and review data and visualization software.

SUB-TASK 3.2

GIS AND SPATIAL ANALYSIS

GIS and spatial analysis involve using a variety of tools to analyze geospatial data in support of SRTC and its member agencies' planning efforts. It also includes preparing detailed methodologies, metadata, and other documentation for ongoing technical analysis projects and programs. This task supports the MTP, TIP, CMP, and other tasks detailed in the work program.

Ongoing/Continuous Activities

- Collect and evaluate existing geospatial data.
- Create new geospatial datasets.
- Research and develop spatial data analysis methods to support SRTC planning work.
- Utilize GIS and other tools to process and analyze geospatial data.
- Prepare methodologies, metadata, and other documentation for SRTC's geospatial datasets and technical analysis projects.
- Provide GIS and other technical assistance to member agencies.
- Respond to data and analysis requests.

SUB-TASK 3.3

DATA VISUALIZATION AND CARTOGRAPHY

Data visualization and cartography focuses on providing information to the public and decision-makers by applying design and visualization techniques to explain the results of technical analyses in a clear and accessible manner. This includes preparing maps, charts, graphs, tables, and other visualizations for both internal and external audiences. This task supports the MTP, TIP, CMP, and other tasks detailed in the work program.

Ongoing/Continuous Activities

- Produce high-quality maps and other data visualizations to support SRTC planning and analysis work.

- Prepare map and data visualization templates, where possible, to increase efficiency and consistency.

- Research best practices and techniques in data visualization and cartographic design to enhance the clarity and accessibility of SRTC's planning products.

- Update existing maps and data visualizations, as needed.

- Develop and maintain interactive maps and applications on ArcGIS Online.

SUB-TASK 3.4

SOCIOECONOMIC DATA COLLECTION AND FORECASTING

Socioeconomic data collection and forecasting involves the development and maintenance of SRTC's land use forecast. This includes compiling data from various sources to create base year datasets, monitoring regional growth and development trends, maintaining scripts to process raw data, and using these inputs to develop population and employment forecasts.

Ongoing/Continuous Activities

- Review and evaluate regional growth and development trends.

- Acquire, update, and maintain various socioeconomic and land use datasets pertaining to employment, growth and development, demographics, and land capacity.

- Review and update land use forecast methodology, as needed, to ensure consistency with local agency planning efforts.

SUB-TASK 3.5

SYSTEMS ANALYSIS AND DATA APPLICATION

Systems analysis includes a variety of tools that apply relevant data to help understand how people and goods might travel the system in the future. Diverse data application allows SRTC to consider a variety of possible future impacts which could affect system performance.

The travel demand model forecasts future demand for roadways and transit services and calculates the share of trips completed by a combined bicycle/pedestrian mode. This tool is used in planning a transportation system that serves the future needs of the region and is also a critical element in the air quality conformity determination process.

The travel demand model is used to understand the current and future condition of the regional transportation system. SRTC staff is responsible for maintaining the 2022/2050 regional travel demand model set and related technical tools. This sub-task may involve consultant assistance to develop or employ economic analysis tools for the evaluation of transportation projects.

Ongoing/Continuous Activities

- Maintenance of the 2022 base year model and 2050 forecast year model. Model maintenance includes making any updates or corrections to the transportation network or input files. Revisions will be incorporated in the next model update.

- Complete model data requests for member agencies and/or public, as needed. (Note: Significant modeling requests or analysis are considered under Task 7 Planning Consultation and Studies.)
- As part of an ongoing project, existing planning tools will be updated, and new tools will be developed.

SUB-TASK 3.6
AIR QUALITY AND TRANSPORTATION CONFORMITY

Activities under this task focus on planning efforts to maintain the National Ambient Air Quality Standards (NAAQS) by assessing and avoiding or mitigating adverse impacts of mobile-source pollutants on existing and future transportation systems. In SFY 2024-2025 SRTC will continue to work with the Washington State Department of Ecology on refining the data inputs used in EPA's MOVES air quality modeling software.

Ongoing/Continuous Activities

- Conduct Air Quality Conformity determinations for the MTP, TIP, and TIP amendments.
- Complete project-level air quality analysis for CO and PM_{10} as required in the CO Maintenance Plan and PM_{10} Limited Maintenance Plan.
- Continue coordination with the Washington State Department of Ecology on vehicle miles traveled (VMT) data required for the transportation sector portion of their emissions inventory and necessary input files needed to run MOVES per the federal requirements.
- Monitor federal and state legislation and activities related to climate change and NAAQS of criteria pollutants that have current or future impacts to the Spokane Metropolitan Planning Area (SMPA).
- Initiate Air Quality Interagency Consultation Process as needed.

TASK 3 UNFUNDED ACTIVITIES

- Ongoing cross-sectional household travel survey.
- Develop a continuous traffic count collection program.
- Develop a regional system for consistently assessing pavement conditions, including potential software requirements.

TASK 3 RESPONSIBILITES

SRTC staff coordinates and develops systems and information management tasks with member jurisdictions, STA, WSDOT, Environmental Protection Agency, Washington State Department of Ecology, Spokane Regional Health District and Spokane Clean Air Agency. Tasks in 3.5 related to the DATA project are being executed with consultant assistance pursuant to an existing Local Agency Agreement.

TASK 3 SUMMARY OF REVENUES AND EXPENDITURES

Revenues		Expenditures	
FHWA-PL	$ ~~338,750~~ 416,600	Salaries & Benefits	$ 482,355
FTA-5303	$ 95,300	Overhead	$ 185,124
FHWA-STBG-Metro Planning	$ 225,000	Direct Costs	$ 64,000
FHWA-STBG-DATA	$ 320,605	Consultants	$ ~~403,071~~ 493,071
RTPO	$ 45,000		
Local	$ ~~109,895~~ 122,045		
TOTAL	$ ~~1,134,550~~ 1,224,550	TOTAL	$ ~~1,134,550~~ 1,224,550

Budget Comparison		FTE Staffing Comparison	
SFY 2024-2025	$ ~~1,134,550~~	SFY 2024-2025	2.21
SFY 2022-2023	1,224,550 $ 1,714,397	SFY 2022-2023	2.21
SFY 2020-2021	$ 993,848	SFY 2020-2021	1.35

APPENDIX A

SFY 2024-2025 BUDGET INFORMATION

REVENUE FORECAST

FHWA-PL (includes $223,633 prior year carryover)	~~1,868,609~~
	1,946,459
FTA-5303 (includes $76,487 prior year carryover)	635,261
FHWA-STBG-Metro Planning	1,000,000
FHWA-STBG-D.A.T.A.	320,605
FHWA Safety – Safe Streets and Roads for All	400,000
WA Dept of Commerce - ETS	2,500,000
RTPO	427,302
Local	~~630,334~~
	642,484
Total	~~7,782,111~~
	7,872,111

EXPENDITURE FORECAST BY REVENUE SOURCE AND TASK

Task	FHWA	FTA	STBG	RTPO/Dpt Commerce	Local	Total
1. Program Administration & Coordination	476,000	70,257	170,000	45,000	70,966	832,223
2. Public/Stakeholder Participation & Coordination	268,000	22,000	177,825	35,000	41,150	543,975
3. Data management & Systems Analysis	~~338,750~~	95,300	545,605	45,000	~~109,895~~	~~1,134,550~~
	416,600				**122,045**	**1,224,550**
4. Metropolitan Transportation Plan (MTP)	568,794	181,318	220,000	6,312	179,849	1,156,273
5. Transportation Improvement Program (TIP)	133,750	95,000	99,642	8,000	45,053	381,445
6. Congestion Management Process (CMP)	-	71,386	-	-	11,572	82,958
7. Planning Consultation & Studies	483,315	100,000	107,533	2,500,000	147,847	3,338,695
8. RTPO Planning Functions	-	-	-	287,990	24,002	311,992
Total	~~2,268,609~~	635,261	1,320,605	2,927,302	630,334	~~7,782,111~~
	2,346,459				**642,484**	**7,872,111**

EXPENDITURE FORECAST BY ACTIVITY

Task	Personnel & Indirect Expenses	Education Series & Training	Equipment & Software	Consultant & Data Collection	Total
1. Program Administration & Coordination	732,223	70,000	-	30,000	832,223
2. Public/Stakeholder Participation & Coordination	529,775	12,200	2,000	-	543,975
3. Data management & Systems Analysis	667,479	3,000	61,000	~~403,071~~	~~1,134,550~~
				493,071	1,224,550
4. Metropolitan Transportation Plan (MTP)	716,273	-	-	440,000	1,156,273
5. Transportation Improvement Program (TIP)	329,445	-	2,000	50,000	381,445
6. Congestion Management Process (CMP)	82,958	-	-	-	82,958
7. Planning Consultation & Studies	398,695	-	-	2,940,000	3,338,695
8. RTPO Planning Functions	173,992	-	-	138,000	311,992
Total	**3,630,840**	**85,200**	**65,000**	~~**4,001,071**~~	~~**7,782,111**~~
				4,091,071	**7,872,111**

APPENDIX A-1

EXPENDITURE FORECAST BY SUB-TASK ACTIVITY

Task	Personnel & Indirect Expenses	Education Series & Training	Equipment & Software	Consultants & Data Collection	TOTAL
1. Program Administration & Coordination					**832,223**
Administration Sub-tasks 1.1-1.4 & 1.6	611,146			30,000	641,146
Training 1.5	121,077	70,000			191,077
2. Public/Stakeholder Participation & Education					**543,975**
Public Coordination &Outreach 2.1	213,975		2,000		215,975
Stakeholder Coordination 2.2	117,367	10,000			127,367
Title VI & Environmental Justice 2.3	43,655	2,200			45,855
Website and Social Media 2.4	154,778				154,778
3. Data Management & Systems Analysis					~~1,134,550~~ <u>1,224,550</u>
Data & Software Management 3.1	197,220		50,000		247,220
GIS & Spatial Analysis 3.2	109,787	3,000			112,787
Data Visualization & Cartography 3.3	100,388		3,000	32,466	135,854
Socioeconomic Data Collection & Forecasting 3.4	63,092			50,000	113,092
Systems Analysis & Data Application 3.5	187,982		8,000	~~320,605~~ <u>410,605</u>	~~516,587~~ <u>606,587</u>
Air Quality & Transportation Conformity 3.6	9,010				9,010
4. Metropolitan Transportation Plan (MTP)					**1,156,273**
Long Range Transportation Planning 4.1	411,491			310,000	721,491
Equity Planning 4.2	53,216				53,216
Climate Change/Resiliency 4.3	81,578			130,000	211,578
Agency Support & Coordination 4.4	81,490				81,490
Active & Public Transportation 4.5	88,498				88,498
5. Transportation Improvement Program (TIP)					**381,445**
TIP Development & Maintenance 5.1	159,115		2,000		161,115
Coordination and Project Tracking 5.2	170,330			50,000	220,330
6. Congestion Management Process (CMP)					**82,958**
CMP Activities 6.1	64,888				64,888
Spokane Regional Transp. Mgt. Center Support 6.2	18,070				18,070
7. Planning Consultation & Studies					**3,338,695**
General Planning Support & Coordination 7.1	246,488			2,500,000	2,746,488
Regional Transportation Priorities 7.2	61,138				61,138
Safety 7.3	91,069			440,000	531,069
8. RTPO Planning Functions					**311,992**
General RTPO Activities 8.1	140,496			138,000	278,496
Countywide planning policies certification process 8.2	33,496				33,496
Total	**3,630,840**	**85,200**	**65,000**	~~4,001,071~~ <u>4,091,071</u>	~~7,782,111~~ <u>7,872,111</u>