Space Coast Transportation Planning Organization

Sarno Road Corridor Study

Work Order 18-01A

DRAFT Scope of Services

08/28/17

A. INTRODUCTION

The Sarno Road Corridor Study will explore the potential to implement a roadway reconfiguration project to improve pedestrian and bicycle facilities as well as to address safety issues, traffic operations, and transit movements along the corridor. Sarno Road is a key east/west road in Brevard County, starting at Eau Gallie Boulevard, just east of I-95, on the west and ending at US 1, to the east. **Figure 1** displays the location of the study limits.

Figure 1 - Sarno Road Study Limits

Sarno Road within the study limits is classified as Urban Minor Arterial and consists of multiple cross sections: two-lane divided (center turn lane), four-lane divided (center turn lane) and undivided cross sections (four travel lanes, two in each direction). The majority of Sarno Road has a closed drainage system with curbs and sidewalks along a majority of the east end of the corridor and an open drainage system with minimal sidewalks along a majority of the west end of the study corridor.

Existing traffic volumes on Sarno Road from Eau Gallie Boulevard to Wickham Road are approximately 16,800 vehicles per day. From Wickham Road to Apollo Boulevard the average volume is 20,000 vehicles per day. From Apollo Boulevard to US 1 the average vehicles per day are 15,000. The study corridor has experienced volume-to-capacity ratios ranging from 0.51 to 0.74 in 2015 based on the Space Coast Transportation Planning Organization's (TPO) annual State of the System Report. The study corridor has

experienced on average 51 crashes per year over the past 5 years, with 12 involving pedestrians or bicyclists.

Automobile oriented commercial/retail land uses and residential land uses are directly adjacent to the corridor while single family subdivisions surround those commercial/retail parcels. Four schools are also located within a mile of the study corridor and a regional park is located on the southeast corner of Sarno Road and Wickham Road intersection.

B. DESCRIPTION OF SERVICES

Atkins (CONSULTANT) will assist the TPO in performing the Sarno Road Corridor Study. The goals of the study are as follows:

- Assess traffic operations along the segments and at signalized intersections.
- Assess alternatives to provide improved pedestrian/bicycle/transit facilities along the length of the corridor with an emphasis at signalized intersections and recommend a feasible preferred alternative targeting multi-modal mobility.
- Assess cross section changes, such as constructing raised medians, to reduce vehicular conflicts and improve safety along the corridor.
- Solicit input from the public and a Project Advisory Team throughout the course of the project. This team will provide guidance to the CONSULTANT when recommending the preferred alternative.

C. MAJOR TASKS

The CONSULTANT will assist the TPO with the following major tasks:

- Prepare for and lead one multi-day planning charrette and three (3) Project Advisory Team meetings.

- Perform general data collection activities including:
    - Review right-of-way maps along the study corridor;
    - A field review to observe existing operational conditions and corridor characteristics; and
    - A utility verification for existing utilities along the study corridor.

- Perform an existing conditions analysis which includes:
    - Historical safety review for last five years;
    - Existing and future land use as well as current zoning;
    - Existing corridor and intersection operational analysis;
    - Existing transit facilities and transit operations; and
    - Issues and opportunities identification.

- Perform a future conditions assessment including the following tasks:
    - Determine future growth rates;
    - Forecast traffic volumes; and
    - Perform future no-build operational analysis.

- Develop and analyze alternatives involving:
    - Development of cross sections and roadway alternatives;
    - Drainage and impacted utilities assessments;
    - Development of preliminary cost estimates; and
    - Analyze operational/multi-modal measures of effectiveness and recommend a preferred alternative.

As documented in **Part D** of this scope, the CONSULTANT will develop a schedule during the project's first month and keep the schedule current throughout the project's duration. The following subsections describe each task to be performed.

TASK 1: PUBLIC AND PROJECT ADVISORY TEAM MEETINGS

As part of the Sarno Road Corridor Study, the CONSULTANT will prepare for and lead three Project Advisory Team meetings and a multi-day public charrette. The following work activities are anticipated in preparation for the Project Advisory Team and public meetings:

1.1 Project Advisory Team

- Identification of Project Advisory Team: It is anticipated the CONSULTANT will work with the TPO to identify appropriate members of the Project Advisory Team. Members of the Project Advisory Team are anticipated to represent local agencies along the corridor, such as Brevard County, the City of Melbourne, the Florida Department of Transportation, members from schools located near the study corridor, and local law enforcement.

- Project Advisory Team Meetings (3): The Project Advisory Team will be engaged in the review of products and at key decision points during the operational and alternatives analysis process and will assist in the development of recommendations.

1.2 Public Meeting: Project Charrette

- The Consultant will participate in a one-day pre-charrette visit to coincide with the first Project Advisory Team meeting to meet with the project partners and selected stakeholders, and tour and photograph the areas to assess existing conditions. This will allow the team to identify any issues/areas of concern within the field and to preliminarily assess the potential effectiveness and practicality of improvements.

- The project will include a multi-day charrette which shall serve as the

centerpiece of this community-based planning effort, and the charrette will take place over several days over the course of a week. The purposes of this event are to establish the guiding principles and proposed multimodal design solutions for each segment along the corridor. The CONSULTANT will coordinate charrette activities with assistance from facilitators. The conceptual schedule of events for each charrette includes:

Charrette Day One

- Pre-Charrette Visit and Project Advisory Team meeting to identify key issues and articulate direction. The CONSULTANT will prepare the Project Advisory Team and the TPO Staff for the charrette activity and follow up on any information and/or issues arising from discussions and data collection efforts held in prior weeks.

- Opening presentation with input activities (i.e. weekday evening; approximately 2 hours). This presentation will brief those in attendance of the project's purpose, fundamental Complete Street concepts and best practices, process, schedule and locations and existing features of the corridors, including initial opportunities and deficiencies. Develop potential "talking points" related to Corridor conditions (i.e. traffic, safety, land uses, TOD potential, sense of place, etc.)

Charrette Day Two

- Corridor Workshop (Workshop with facilitated site walks), and small group table map activities (i.e. weekday morning; 4 hours). The intent of these community workshops will be to provide participants with an "on the ground" experience in order to identify and highlight issues, areas of concern, needed improvements, and opportunities for and constraints to improvements. In addition to the walking tours, bus tours (utilizing Space Coast Transit vehicles) may be a part of the community workshop in order to gain perspective of the corridor from a transit rider's point of view. Following the tour, participants will join back together to further discuss and flesh out ideas and concepts (i.e. weekday afternoon; 4 hours).

Charrette Days 3 & 4

- Two days of on-site production with Open Studio hours in a work space provided by the TPO, or other entity. During this time, the entire CONSULTANT design team will collaborate on concept development to produce conceptual designs based on input from the Corridor Tour/Workshop and stakeholder interviews, and review of background information. In an "open design studio" format, time will be spent receiving input from public and interviews, data analysis, creating concepts, critiquing designs, and refining alternatives. Critiques will begin

with the CONSULTANT design team and then expand to include the Project Advisory Team and TPO staff. Project objectives will be used to evaluate and refine concepts. A meeting with the stakeholders will be scheduled on a weekday morning, and a pinup session will be scheduled for same evening. The design team will present a “work in progress” presentation to all participants for input on final direction.

- The Open Studio will continue the following day with the closing presentation of preliminary design recommendations and concepts in the evening (approximately 2 hours). This presentation of concepts will be the culmination of input gathered from the Project Advisory Team input and public input during the charrette. Concept boards and maps may also be displayed showing the preliminary design recommendations.

- The CONSULTANT will participate in all events and develop recommendations and design concepts during the production days and presentation at a closing meeting with Project Advisory Team.

- For the project charrette, the CONSULTANT will prepare the following:

  - Project Summary/Overview Handout for distribution at the meetings.
  - Multi-media presentation and equipment; meeting equipment set-up and tear-down.
  - Meeting notifications: The CONSULTANT will work with TPO staff to generate a mailing list for meeting notifications. This includes letters to elected and appointed officials, legal advertisements, post card mailings to property owners and other interested parties, and e-mail notifications to the Project Advisory Team. The CONSULTANT will pay the cost of publications and first class postage as applicable (up to $1,500).
  - News releases for use 14 days prior to meeting. The CONSULTANT will pay for the cost of publishing the press release in one local newspaper.
  - Summary notes of all meetings to be provided to the TPO no later than 10 business days after the meeting.

With input from the TPO, the CONSULTANT will secure a site to host the project charrette. The CONSULTANT will attend the meetings with an appropriate number of personnel to assist TPO Staff. Other public outreach and information activities will include:

- Branding
  In order to make the study feel relevant and important to target audiences, the CONSULANT will work with the TPO staff to develop a user-friendly, clear name for

the study.

- Survey Tool
  The CONSULTANT will work with the TPO staff to develop an appropriate survey tool to meet the need outlined in the corridor study. Strategically, this tool will have questions geared towards both residents and commuters.

- Website Landing Page
  Once the study has been branded, the CONSULTANT will create a web landing page that will function as the main source of information about the study. This page will be housed on the TPO's website and will remain active throughout the study. This page will be designed to be in line with the survey brand so that when users arrive on the page, they know they're in the correct place to learn about the study. The landing page can be used to:

  - Direct users to the online survey
  - Announce public meetings and workshops about the study
  - Gather email addresses from those interested in the project
  - Direct users to the Space Coast TPO page for more information

- Online Advertising
  Raising awareness of the study is imperative for collecting public input. To maximize study exposure with the target audiences, the CONSULTANT recommends a combination of Facebook and Google AdWords. These ads will be geo-targeted to identify those who live along the four-mile corridor of Sarno Road and those who travel that route. Ads will run for four weeks leading up to the charrette and for the duration of the online survey.

- Public Relations
  To get exposure amongst the general public, the CONSULTANT recommends two public relations pushes for this project. Both efforts will target print, online, radio and television outlets in the area.

  - One effort will announce the launch of the study and will encourage online survey participation.
  - The second effort will announce the charrette and call for residents and commuters to come and share their thoughts.

- Eblast
  The CONSULTANT will provide the TPO staff with one eblast to interested residents. The design will be in line with the branding, and the eblast will include a direct call-to-action, asking recipients to participate in the study. The eblast will contain a link to the landing page in order to access the latest information about the study.

If the TPO anticipates posting study-related information on the website, the CONSULTANT will provide project information, graphics, and other materials generated for major deliverables, public, and Project Advisory Team coordination meetings in a suitable format for posting as requested.

Task 1 Deliverables

- *Meeting materials such as presentations, notifications, and meeting boards will be made available to the TPO for review prior to the meetings.*
- *Meeting notes from each of the meetings will be prepared and distributed amongst the Project* Advisory *Team.*
- *Public Involvement Documentation Report*

TASK 2: DATA COLLECTION

2.1 Traffic Data Collection

The TPO will collect turning movement count data at all signalized intersections and key unsignalized intersections on the corridor during the AM and PM peak hours. The CONSULTANT will review the counts collected for reasonableness and consistency along the study corridor. It is anticipated the CONSULTANT will obtain daily segment volumes from the TPO's State of the System (SOS) traffic count data set.

2.2 Field Review

The CONSULTANT will perform two field reviews over the course of the project:

- During the Existing Conditions Analysis task to observe operational characteristics in the AM and PM peak hours. This field review will also consist of verifying intersection/cross sectional geometrics along with the existing pedestrian, bicycle, and transit facilities. This review will also include a night review to observe lighting levels along the corridor.

- During the Alternatives Analysis task to verify specific roadway characteristics that may impact concept development features. This may include the location of driveways, curb returns, drainage inlets, open swales, utilities, or review of locations where potential conflicts between the roadway elements and proposed concepts may exist.

2.3 Right-of-Way Review

The CONSULTANT will coordinate with the Florida Department of Transportation (FDOT), Brevard County and the City of Melbourne to review ROW information within the limits of the study corridor. The ROW maps will be compared to the GIS parcel lines and utilized during Alternatives Analysis.

2.4 Utility Verification

The CONSULTANT will verify utilities along the corridor via a Sunshine One Call and

readily available plans obtained from Brevard County and/or the City of Melbourne, and the Florida Department of Transportation. The Sunshine One Call will provide a list of potential utility providers in the area and a field inspection will be completed to provide visual confirmation of the utilities. Local cities will be contacted to obtain GIS utility information that is available and additional data will be conducted through a field review. These utilities will be mapped in GIS/CADD for use during the Alternatives Analysis.

2.5 General Data Collection

The following items are anticipated to be collected as part of the data collection effort:

- Signal timing/phasing information for the study intersections.
- Existing transit data in the corridor including route information, schedules, ridership, transit facilities, and future transit plans.
- Planned and programmed roadway projects in the area. This will also include a request for any approved but unbuilt access permits on the corridor.
- Recently completed projects in the area.
- Existing and future land use plans.
- GIS data illustrating available information within the study area. This data generally consists of wetland, floodplains, threatened/endangered species and habitat, contamination, and cultural/historic sites used to identify fatal flaws with potential alternatives.

Task 2 Deliverables

- *A data collection summary will be included in the Existing Conditions Report as defined in **Task 3**.*

TASK 3: EXISTING CONDITIONS ANALYSIS

3.1 Historical Safety Review

The CONSULTANT will obtain 2012 to 2016 crash data using CARS and Signal 4 Analytics and summarize corridor wide and intersection crash trends. The CONSULTANT will prepare collision diagrams for the pedestrian and bicycle crashes along the corridor and note any transit related crashes. The CONSULTANT will also create collision diagrams for up to three high crash locations along the study corridor.

3.2 Existing Corridor Operational Analysis

Using the travel characteristics data collected for the study corridor, the CONSULTANT will perform a level of service (LOS) evaluation per Highway Capacity Manual (HCM) procedures as they apply to roadway intersections and segments for the AM and PM peak hours. The existing conditions analysis will be performed for six (6) signalized intersections and up to three (3) unsignalized intersection within the study corridor.

3.3 Issues and Opportunities Identification

Based on the existing conditions analysis, the CONSULTANT will review the data collected

to identify the preliminary issues and opportunities along the corridor. This will include issues and opportunities based on safety, traffic operations, and pedestrian/bicycle/transit mobility obtained through review of previous studies, field reviews, coordination with agencies, previous public workshops/meetings, the multi-day charrette, operational analysis, and other publicly available data sources such as agency GIS resources and the TPO databases.

Task 3 Deliverables

- *The results of the existing conditions analysis will be summarized within the Existing Conditions Report. It is anticipated the TPO will review the report and the CONSULTANT will incorporate comments/edits before finalizing.*
- *Two (2) hard copies of the Existing Conditions Report will be prepared for the TPO once the report is finalized.*

TASK 4: FUTURE CONDITIONS ASSESSMENT

4.1 Determination of Future Growth Rate

As part of the Sarno Road project, the CONSULTANT will run an "off the shelf" model to evaluate projected traffic growth in the area utilizing the latest version of the Central Florida Regional Planning Model (CFRPM). As part of this task, programmed and planned roadway improvements will be verified, documented, and included into the transportation model and the CONSULTANT will prepare a year 2040 baseline future model for the study corridor (no interim year models will be developed). No subarea model will be created for the Sarno Road project.

In order to determine future growth for the Sarno Road study corridor, the CONSULTANT will review the future traffic growth forecast supplied in the model results. The model growth rate will be one source the CONSULTANT will utilize to determine future traffic growth along Sarno Road.

In addition to the model growth rates, historical traffic growth rates and future Florida Bureau of Economic and Business Research (BEBR) population growth rates will be reviewed for applicability. Based on the three growth rate sources discussed, the CONSULTANT will propose an appropriate growth rate or rates to the Project Advisory Team to be utilized for the future traffic projections along the study corridor.

4.2 Traffic Volume Projections

The existing AM and PM peak-hour turning movement volumes for the study corridor will be forecast to the opening year (specific year to be determined by the Project Advisory Team) utilizing the growth rate discussed in **Task 4.1**. These projected volumes will be used for the future intersection LOS analysis and determination of potential intersection improvements.

The growth rate will also be applied to AM and PM peak-hour segment volumes to determine capacity needs on a segment level.

4.3 Future No-Build Operational Analysis

Using the future traffic volumes projected for the opening year of the study corridor, the CONSULTANT will perform a LOS evaluation per Highway Capacity Manual (HCM) procedures as they apply to roadway segments and intersections. The future conditions analysis will be performed for the same three signalized intersections and one unsignalized intersection as in the existing conditions analysis. A HCM based segment analysis will be performed for the roadway segments as defined in the existing conditions analysis.

Task 4 Deliverables

- *The results of the future conditions analysis will be summarized within the Future Conditions Report. It is anticipated the TPO will review the report and the CONSULTANT will incorporate comments/edits before finalizing.*
- *Two (2) hard copies of the Future Conditions Report will be prepared for the TPO once the report is finalized.*

TASK 5: ALTERNATIVES ANALYSIS

5.1 Development of Initial Roadway Alternatives

The CONSULTANT will develop up to five initial roadway alternatives for the corridor that address corridor needs, goals, and objectives identified in **Task 1** and are feasible based on the Future Conditions Assessment discussed in **Task 4**. These alternatives will provide accommodations for safe and efficient vehicle, pedestrian, bicycle, and transit modes of travel. These initial alternatives will be presented in the form of cross sections as well as before and after renderings to the Project Advisory Team to help facilitate thought and feedback. The five initial alternatives will also be presented at the final meeting of the charrette to gain insight and feedback from the public on which alternative(s) should move forward to concept development.

5.2 Drainage Assessment

The CONSULTANT will perform a drainage analysis for the five cross section alternatives as part of this task. Drainage assessment items include:

- Delineate existing drainage basins, patterns and outfalls;
- Perform existing condition drainage calculations to determine max pre-development flow rates;
- Perform proposed condition drainage calculations to determine post development flow rates as well as water quality requirements;
- Analyze existing storm water management facilities for possible accommodation of proposed conditions;
- If needed, determine suitable pond sites to accommodate proposed drainage requirements; and
- Summarize design considerations for pond if a new pond is proposed.

As part of this task, one meeting will be held with Brevard County, City of Melbourne and

FDOT Brevard Maintenance and Drainage staff to review details about the drainage impacts for each of the five cross section alternatives developed.

5.3 Impacted Utilities Assessment

The CONSULTANT will review the utility conflicts for up to five cross section alternatives and provide preliminary cost estimates for the impacted utilities, if necessary.

5.4 Alternatives Analysis

The CONSULTANT will develop an evaluation matrix including several measures of effectiveness to compare the no-build alternative and the five initial roadway alternatives developed in **Task 5.1**. Measures of effectiveness will include quantifiable criteria as well as qualitative criteria that fulfill the corridor needs, goals and objectives, and are based on the guiding principles identified in **Task 1**. Examples of quantifiable measures could include multi-modal LOS, automobile travel time, intersection and segment LOS, transit operations, drainage and utilities impacts, safety improvements based on crash modification factors, and/or construction costs. Examples of qualitative measures can include quality of pedestrian realm, bicycle level of stress, and/or quality of amenities for transit users.

The CONSULTANT will prepare a preliminary construction cost estimate for the preferred alternative using the conceptual roadway layouts. Utility relocations and drainage ponds, if needed, will be included in the construction cost estimates. This section will also list potential funding options for implementation.

5.5 Select Preferred Alternative

A preferred alternative will be selected based on the results of the alternatives analysis process outlined in **Task 5.4**. The preferred cross section alternative may be one of the five alternatives considered or some combination of those alternatives. Once the preferred cross section is selected, signalized intersection approach cross sections will be developed for up to six intersection approaches. These cross sections will be utilized to develop the CADD concept for the corridor, as discussed in the next subtask.

5.6 Development of Roadway Concept

The preferred cross section alternative will be drafted in CADD over the background of an existing satellite aerial image. The concept will be provided to the Project Advisory Team in the form of roll plot and figure set for review and comment. The goal of developing the concept in CADD is to explore potential constraints with the cross sections and identify access management opportunities.

5.7 Development of Implementation Plan

The CONSULTANT, in coordination with the Project Advisory Team, will develop an implementation plan for the projects identified in this task. The plan will include short, medium, and long term recommendations for project implementation.

Task 5 Deliverables

- *The results of the Alternatives Analysis will be summarized within the Corridor Alternatives and Strategies Report. It is anticipated the TPO will review the report and the CONSULTANT will incorporate comments/edits before finalizing.*
- *Two (2) hard copies of the Corridor Alternatives and Strategies Report will be prepared for the TPO once the report is finalized.*

D. ADDITIONAL PROJECT MEETINGS AND PRESENTATIONS

Kick-Off Meeting: The CONSULTANT will attend a kick-off meeting with TPO staff and the Project Advisory Team to discuss the goals and anticipated outcomes of the project.

Project Status Meetings: Up to two (2) members of the CONSULTANT team will attend up to four (4) additional meetings with TPO staff to discuss project progress and receive input on tasks completed. The purpose of these meetings is to maintain clear communication between the TPO and the CONSULTANT team. The CONSULTANT will prepare a meeting agenda and prepare/distribute meeting notes following each of these meetings.

Project Presentations: It is anticipated the CONSULTANT will make three (3) presentations approximately halfway through the study and three (3) presentations at the conclusion of the study to the following organizations:

- Presentation to the Space Coast TPO Technical Advisory Committee (TAC) and Citizens Advisory Committee (CAC);
- Presentation to the TPO Board; and
- Presentation to the City of Melbourne City Council.

The CONSULTANT will be responsible for preparing the PowerPoint presentation but will coordinate with the TPO on what will be included in the presentation.

Project Meetings and Presentation Deliverables

- *Meeting notes will be prepared and distributed amongst the Project Advisory Team.*

E. PROJECT ADMINISTRATION

Quality Assurance/Quality Control: The CONSULTANT team will designate appropriate senior staff to conduct Quality Assurance/Quality Control (QA/QC) reviews of work products.

Project Schedule: The CONSULTANT will prepare and submit a detailed project schedule identifying major tasks, their durations, and tasks relationships.(within first 30 days after receipt of NTP. The CONSULTANT is responsible for keeping the schedule up

to date. The beginning date of the services will be the date of authorization for this work order. Any changes to the schedule necessitated by circumstances outside the CONSULTANT's control will be coordinated with TPO staff. It is anticipated that all work tasks will be completed within 18 months of Notice to Proceed.

Invoices: Invoices will be prepared in the format prescribed by the TPO. A detailed invoice including a narrative description of the work performed by the CONSULTANT during the period covered by the invoice for each item in the scope will be submitted. The final invoice will be labeled "Final" and project close out procedures will be followed.

Budget: This work will be completed as a lump sum task order. **Table 1** displays the budget breakdown for Atkins. A detailed summary budget table for Atkins is attached.

Project Administration Deliverables

- *Project Schedule (initial and updates when necessary)*
- *Monthly Progress Reports*
- *Project Administration*

Table 1: Budget Breakdown

Firm	Fees
Atkins	$212,500.00
Alta Planning & Design	$30,250.00
BowStern	$15,000.00
Total	**$257,750.00**