

## SCOPE NARRATIVE

**Project Name: FRA-62-3.26**  
**PID: 122200**

### 1. General Information

District/Central Office: District Six/District 12

PID#: 122200

	No.	Scope of Services Meeting Date	Approved Final Scope of Services
Prime Agreement	0	TBD	

### 2. PDP Phases Included in this Agreement: Phase PE through Phase CO Agreement between Consultant and: Ohio Department of Transportation

This scope approval is the initial scope for development of the agreement.

This Agreement will be implemented in Parts appropriate to the PDP Phases. The initial price proposal and authorization will include:

Phase PE, Phase EE, Phase FE and Phase Co.

### 3. Price Proposal Due Date: TBD

### 4. Project Locations:

Location 1: I-70EB at Kelton  
Begin: FRA-70-16.18  
End: FRA-70-18.726

Location 2: I-71SB at Morse  
Begin: FRA-71-20.080  
End: FRA-71-23.733

Location 3: I-270SB at SR 317  
Begin: FRA-270-44.650  
End: FRA-270-46.243

Location 4: I-670EB at Scioto River  
Begin: FRA-670-2.181  
End: FRA-670-3.338

Location 5:	SR-315SB at I-670EB
Begin:	FRA-315-2.615
End:	FRA-315-4.491
Begin:	FRA-Ramp 25526 (SR 315 SB to IR 670 EB)-0.00
End:	FRA-Ramp 25526 (SR 315 SB to IR 670 EB)-1.034
Location 6:	I-90 at Cleveland Memorial Shoreway
Begin:	CUY-90-17.314
End:	CUY-90-20.245
Location 7:	SR-176 at I-71
Begin:	CUY-176-12.693
End:	CUY-176-13.822

### **5. Purpose & Need:**

The project locations on I-70, I-71, I-90, I-270, I-670, SR-315 and SR-176 have been identified as experiencing high traffic congestion and recurring traffic queuing. As a result of the traffic congestion and traffic queuing, each of these project locations are high-crash areas and are listed on the HSIP safety list.

The purpose of this project is to reduce crashes by installing queue warning system infrastructure. The queue warning systems will alert drivers about upcoming queues and will provide contextual information. The queue systems reduce collisions and maintain smoother flow of traffic.

### **Context:**

Services include development of two separate detailed design plans (Franklin County and Cuyahoga County) for the installation of seven (7) Queue Warning Detection Systems (QWS) including replacement of a total of four (4) ODOT existing Dynamic Message Signs (DMS) and their overhead structures and associated infrastructure, installation of one (1) overhead sign box truss, and installation of seven (7) new ground-mounted queue warning signs with associated infrastructure. New cameras will also be installed for the detection of slow traffic events. See attached spreadsheet for location details and which structures are to be replaced. The locations and quantity are subject to change.

### **Stakeholders:**

Stakeholders identified at the time of project initiation are included below, but limited to:

- ODOT District 6,
- ODOT District 12,
- Central Office – Office of Traffic Operations,
- Central Office – Office of Transportation Systems Management and Operations,
- City of Columbus,
- City of Cleveland

### **Feasibility Study:**

ODOT has previously completed an ODOT Queue Warning System Feasibility Study. The completed study and the recommended location and work types have been made available on the FTP site.

**ITS:**

Designer shall be ODOT prequalified in basic traffic signal design and ITS design and operations. Contractors will be required to be prequalified in Work Type 44 for traffic signals – standard and Work Type 55 for fiber optic cable, ITS & traffic signal system.

A system engineering analysis will not be needed for this project as all sites are existing or utilizing pre-approved ITS devices from the TAP and is therefore exempt.

The designer shall follow the design requirements within the ODOT Traffic Engineering Manual (TEM), primarily Part 13 for ITS. The designer shall also design according to all relevant ITS supplemental specifications, standard construction drawings, etc.

ODOT will provide existing plans. Existing ITS infrastructure can also be viewed within the ODOT asset collector system or is additionally displayed on the ODOT Transportation Information Mapping System (TIMS) at <https://gis.dot.state.oh.us/tims/>.

**OTHER DESIGN CRITERIA:**

The plan set shall include a project overview map schematic included in the front of the plans, with a table of location names and plan sheet numbers for each site.

For DMS types, the Queue Warning DMS will primarily be a front-access DMS from the Traffic Authorized Products (TAP) list per ss 909.06.b. For any existing DMS to be replaced, it shall be replaced with the same type of DMS as existing although it will be the latest version per Supplemental Specification 809 and listed on the Traffic Authorized Products (TAP) list. Existing DMS are primarily full-size walk-in DMS per 909.06.a. All new DMS will be full color displays. See the attached document for proposed devices and comments for each location.

For support structure design, see the attached spreadsheet document for proposed devices and comments for each location. It's anticipated most new front-access DMS will be installed on ground-mounted beam supports on the side of the roadway. For any full size walk-in DMS, the support will be new per ITS standards, or an existing support may be reused if in good condition at the discretion of ODOT. If an existing structure is to be replaced, it shall typically match the style/type of the existing support, although it may be decided to install a different structure (example: existing truss removed, and new pedestal structure installed) at various locations. ODOT will determine the type of structure to be installed based on the new proposed locations at or before the Stage 1 review timeframe. All overhead structures shall be per the latest standard construction drawings for Dynamic Message Signs and have catwalk access from an accessible area on the right side of the roadway which shall be the same side as the ITS cabinet. All new ITS cabinets shall be the DMS type which have load centers inside them to feed power to the DMS. Any existing ITS cabinets shall be reused or removed/replaced at the discretion of ODOT. For any existing DMS locations which have cameras attached to the support structure, the cameras shall be relocated to the new DMS structure in the same manner in which they are currently installed.

For DMS and existing guide signs, the spacing between signs shall be a minimum of 800 feet unless approved by ODOT. All effort shall be made to provide this spacing by relocating other guide signs or structures if needed. Guide signs may be co-located with DMS on trusses as long as the guide signs are to the left of the DMS and thus don't interfere with the catwalk to the right side of the roadway. If a guide sign is needed to the right of the DMS, a separate cantilever structure may be installed in front of the DMS truss structure, to make it appear as if the sign is on the same structure.

For new cameras and camera sites, the design shall be per current ODOT standards. In general, the cameras will be capable of analytics for detecting slow traffic per the fixed view category of the Traffic Authorized Products list per SS 909.03.g. For any new camera poles or mounting locations, it's anticipated the height needs may differ per location. The fixed view cameras typically need to be installed 30 to 40 feet above the roadway being detected and oriented, so they are looking at the rear of the vehicles in the direction of travel where detection is desired. Poles and mounting locations shall also be positioned on the same side of the roadway as the direction of travel where detection is desired. Pole types may be chosen based on height to be signal strain poles or CCTV poles. If a camera needs to be mounted over 45 feet above the ground surface in order to get the correct height above the roadway being detected, a 50 foot or 70-foot pole with a lowering device shall be installed per SS 809/909. Any cameras being installed on existing sign supports shall be installed near the top of the structure and may require a riser installed for additional height, at the discretion of ODOT. Any cameras being installed on existing CCTV poles with lowering devices, shall be installed so they don't interfere with the lowering of the existing camera and are under 45 feet height so they can be serviced with bucket trucks from an accessible location.

All ITS sites shall have safe access requirements for parking maintenance vehicles and servicing the devices as specified in the Traffic Engineering Manual. The designer shall provide access drives and breaks in the guardrail or barrier as needed. This shall be an improvement over existing conditions at all locations.

For maintaining ITS during construction and downtime requirements, supplemental specification 809 shall be followed unless otherwise agreed upon for certain locations. ODOT may allow additional downtime if excessive work is required in order to keep the existing sites operational until the new can become operational. The designer shall discuss this with ODOT, and plan notes shall be written for general and unique situations.

For all existing infrastructure, the intent is for everything to be removed and replaced with new or "like new" conditions. Some recently installed/upgraded infrastructure may be kept and reused at the discretion of ODOT ITS. Many existing sites have power and communication wiring in the same pull boxes; this shall be changed so power and communication cabling has separate conduits and pull boxes per current standards.

For removal items, the designer shall coordinate with ODOT which items shall be returned to ODOT or be salvaged/disposed. ODOT will be given an opportunity to recover or receive as many parts/equipment/materials from existing DMS sites as desired. All existing foundations and any other underground infrastructure shall be removed completely or to a minimum depth of 1 foot below grade and marked as abandoned. Clearing/grubbing and site restoration shall be performed to restore all work areas appropriately as well as clearing sight lines of camera views and maintenance access to existing ITS cabinets as needed at each site.

**Survey:**

Isolated detailed survey to collect information for design is required for this project by the consultant.

The survey needs to locate the existing LA right of way. Needs to collect topographic data in the areas of the proposed ITS structures, such as utilities and existing drainage. The edge of pavement and adjacent ground elevations need to be located, so the ITS infrastructure can be placed at the correct elevation.

**Geometrics:**

For any median barrier wall work needed, the barrier wall shall be rebuilt to be like new while installing any new conduit raceways needed to make seamless connections through the barrier wall and repairing any existing lighting cabling or other cabling needed. Any barrier wall work needed shall also be setup with appropriate maintenance of traffic provided and all lanes maintained throughout construction. It is anticipated this project won't include much barrier wall work except at potentially a few locations.

**Maintenance of Traffic:**

The proposed work will require closure of shoulders and some rolling lane closures. Most of the Maintenance of Traffic (MOT) needs can be handled by standard drawings but the project needs to be evaluated for any additional MOT needs. The creation of MOT plans might be needed and will be determined as the design progresses.

**Geotechnical:**

If Authorized –

The geotechnical exploration might be needed in isolated areas for the design of the larger sign pole foundations.

An exploration per the ODOT's Office of Geotechnical Engineering Specifications for Geotechnical Explorations (SGE) will be included in this contract. The designer will also be responsible for preparing a soil profile and geotechnical report.

**Drainage:**

The consultant will be responsible for locating any existing drainage items. The new structures and infrastructure shall generally be placed so all drainage conflicts are avoided.

**Environmental:**

The anticipated level of environmental document is a C2. The consultant is tasked with performing all the environmental activities associated with this project. Seasonal tree clearing is anticipated with this project. The consultant will be tasked with preparing the environmental document and required environmental commitments. All documents shall be made available to each District for review and approval. Any additional studies required for the project outside of what was outlined above shall be completed by the consultant. The following items were identified at the time of the scoping meeting, but are not limited to:

- NEPA,
- Cultural Resources/Section 106,
- ESR,
- RMR, and
- PI

**Public Involvement:**

The Consultant will prepare 2 sets of materials, one for each district, for:

- Press Release,
- Public outreach,
- One page summary of the project

Central Office PIO, District 6 PIO and District 12 PIO need to be involved in the PI.

**Railroads:**

Railroads are located adjacent or beneath all project locations except for Location 3 and Location 7. Location of the RR Right of Way is required. The new structures and infrastructure shall generally be placed so all RR impacts are avoided.

**Real Estate:**

ODOT anticipates that additional right of way will NOT be needed to construct this project. Every effort will be made to not need right of way – temporary and permanent.

“If Authorized Task” - The design consultant will be tasked with the preparation of right of way plans, but not for acquisition services. RW plans are to be prepared using the ODOT R/W Plan Design Manual and ODOT Survey Manual. The consultant is reminded to ensure sufficient information is included within the survey and R/W plans to properly depict the impacts, landmarks, and property (trees, fence, signs, rocks, etc.) within the plan.

The consultant will be tasked with staking the right of way for acquisition, if authorized, as well as, setting iron pins post-acquisition.

**Utilities:**

One of the first tasks for the consultant will be to verify the presence/absence of utility easements within the project limits to identify whether relocations to these utilities will be compensable. The consultant should also take care to identify any encroachments early in the project development process so they can be addressed.

Another initial task for the designer shall be to investigate existing and proposed locations for utility impacts and provide a utility coordination summary to the districts to identify all utility conflicts. The expected utility coordination needed will be for establishing new power services and any necessary existing power service upgrades. The new structures and infrastructure shall generally be placed so all utility conflicts are avoided.

The consultant to coordinate power service locations and determine what work will be required by the State's Highway Contractor to perform service connections.

The consultant is responsible for coordinating with the utilities by sending plans at each design stage and copying the District 6 & 12 Utility Coordinators on all correspondence. The consultant will check for existing utility conflicts and label any potential conflicts on the plans while highlighting the areas directly to the Utility Coordinators. The consultant will create, and update, the list of utility contacts and schedule any needed coordination meeting.

If a utility coordination meeting is needed, the consultant will ensure that the District Utility Coordinators are invited and available to attend. The consultant shall schedule a field coordination meeting with all utilities and ODOT's utility coordinator once sufficient plan detail to identify impacts has been developed. This meeting shall identify costs to affected parties, schedules for necessary relocations/adjustments, and potential design changes to mitigate the relocation/adjustments.

If applicable, the consultant will provide the draft and final utility note, in the ODOT-approved format, to the District Utility Coordinator for inclusion in the District Right of Way Certification letter.

**Project Management:**

ODOT requests that submissions be made at Stage 1, Stage 2, Stage 3 and Final Tracings. All plan reviews shall be submitted to ODOT Districts 6 and 12, and Central Office, Office of Traffic Operations and Office of Transportation Systems Management and Operations.

A project kickoff meeting/call shall be scheduled to review the project scope with ODOT Districts 6 and 12, and Central Office ITS and TSMO personnel. After the designer does initial research and information gathering, another meeting/call may be scheduled to discuss any locations ahead of the Stage 1 submittal.

For plan stage development, the designer shall follow the ODOT Project Development Process (PDP), Traffic Engineering Manual, and the below additional expectations.

Stage 1 plans shall include a preliminary layout of new devices and support structures while showing existing pull boxes, power services, cabinets, communication lines, and coordinating with utilities.

Stage 2 plans shall include the bulk of the design, including all proposed devices, elevation views, power service information, power lines, fiber optic communication lines, initial plan notes and quantities, roadway/guardrail/barrier work, maintenance of traffic, etc. For sites within 2,000 feet of existing ITS devices or fiber optic infrastructure, a conduit pathway and fiber optic cable shall be installed between them. The expected fiber optic communication work shall include installing a new pull box and conduit with fiber optic cable to the nearest unaffected existing pull box (to also be replaced with a new 32-inch or 48-inch pull box) and providing slack on both ends for ODOT to perform final connection/terminations. Any fiber optic communication details/diagrams needed will be provided by ODOT to be added into additional plan sheets with minimal effort. See other design criteria below for additional information.

Stage 3 plans shall include addressing any comments from previous stages, final quantities and plan notes, etc.

Final plans shall be submitted addressing all previous comments and stamped/sealed by a professional engineer.

The project shall receive complete As-Built Plans/Files and GPS coordinates of all infrastructure in the ODOT Asset Collector System per SS 809.

**Funding:**

This project will utilize Transportation System Management & Operations (TSMO) funds, state dollars.

**Miscellaneous:**

The designer shall evaluate any material lead time requirements, MOT impacts, or other issues that warrant the sale of the project at a specific time of year, to facilitate the adjustment of the project's letting date. This evaluation should be made at Stage 1, so the schedule can be adjusted prior to lockdown.

**Schedule:**

A detailed schedule will be developed in coordination with the selected designer. Funding is available for construction in FY26.