

Central Pines Regional Council
REQUEST for LETTERS of INTEREST (RFLOI)
US 70 Phase II Analysis and EDTE

TITLE: US 70 Phase II Analysis and EDTE
ISSUE DATE: July , 2024
SUBMITTAL DEADLINE: June 17, 2024
ISSUING AGENCY: Central Pines Regional Council (CPRC)

I. SYNOPSIS

SUBCONSULTANTS ARE PERMITTED UNDER THIS CONTRACT.

This contract will be partially reimbursed with Federal-aid funding through the North Carolina Department of Transportation (the Department). The solicitation, selection, and negotiation of a contract shall be conducted in accordance with all Department requirements and guidelines.

The primary and/or subconsultant firm(s) shall be pre-qualified by the Department to perform any of the [Discipline Codes](#) listed below for Central Pines Regional Council:

TO BE DETERMINED

WORK CODES for each primary and/or subconsultant firm(s) SHALL be listed on the respective RS-2 FORMS (see section 'SUBMITTAL REQUIREMENTS').

This RFLOI is to solicit responses (LETTERS of INTEREST, or LOIs) from qualified firms to provide professional consulting services to the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) through the Central Pines Regional Council.

II. PROPOSED CONTRACT SCOPE SUMMARY

The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC) seeks a consultant team to analyze and refine an alternative for the US 70 corridor and between the I-885 interchange and the Durham/Wake County line. This is the second step in corridor analysis, building on the foundational exploration that compared two (2) final alternatives in Phase I. The successful team will refine the Phase I alternatives into a single alternative for further technical evaluation including cost estimation, travel time savings, and metrics according to DCHC's adopted 2050 MTP goals and objectives.

Project information

The Durham – Chapel Hill – Carrboro Metropolitan Planning Organization (DCHC) wishes to enter into an agreement with a private engineering firm (CONSULTANT) to develop the Express Design Traffic Analysis portion of an Express Design Traffic Evaluation (EDTE) to evaluate potential options for NCDOT Transportation Improvement Program (TIP) project U-5720 (SPOT ID H129638-A). U-5720 is described as an improvement to US 70 from Lynn Road to east of SR 2095 (Page Road Extension).

The EDTE will be developed following the NCDOT guidelines and procedures, as defined in *NCDOT Express Design Traffic Evaluation Guidance Version 2.0* dated May 2023. Volumes for use in the EDTE will be provided to the CONSULTANT by DCHC in a format suitable for direct entry into the

project model. The model is to be created in TransModeler Version 6.1 Build 8655. The “No-Build” model will be provided by DCHC. The Build model for Alternative 1 that was developed in Phase 1 of the US 70 Corridor Study will also be provided by DCHC to be merged into the No-Build model as a starting point for developing the Build model.

The “Build” scenarios for U-5720 (H129638-A) will be refined into a single alternative for analysis as follows:

- Alternative 1 - 4-lane reduced conflict intersection corridor (Future year – 2050)
- Alternative 2 - 4-lane reduced conflict intersection corridor with parallel roadways (Future year – 2050)

The MPO Refined scenario will include the modeling of two(2) volume scenarios. A volume scenario (Scenario A) will be based on the DCHC MPO *Connect 2050: The Research Triangle Region's Metropolitan Transportation Plan*. The second volume scenario (Scenario B) will be based on the NCDOT vision for the region.

TransModeler Analysis

The following scenarios will be analyzed in TransModeler Version 6.1 Build 8655.

1. Future Year (2050) Build – Alternative 1A

The CONSULTANT will develop the Future Year (2050) Build Alternative 1 model based on Scenario A Volumes, building from the No-build model and Phase 1 Build model provided by DCHC. It is assumed that the CONSULTANT will perform the following tasks associated with this Alternative (as shown in Attachment A):

- Merge Existing Model: 1 Model
- Arterial/Collector/Local Coding: 1.0 mile
- Unsignalized Intersection: 3 intersections
- Signalized Intersection (Complex): 1 intersection
- Add O-D Matrix/Vehicle Composition: 1 scenario
- Run Dynamic Traffic Assignment: 2 scenarios (assumes 2 iterations to reach equilibrium)
- Optimize Coord. Signal Timings and Offsets: 2 corridors
- Optimize Signal Timings (isolated intersection): 2 intersections
- Run Model/Extract Outputs: 1 scenario
- *MOE Table (Intersection): 23 intersections
- *MOE Table (Freeway LOS): 10 analysis points
- *MOE Table (Heat Map): 2 corridors
- This scenario is considered to have a low complexity and low likelihood of design iterations

*MOEs defined in guidance referenced above

2. Future Year (2050) Build – Alternative 1B

The CONSULTANT will develop the Future Year (2050) Build Alternative 1B model based on Scenario B Volumes, building from the Alternative 1A model. It is assumed that the CONSULTANT will perform the following tasks associated with this Alternative (as shown in Attachment A):

- Add O-D Matrix/Vehicle Composition: 1 scenario

- Run Dynamic Traffic Assignment: 2 scenarios (assumes 2 iterations to reach equilibrium)
- Optimize Coord. Signal Timings and Offsets: 2 corridors
- Optimize Signal Timings (isolated intersection): 2 intersections
- Run Model/Extract Outputs: 1 scenario
- This scenario is considered to have a low complexity and low likelihood of design iterations

*MOEs defined in guidance referenced above

3. Future Year (2050) Build – Alternative 2A

The CONSULTANT will develop the Future Year (2050) Build Alternative 2A model, building from the Alternative 1A model. It is assumed that the CONSULTANT will perform the following tasks associated with this Alternative (as shown in Attachment A):

- Arterial/Collector/Local Coding: 13.0 miles
- Unsignalized Intersection: 5 intersections
- Roundabout (single lane): 8 intersections
- Roundabout (multi-lane): 2 intersections
- Signalized Intersection (Simple): 6 intersections
- Signalized Intersection (Complex): 5 intersections
- Signalized Intersection (RCI): 5 intersections
- Add O-D Matrix/Vehicle Composition: 1 scenario
- Run Dynamic Traffic Assignment: 4 scenarios (assumes 4 iterations to reach equilibrium)
- Optimize Coord. Signal Timings and Offsets: 2 corridors
- Optimize Signal Timings (isolated intersection): 5 intersections
- Run Model/Extract Outputs: 1 scenario
- *MOE Table (Intersection): 41 intersections
- *MOE Table (Heat Map): 2 corridors
- This scenario is considered to have a medium complexity and medium likelihood of design iterations

*MOEs defined in guidance referenced above

4. Future Year (2050) Build – Alternative 2B

The CONSULTANT will develop the Future Year (2050) Build Alternative 2B model based on Scenario B Volumes, building from the Alternative 2A model. It is assumed that the CONSULTANT will perform the following tasks associated with this Alternative (as shown in Attachment A):

- Add O-D Matrix/Vehicle Composition: 1 scenario
- Run Dynamic Traffic Assignment: 4 scenarios (assumes 4 iterations to reach equilibrium)
- Optimize Coord. Signal Timings and Offsets: 2 corridors
- Optimize Signal Timings (isolated intersection): 5 intersections

- Run Model/Extract Outputs: 1 scenario
- This scenario is considered to have a medium complexity and medium likelihood of design iterations

*MOEs defined in guidance referenced above

EDTA Report

The CONSULTANT will develop an EDTA report consistent with the guidelines referenced above.

2050 MTP Goals Evaluation

The CONSULTANT will propose measurements to compare the alternatives such that there is a clear understanding of how the project's impacts relate to STI and DCHC policy.

Meeting

The CONSULTANT will attend three (3) project meetings and lead one (1) closeout meeting for the study to discuss the MOEs and findings. The CONSULTANT will be responsible for providing a meeting summary for the closeout meeting.

External Review

The final deliverables will be submitted to DCHC and to NCDOT for review and comment. The selected CONSULTANT will coordinate the review process and address comments as needed. It is recommended that the CONSULTANT obtain approval for each model prior to developing MOE tables. The schedule below includes external review throughout the study and NCDOT will provide reviews of submitted materials within five (5) business days for each submittal by the CONSULTANT.

Public Engagement

To be performed by DCHC after completed analysis.

		Express Design Traffic Evaluation (EDTE) Scoping SPOT Travel Times Savings Scoping														
US 70 from Lynn Road to east of SR 2095 (Page Road Extension) Upgrade Corridor																
STIP No.	U-5720	SPOT ID:	H129638-A	WBS No.	34263.1.1	Durham	DIVISION 5									
Recommended Traffic Level:	Level 2	PREPARED BY:	DCHCMPO	EDTE BASE YEAR	2019											
Recommended Analysis Software	TransModeler	2/22/2024	EDTE ANALYSIS	Yes	EDTE FUTURE YEAR	2050										
			SPOT ANALYSIS	No	SPOT BASE YEAR	2022										
					SPOT FUTURE YEAR	2032										
ALTERNATIVES																
Alternative	Alternative Name	Alternative Description														
Alternative 1A	Alternative 1A	4-lane RCI (DCHC Volumes)														
Alternative 1B	Alternative 1B	4-lane RCI (NCDOT Volumes)														
Alternative 2A	Alternative 2A	4-lane RCI w/ parallel roadways (DCHC Volumes)														
Alternative 2B	Alternative 2B	4-lane RCI w/ parallel roadways (NCDOT Volumes)														
Traffic Count Data																
Int ID	Intersection	Measures of Effectiveness	EDTE	SPOT	Scenarios Analyzed	EDTE	SPOT									
1	US 70 @ I-885	Volume to Capacity Ratio (v/c)	☑	☑	1	☑	☑									
2	Lynn Rd @ Pleasant Dr (East)	Intersection Delay/LOS (Overall)	☑	☑	2	☑	☑									
3	US 70 @ Lynn Rd	Intersection Delay/LOS (Lane Group)	☑	☑	3	☑	☑									
4	Lynn Rd @ Pleasant Dr (West)	Intersection Queue Length (95th %)	☑	☑	4	☑	☑									
5	US 70 @ Laurel Dr	Intersection Queue Length (max)	☑	☑	5	☑	☑									
6	US 70 @ Marly Rd	Freeway Density/LOS (Overall)	☑	☑	6	☑	☑									
7	US 70 @ Peyton Ave	Speed (Heat Map)	☑	☑	7	☑	☑									
8	Sherron Rd @ Golden Belt Pkwy	Travel Time Savings (10-year)	☑	☑	S1	☑	☑									
9	Sherron Rd @ S. Mineral Springs Rd				S2	☑	☑									
10	S. Miami Blvd @ Angier Ave				S3	☑	☑									
11	US 70 @ Copper Leaf Pkwy	19 Page Rd @ Page Rd Extension			S4	☑	☑									
12	US 70 @ Sanders Ave				S5	☑	☑									
13	Angier Ave @ Wood Chapel Ln				S6	☑	☑									
14	Angier Ave @ Page Rd				S7	☑	☑									
15	Angier Ave @ Discovery Way															
16	US 70 @ Angier Ave															
17	US 70 @ Leesville Rd															
18	US 70 @ Page Rd Extension															
Coordination and Management																
Study Duration	4 months	3 months for small/4 months for large projects	PEF Experience Level		Experienced											
Meetings	4	Assume virtual meeting w/ 2 attendees														
VOLUME DEVELOPMENT																
Volume Development	EDTE Volumes	SPOT Volumes	Volume Deliverable	AADT Volumes	O-D Matrix	Developed By:										
Number of Intersections	0	0	OD Matrix Basis	StreetLight	Program Manager											
Intersections (Existing Counts)	0		Seasonal Factor	No												
Intersections (New Counts)	0		AAWT Factor													
Travel Demand Models	New Runs?		U-turn Forecast	0	# of Intersections											
NCSTM	☑	No	Constrained Matrix	No												
Regional Model	☑	No	Additional Scenarios		Add # of Additional Scenarios for variations in number of lanes											
STUDY ELEMENTS																
Critical Lane Analysis																
Task	Unit	Scenario														
		1	2	3	4	5	6	7								
CAP-X Analysis	per intersection															
Critical Lane Analysis (spreadsheet)	per intersection															
Level 1 Analysis (Synchro/Sidra)																
Task	Unit	Prev. Dev.	1	2	3	4	5	6	7							
Likelihood of Design Iteration	Low/Med/High					Low	Low	Low	Low							
Synchro: Unsignalized Intersection (Basic)	per intersection															
Synchro: Unsignalized Intersection (Complex)	per intersection															
Synchro: Signalized Intersection (Standard)	per intersection															
Synchro: Signalized Intersection (Unconventional)	per intersection															
Synchro/Sidra: Single Lane Roundabout	per intersection															
Sidra: Multilane Roundabout	per intersection															
FREEVAL/HCS Freeway Facility Volume Redistribution	per intersection															
FREEVAL: Freeway Segment	per Segment															
HCS Freeway Facilities: Freeway Segment	per Segment															
FREEVAL/HCS MOE Table	per Segment															
Volume Redistribution/Re-Routing	per intersection															
Synchro/Sidra: MOE Table	per intersection		0	0	0	0	0	0	0							
Level 2 Analysis (TransModeler)																
Task	Unit	Prev. Dev.	1	2	3	4	5	6	7	S1	S2	S3	S4	S5	S6	S7
Level of Complexity	Low/Med/High		Low	Low	Low	Low	Low	Medium	Medium	Low	Low	Low	Low	Low	Low	Low
Likelihood of Design Iteration	Low/Med/High					Low	Low	Medium	Medium							
Merge Existing Model	per model					1.0										
Freeway Coding	per mile															
Arterial/Collector/Local Coding	per mile							12.8								
System Interchange (Standard)	per interchange															
System Interchange (Complex)	per interchange															
Service Interchange (Standard)*	per interchange															
Service Interchange (DDI)*	per interchange															
Unsignalized Intersection	per intersection					3		5								
Unsignalized RCI	per intersection															
Roundabout (single-lane)	per intersection								8							
Roundabout (multi-lane)	per intersection								2							
Signalized Intersection (Simple)	per intersection								6							
Signalized Intersection (Complex)	per intersection					1		5								
Signalized Intersection (Unconventional)	per intersection															
Signalized Intersection (RCI)**	per intersection							5	1							
Add O-D Matrix/Vehicle Composition	per scenario					1	1	1	1							
Run Dynamic Traffic Assignment	per scenario					2	2	4	4							
Optimize Coord. Signal Timings and Offsets	per corridor					2	2	2	2							
Optimize Signal Timings (isolated intersection)	per intersection					2	2	5	5							
Run Model/Extract Outputs	per scenario					1	1	1	1							
MOE Table: Intersection	per intersection					23		41								
MOE Table: Freeway LOS	per analysis point					10										
MOE Table: Freeway Heat Map	per corridor					2		2								
MOE Data: Travel Time Savings	per alternative															

* - does not include coding the signals
 ** - includes the main intersection and two u-turn intersections

III. PROPOSED BUDGET

The project budget must not exceed XXXXX

IV. CLIENT PROJECT MANAGERS

XXXXXXX is the designated project manager.

V. ELECTRONIC LOI REQUIREMENTS

Electronic LOIs should be submitted in .pdf format.

LOIs SHALL be received electronically no later than 2:00 p.m. on XXXX, 2024.

The addresses for electronic deliveries are:

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Please provide zipped files or a link to download qualifications document if over 10MB.

LOIs received after this deadline will not be considered.

Except as provided below any firm wishing to be considered must be properly registered with the Office of the Secretary of State and with the North Carolina Board of Examiners for Engineers and Surveyors. Any firm proposing to use corporate subsidiaries or subcontractors must include a statement that these companies are properly registered with the North Carolina Board of Examiners for Engineers and Surveyors and/or the NC Board for Licensing of Geologists. The Engineers performing the work and in responsible charge of the work must be registered Professional Engineers in the State of North Carolina and must have a good ethical and professional standing. It will be the responsibility of the selected private firm to verify the registration of any corporate subsidiary or subcontractor prior to submitting a Letter of Interest. Firms which are not providing engineering services need not be registered with the North Carolina Board of Examiners for Engineers and Surveyors. Some of the services being solicited may not require a license. It is the responsibility of each firm to adhere to all State of North Carolina laws.

The firm must have the financial ability to undertake the work and assume the liability. The selected firm(s) will be required to furnish proof of Professional Liability insurance coverage in the minimum amount of \$1,000,000.00. The firm(s) must have an adequate accounting system to identify costs chargeable to the project.

VI. PROJECT TASKS AND ANTICIPATED SCHEDULE

- Notice to Proceed: XXX *(assumed date based on when model and volumes will be available. Adjust schedule based on durations below if NTP data changes)*
- Propose MTP Comparative Metrics
- Receive Future Year No-Build Model and Volumes – XXX
- Develop Future Year Build Analysis (Alternatives 1A/1B/2A/2B) – 6 weeks – XXX
- Develop EDTA Report - 2 weeks – Due XXXX
- Conduct EDTA Closeout Meeting – Due XXXX
- Review MTP Comparative Metrics with No-Build, DCHC Refined, and NCDOT New Freeway Alternatives with CTT and provide report for DCHC public engagement campaign.

VII. PROPOSED CONTRACT TIME: July 2024 to March 2025.

VIII. PROPOSED CONTRACT PAYMENT TYPE: Lump Sum

IX. SUBMITTAL REQUIREMENTS

The LOI should be addressed to both **Doug Plachcinski, DCHC MPO Executive Director**. The subject line must be **“DCHC MPO Strategic Plan and Organization Assessment”**. The LOI submittal must include the name, address, telephone number, and e-mail address of the prime consultant’s contact person for this RFLOI.

All LOIs are limited to 30 pages (resumes and RS-2 forms are not included in the page count) inclusive of the cover sheet. LOIs containing more than 30 pages will not be considered. ***One (1) electronic copy of the LOI should be submitted.***

The LOI must also include the information outlined below in the order outlined below:

- A. Cover letter
- B. Table of Contents
- C. List of available services
- D. Project team, including roles and responsibilities (include subcontractors)
- E. Examples of comparable projects the firm has completed
- F. Detailed project approach, including public outreach methods
- G. Project schedule showing milestones and deliverables
- H. Any other relevant information deemed necessary (e.g., resumes; professional references)
- I. CONSULTANT CERTIFICATION Form RS-2

Completed Form RS-2 forms SHALL be submitted with the firm’s letter of interest. This section is limited to the number of pages required to provide the requested information.

Submit completed and signed RS-2 forms for the following:

1. Prime Consultant firm

[Prime Consultant Form RS-2](#)

2. ANY/ALL Subconsultant firms

[Subconsultant Form RS-2](#)

In the event the firm has no subconsultant, it is required that this be indicated on the Subconsultant Form RS-2 by entering the word “None” or the number “ZERO” and signing the form.

Firms submitting LOIs are encouraged to carefully check them for conformance to the requirements stated above. If LOIs do not meet ALL of these requirements they will be disqualified. No exception will be granted.

X. SELECTION PROCESS

Following is a general description of the selection process:

The Selection Committee will review all qualifying LOI submittals.

- A. The Selection Committee MAY, at DCHC’s discretion, shortlist a minimum of three (3) firms to be interviewed. IF APPLICABLE, dates of shortlisting and dates for interviews are shown in the section SUBMISSION SCHEDULE AND KEY DATES at the end of this RFLOI.
- B. In order to be considered for selection, consultants must submit a complete response to this RFLOI prior to the specified deadlines. Failure to submit all information in a timely manner will result in disqualification.

XI. SELECTION CRITERIA

All prequalified firms who submit responsive letters of interest will be considered.

In selecting a firm/team, the selection committee will take into consideration qualification information including such factors as:

A. Quality of Submission – 30%

The submission should be complete, organized, and concise. It should clearly demonstrate the consulting firm's understanding of the subject and scope.

B. Experience & Qualifications – 30%

The submission should illustrate the experience and skills of the primary consulting firm, subcontractors (if any), and project team.

C. Logic – 40%

The proposal should be reasonable, evidence-based, and achievable in the allotted timeframe.

XII. TITLE VI NONDISCRIMINATION NOTIFICATION

CPRC, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all RESPONDENTS that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit LETTERS of INTEREST (LOIs) in response to this ADVERTISEMENT and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

XIII. SMALL PROFESSIONAL SERVICE FIRM (SPSF) PARTICIPATION

We encourage the use of Small Professional Services Firms (SPSF). Small businesses determined to be eligible for participation in the SPSF program are those meeting size standards defined by Small Business Administration (SBA) regulations, 13 CFR Part 121 in Sector 54 under the North American Industrial Classification System (NAICS). The SPSF program is a race, ethnicity, and gender-neutral program designed to increase the availability of contracting opportunities for small businesses on federal, state or locally funded contracts. SPSF participation is not contingent upon the funding source.

The Firm, at the time the Letter of Interest is submitted, shall submit a listing of all known SPSF firms that will participate in the performance of the identified work. The participation shall be submitted on the Department's Subconsultant Form RS-2. RS-2 forms may be accessed on the Department's website at [NCDOT Connect Guidelines & Forms](#).

The SPSF must be qualified with the NCDOT to perform the work for which they are listed.

XIV. PREQUALIFICATION

The Department maintains on file the qualifications and key personnel for each approved discipline, as well as any required samples of work. Each year on the anniversary date of the company, the firm shall renew their prequalified disciplines. If your firm has not renewed its application as required by your anniversary date or if your firm is not currently prequalified, please apply to the Department **prior to submittal of your LOI**. An application may be accessed on the Department's website at [Prequalifying Private Consulting Firms](#) -- Learn how to become Prequalified as a Private Consulting Firm with NCDOT. Having this data on file with the Department eliminates the need to resubmit this data with each letter of interest.

Professional Services Contracts are race and gender neutral and do not contain goals. However, the Respondent is encouraged to give every opportunity to allow Disadvantaged, Minority-Owned and Women-Owned Business Enterprises (DBE/MBE/WBE) subconsultant utilization on all LOIs, contracts and supplemental agreements. The Firm, subconsultant, and sub-firm shall not discriminate based on race, religion, color, national origin, age, disability or sex in the performance of this contract.

XV. DIRECTORY OF FIRMS AND DEPARTMENT ENDORSEMENT

Real-time information about firms doing business with the Department, and information regarding their pre-qualifications and certifications, is available in the Directory of Transportation Firms. The Directory can be accessed on the Department's website at [Directory of Firms](#) -- Complete listing of certified and prequalified firms.

The listing of an individual firm in the Department's directory shall not be construed as an endorsement of the firm.

IF APPLICABLE, questions may be submitted electronically only, to the contact above. Responses will be issued in the form of an addendum available to all interested parties. Interested parties should also send a request, by email only, to the person listed above to be placed on a public correspondence list to ensure future updates regarding the RFLOI or other project information can be conveyed. Questions must be submitted to the person listed above no later than XXX, 2024 by 2:00 p.m. The last addendum will be issued no later than XXX, 2024.

XVI. SUBMISSION SCHEDULE AND KEY DATES

- A. RFLOI Release – XXX, 2024
- B. Questions Due – XXX, 2024 by 2:00 p.m.
- C. Final Addendum Posted on CPRC Website – XXX, 2024
- D. LOI Due – XXX, 2024 by 2:00 p.m.
- E. Shortlisted Firms Notified – XXX, 2024 *
- F. Interviews (if needed) – Week of XXX, 2024
- G. Consultant Selection – XXX, 2024
- H. Notice to Proceed – ASAP after selection.

The RFLOI, Q/A's, and Addenda will be posted on the Central Pines Regional Council website here: <https://www.centralpinesnc.gov/requests-proposalsqualifications>

* Notification will **ONLY** be sent to shortlisted firms.