

**Monroe County Professional Transportation Planning/Engineering Consultant Services
Work Order # 010**

**US-1 Transportation Master Plan Scope of Services
Monroe County, Florida**

A. INTRODUCTION

Monroe County is a string of islands (known as the Florida Keys) that are connected to each other and mainland Florida by US-1. The islands within Monroe County are home to several popular tourist destinations. Traffic characteristics in Monroe County are quite unique and traffic volumes vary significantly during different seasons. US-1 serves as the primary roadway providing access to different keys, from Key Largo to Key West. The Monroe County Planning Department requested that a US-1 Transportation Master Plan (TMP) be prepared to identify the transportation needs, goals/objectives and an action plan to meet those goals. The limits of this TMP will include the roadway segments as listed below:

- US-1 (SR 5/ Overseas Highway) from the Miami-Dade/Monroe County line to South/North Roosevelt Boulevard (includes US-1 segments within all municipalities and unincorporated Monroe County).
- North Roosevelt Boulevard from US-1 (SR 5/ Overseas Highway) to White Street
- South Roosevelt Boulevard (SR A1A) from US-1 (SR 5/ Overseas Highway) to Bertha Street
- Intersection of Card Sound Road and CR 905
- Frontage Roads connecting to US-1
 - a. Old Highway, Plantation Key
 - b. Old State Highway 4A, Islamorada
 - c. Frontage Road along N. side of US-1 in Lower Matecumbe Key
 - d. Airport Access Road, Marathon
 - e. Avenue A, Big Pine Key
 - f. Old State Road 4A, Ramrod key
 - g. Flagship Drive, Summerland Key
- Critical intersections along US-1 (up to five intersections)

B. OBJECTIVES

The primary objective of this study is to develop a Transportation Master Plan (TMP) that will provide future direction for US-1 within Monroe County. The objectives of this study include:

- Gather all existing relevant data
- Meet with stakeholders to get input on transportation issues, improvement opportunities, and then develop goals/objectives for the US-1 TMP
- Conduct a total of two public meetings to obtain input from the public regarding transportation issues and proposed solutions. The locations for these meetings will be determined based on coordination with County staff.
- Assess existing transportation system, identify potential issues and develop potential high-level solutions. A high-level solution may include suggestions such as the installation of a passing lane or adding missing sidewalks. However, an in-depth review of potential right-of-way, utility, or other impacts for that passing lane or sidewalks will not be conducted as part of this TMP.

- Identify potential short-term solutions for implementation in the next 1-5 years as well as long-term solutions for implementation in the next 10-20 years. These solutions may include multi-modal solutions addressing the needs of pedestrians, bicyclists, public transit, and personal automobiles.
- Develop a high-level plan to implement the solutions.

C. SCOPE OF SERVICES

Task 1 – Meeting with Stakeholders

Purpose

The purpose of this task is to meet with key stakeholders to get their input on transportation issues and develop goals/objectives for the US-1 TMP.

Activities

Identify key stakeholders and coordinate one meeting to obtain input and develop the TMP goals. The location of this meeting will be determined based on coordination with County staff. It is anticipated that the following agencies will be invited to the stakeholder meeting.

- Monroe County Planning and Environmental Resources Department
- Monroe County Engineering Services Department
- Monroe County Sustainability Department
- Monroe County Tourism Development Council
- Monroe County Chamber of Commerce
- Monroe County Sheriff's Office
- Monroe County School Board
- Monroe County Emergency Operations Center
- FDOT District 6 Transportation Planning Office
- FDOT District 6 Maintenance Office
- FDOT District 6 Office of Modal Development
- FDOT District 6 Transportation Management Center
- FDOT Bridge Maintenance
- Miami-Dade County Transportation and Public Works Department
- Florida Department of Environmental Protection
- Florida State Parks
- Miami-Dade Transit
- Key West Transit
- Local Municipalities

The results of the Initial Public Outreach meeting (Task 2) and the Stakeholder Meeting (Task 1) will be used in developing the TMP goals and objectives.

Deliverables

- Meeting Minutes

Task 2 – Initial Public Outreach

The purpose of this task is to conduct a public meeting to inform the public about the study and to get their input on transportation issues. To ensure that ample opportunities for input are provided to the community, a project website will be created and maintained. A response period (to be determined during the study) will be provided, in which the community can submit input via the project website. Input received regarding transportation issues will be incorporated into the study. The results of this task will help define the goals for the US-1 TMP.

Deliverables

- Meeting Minutes
- Project Survey to be provided at the public meeting
- Project Survey Summary Report
- Project Website
- Public Outreach Materials

Task 3 – Gather Existing Data and Identify Opportunities for Improvements

Purpose

The purpose of this task is to collect necessary data from the data sources listed below and analyze travel patterns, identify hot spots (in terms of safety, congestion) and identify potential opportunities for improvements. The study limits for data collection will include all of US-1 within Monroe County as well as the frontage roads (shown in Section A) connecting to US-1 and critical intersections (up to five intersections to be determined based on traffic data from the sources listed below). Roadway improvements along side streets (non-US-1) at critical intersections and frontage roads may help improvement traffic flow along US-1. As such, any available data for these frontage roads and critical intersections will be gathered.

Activities

The consultant will review relevant/available roadway and traffic data to assess the existing transportation system (any data related to transportation services will not be included). It is envisioned that the data will primarily be collected from the following existing data sources. Additional traffic data collection is beyond the scope of this study:

- a. Origin-Destination (O-D) patterns from recently completed O-D Study.
- b. Travel time and speed data from the Regional Integrated Transportation Information System (RITIS)
- c. Existing FDOT and/or County traffic data
- d. FDOT High Crash List
- e. FDOT Annual Level of Service Report
- f. Florida Traffic Online Website
- g. Monroe County Transportation Improvement Plan
- h. Monroe County Comprehensive Plan
- i. FDOT Work Program
- j. Intelligent Transportation Systems (ITS) and Transportation Systems Management and Operations (TSM&O) infrastructure (communication, cameras, detectors)
- k. Signal system information (controllers, cabinets)
- l. Travel Time Studies

- m. Any studies or plans related to trails, pedestrian/bicycle projects, and roads or bridge projects
- n. Transit related data
- o. Existing land use data and available information from development plans
- p. Stakeholder input
- q. Input from public meetings

Potential items that will be reviewed as part of this task include:

- Identify critical intersections and/or segments along US-1 that are experiencing traffic congestion (based on input from FDOT/County staff) or from previous studies such as the Capacity Improvements Feasibility Study performed by URS in September 2014, Travel Time and Delay Study conducted by AECOM in 2017 and O-D Study Conducted by AECOM in 2018).
- Potential traffic signal infrastructure improvements to enhance traffic flow.
- Flooding issues along US-1 in the vicinity of the Matecumbe Ocean Beach area (also known as Sea Oats Beach).
- Identify lower elevation portions of the study roadways (listed in Section A) that may be impacted by climate change implications.
- Identify areas where local transit could be useful. In addition, review existing transit options and identify areas where improvements can be made.
- Identify intersections and/or locations where pedestrian/bicycle improvements are needed based on crash data.
- Identify potential communication infrastructure and ITS improvements to facilitate the monitoring of traffic flow in real-time and notification of traffic conditions to motorists.
- Identify potential locations for safety improvements (based on review of FDOT High Crash Lists and input from FDOT D6 Safety Office, FHP and Monroe County Sheriff's Office).
- Identify deficient bridges and identify improvement opportunities (based on input from FDOT/Monroe County; on-going feasibility study being conducted by FDOT to replace the drawbridge at Snake Creek Channel with an elevated bridge)

Deliverables

- Draft Study Methodology Memorandum
- Final Study Methodology Memorandum

Task 4 - Develop TMP Goals and Potential Solutions

Purpose

The purpose of this task is to develop attainable goals and transportation solutions (general solutions will be provided, not specifically for each individual intersection or segment) to address existing and anticipated transportation issues in the study area. The consultant, in consultation with County staff, will develop the TMP goals and a list of proposed multimodal solutions to address issues such as congestion, gaps in pedestrian/bicycle facilities transit stops etc. A combination of these goals and solutions (short-term and long-term) will serve as a guide to achieve the overall multimodal vision for US-1.

Activities

The consultant will assess the existing transportation network to identify the segments that are experiencing deficient Level of Service (LOS) based on Travel Time Delay Study and the FDOT LOS Table. The historic traffic data collected (Task 3) will be analyzed to determine growth factor and future traffic projections (at up to 25 locations along US-1). Additionally, generalized LOS analysis will be conducted to identify areas that will need improvements in the future. The generalized LOS analysis will be conducted for three scenarios, including the existing and two future conditions (10 year and 20 year) based on traffic data from FDOT PTMS sites (maximum of 10 sites). Also, peak hour field reviews will be conducted at critical intersections (up to five intersection) to identify potential traffic operational issues and identify opportunities for improvement. These field reviews will be used to assess overall conditions along the corridor and will not include detailed reviews/observations at individual intersections to identify specific traffic issues by movement.

Solutions may include recommendations for improvements such as:

- Intelligent Transportation System (ITS) solutions: Communication upgrades, detection/monitoring devices, Transportation Systems Management and Operation (TSM&O), smart work zones, road weather management, queue warning systems
- Signal System Improvements: Signal timing and/or signal system improvements, adaptive signal control systems, and dilemma zone protection systems
- General roadway improvements to address congestion at intersections and along roadway segments
- Bridge improvements, bridge opening advisory systems
- Repurposing of existing transportation assets
- Access management improvements
- Frontage Road Improvements
- Traffic operations and safety improvements
- Pedestrian/bicycle improvements (additional sidewalks and/or bicycle lanes, pedestrian crossing improvements, etc.);
- Multi-modal solutions, transit improvements (bus stop amenities, inter-island shuttles, transit signal priority, bus bays, etc.)
- Identify potential opportunities for water-based transportation systems. The scope for this item is limited to providing a list of potential water-based transportation options, pros/cons, implementation challenges, and suggestions for the options that could be considered for further evaluation.
- Management systems:
 - a. Traffic incident management;
 - b. Special event management;
 - c. Parking management;
 - d. Freight management;
 - e. Traveler information systems;
 - f. Active traffic management; work zone management

- g. Speed management; dynamic speed harmonization (speed limits are adjusted dynamically based on current traffic conditions, this helps to smooth the traffic flow and can improve the overall traffic throughput);
- h. Use of Connected Vehicle technologies;

Solutions will be developed in two phases, short-term solutions for implementation in the next 1 to 5 years, and long-term solutions for implementation in the next 10 to 20 years. Analysis of future conditions with improvements is not included in the scope of this study.

Deliverables

- Draft Goals/Objectives Memorandum
- Final Goals/Objectives Memorandum
- Draft Project Lists (1-5 year projects and 10-20 year projects)
- Draft Project Identification Maps

Task 5 – Funding Analysis and Prioritization of Solutions

Purpose

The purpose of this task is to conduct a high-level economic analysis to determine funding needs to implement the project-based solutions (Task 4).

Activities

This task involves the identification of available transportation revenues; projections of transportation revenues to a funding horizon; development of approximate cost estimates or probable costs for potential solutions (up to 20 improvements); potential State, Local, or Federal funding sources; and development of a prioritization process to assess which combination of projects are achievable by identified funding sources.

Deliverables

- Draft Economic Analysis with Funding Scenarios
- Final Economic Analysis with Funding Scenarios

Task 6 – Public Outreach Meeting

Purpose

The purpose of this task is to conduct a second public meeting to gather the public input on the project-based solutions developed (Task 4) to address the transportation issues that were identified through stakeholder coordination (Task 1), the initial public meeting (Task 2) and while gathering existing roadway and transportation data (Tasks 3). All project information provided at the public meeting will be added to the project website and a response period will be provided for the community to provide input via the website.

Deliverables

- Meeting Minutes
- Public Outreach Materials

Task 7 – Prepare US-1 Transportation Master Plan

Purpose

The purpose of this task is to prepare a report summarizing the study results.

Activities

The consultant will prepare a report documenting the study findings/results. The draft report will be submitted to the County Project Manager for review/comments. The report will be finalized based on the comments received from Monroe County/FDOT. Two (2) hard copies and one (1) digital copy of the final report will be submitted to the County Project Manager.

Deliverables

- Draft Report
- Final Report

Task 8 – Progress Meetings / Presentations

Purpose

As part of this task, the consultant will attend six (6) meetings:

- Quarterly project progress meetings (4 total) with the County Project Manager (via phone call)
- One meeting to present the study findings/results to the County Project Manager and County staff (in-person meeting)
- One meeting to present the study results and findings to the Monroe County Board of County Commissioners (in-person meeting)

Activities

The consultant will prepare a PowerPoint presentation and present the study results to the County Project Manager and the Board of County Commissioners.

Products

- PowerPoint Presentation
- Meeting Minutes

Project Management

Purpose

The purpose of this task to perform all project management related activities that are required as part of this study.

Activities

Project Management will include managing and coordinating client and third-party interfaces, attendance at project meetings, documentation of meeting notes, and Quality Assurance/Quality Control reviews of project deliverables.

Project Schedule

In order to comply with the requirements of the Monroe County Comprehensive Plan the final TMP needs to be approved by the BOCC before May 2021. The draft TMP will be developed within twelve (12) months from the date of Work Order execution. The Final TMP will be ready two (2) months after comments are received from the County. A detailed project schedule will be developed and submitted to the County Project Manager for review and approval. The monthly progress reports will include updates to the original project schedule.

Progress Reports

Project progress reports will be prepared and submitted to the county on a monthly basis. The progress report will discuss work accomplished during the preceding month, work projected for the following month, and potential project issues and associated impacts to the project schedule or budget.

Fee Schedule

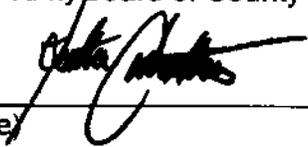
Invoices will be submitted monthly in concurrence with the progress reports. The amount of each invoice will be based on the percent of work completed during the invoice billing period.

Deliverables

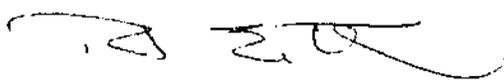
Monthly Progress Reports and Invoices

ACCEPTED AND APPROVED
Monroe County Board of County Commissioners

ACCEPTED AND APPROVED
AECOM Technical Services, Inc.



(Signature)



(Signature)

Mayor Heather Carruthers
(Name & Title)

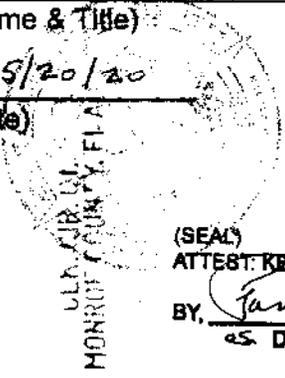
Robert Edelstein / Senior Vice President
(Name & Title)

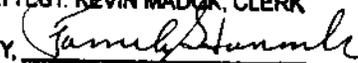
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(SEAL)
ATTEST: KEVIN MADOK, CLERK
BY: 
CLERK & DEPUTY CLERK

MONROE COUNTY ATTORNEY
APPROVED AS TO FORM:

STEVEN T. WILLIAMS
ASSISTANT COUNTY ATTORNEY
Date 6/1/20

Estimate of Work Effort for Work Order Number # 10
US-1 Transportation Master Plan
Monroe County
 Consultant: AECOM Technical Services, Inc.

Task #	Description	Project Manager	Senior Transportation Engineer / Planner	Transportation Engineer / Planner	CADD / Graphic Technician	Clerical	Totals by Task		Notes
							Hours	Fee	
		Billing Rates: \$ 259.31	\$ 204.30	\$ 111.71	\$ 93.73	\$ 64.15			
	Project Management	40				8	48	\$ 10,885.60	
1	Meeting with Stakeholders	14	8	8			30	\$ 6,158.42	Prepare meeting agenda and presentation, attend meeting and prepare meeting minutes
2	Initial Public Outreach	24	40	120	36	8	228	\$ 31,688.12	Present an overview of the study area to gain public input on problem areas. Prepare outreach materials, schedule and attend public meeting, create and maintain project website, organize information/input received for public
3	Gather Existing Data	4	32	60	80	8	184	\$ 22,289.04	Review available studies, Comp Plan, FDOT High Crash List, Work Program, ITS infrastructure, transit data, signal system data, and flood zones data. Also collect any readily available traffic data
4a	Develop TMP Goals	8	32	16	20		76	\$ 12,274.04	Develop master plan goals based on data collected, public meetings and coordination with FDOT/County
4b	Conduct Field Reviews	32	80	100	16		228	\$ 37,312.60	High level peak hour field reviews at critical signalized intersection to assess overall conditions. This will not include a detailed review to observe specific traffic issues by movement
4c	Travel Demand Forecasting	12	40	60	48		160	\$ 22,485.36	Traffic forecast based on historic traffic counts at a maximum of 25 location along US-1
4d	Evaluation of Existing and Future Transportation Conditions	20	80	120			220	\$ 34,935.40	Review FDOT LOS Table and 2019 TTDS to identify roadway segments experiencing unacceptable LOS. Conduct general LOS analysis (existing, 10-year, and 20-year) based on data from FDOT PTMS sites (maximum of 10 sites). Critical intersections will be identified using the input from public meetings, review of TTDS, RITIS data, and review of FDOT High Crash List
4e	Develop Traffic Operations/Safety Solutions (Traditional Improvements)	16	60	80	40		196	\$ 29,092.96	Evaluate potential improvements related to traffic operations/safety improvements for up to 10 segments and five intersections. This is limited to a high level review and will not include detailed studies and feasibility reviews for implementation
4f	Develop ITS Related Solutions	24	60	40	8		132	\$ 23,699.68	Evaluate potential improvements related to ITS Solutions. This is limited to a high level review and will not include detailed studies and feasibility reviews for implementation
4g	Develop Pedestrian/Bicycle Solutions	8	24	32	40		104	\$ 14,301.60	Evaluate potential improvements related to pedestrian/bicycle improvements. This is limited to a high level review and will not include detailed studies and feasibility reviews for implementation
4h	Develop Access Management Solutions	8	40	40			88	\$ 14,714.88	Evaluate potential improvements related to access management. This is limited to a high level review and will not include detailed studies and feasibility reviews for implementation
4i	Develop Multi-Modal Solutions	40	120	80	40		280	\$ 47,574.40	Evaluate potential improvements related to multi-modal systems (transit and water-based transportation options). This is limited to a high level review and will not include detailed studies and feasibility reviews for implementation
5a	Develop probable costs for potential solutions	20	24	50	16		110	\$ 17,174.58	Develop high level costs for up to 20 selected improvements
5b	Identify potential transportation revenues/projections	12	40	40			92	\$ 15,752.12	Identify potential transportation revenues/projections
5c	Prioritize potential projects	16	40	40			96	\$ 16,789.36	Rank and prioritize potential projects (1-5 year short term projects and 10-20 year long term projects)
6	Final Public Outreach Meeting	10	24	32	16	8	90	\$ 13,083.90	Present study goals and solutions at public meeting. Prepare materials, schedule and attend public meeting, and summarize input received.
7a	Prepare Draft Transportation Master Plan	16	24	40	40	4	124	\$ 17,526.36	Prepare a draft report to summarize the study findings and recommendations
7b	Prepare Final Transportation Master Plan	8	20	32	16	4	80	\$ 11,491.48	Update Draft Report based on comments received from County and FDOT
8	Progress Meetings/Presentations	38	48	12	8		106	\$ 21,750.54	Prepare agenda/PowerPoint Presentation, attend meeting and prepare meeting minutes
	QC/QA	24					24	\$ 6,223.44	
	Subtotal	394	836	1002	424	40	2696	\$ 427,203.88	
	Total Fee for Study	\$ 102,168.14	\$ 170,794.80	\$ 111,933.42	\$ 39,741.52	\$ 2,566.00		\$ 427,203.88	

Notes:

This fee estimate does not include the following services

- 1 Climate Change/Adaption Analysis/Modeling
- 2 Feasibility Analysis (from design, construction, and environmental standpoint) of Proposed Improvements
- 3 Turning Movement Counts for Major Intersections
- 4 Machine Counts for segments