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REQUEST FOR PROPOSALS
(RFP 21-05.06)
TRAVEL DEMAND MODEL

September 10, 2021

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1. PROCUREMENT OVERVIEW

1.1. Description

The Northwestern Indiana Regional Planning Commission (NIRPC) desires a qualified consultant to update various components of its travel demand model. The chosen consultant will be charged with adhering to the scope and schedule in this Request for Proposals (RFP) and periodically communicating with NIRPC staff on the status of the update.

1.2. Background

The Northwestern Indiana Regional Planning Commission (NIRPC) as part of its federal requirements as a Metropolitan Planning Organization (MPO) to oversee a continuing, cooperative, and comprehensive (3-C) planning process, operates a trip-based, 4-step travel demand model to forecast travel for the Northwestern Indiana Region (Lake, Porter, and LaPorte Counties) and adjacent regions that accommodate a significant portion of the Northwestern Indiana Region's residents, employees, and visitors.

The travel demand model as currently configured is based in INRO Emme Software, and large portions of its structure date back to its original creation in 1998-1999. In 2008, the travel demand model underwent a travel analysis zone overhaul. In various minor updates since 2008, NIRPC staff has updated demographic inputs, assignment procedures, and automation improvements to execution, among other minor miscellaneous updates. There are 455 internal travel analysis zones, 90 external travel analysis zones, approximately 6,000 nodes, approximately 16,000 links, approximately 1,500 travel analysis zone connectors, and approximately 60 fixed-route transit lines in the travel demand model. NIRPC staff would gladly answer any inquiries about additional background information pertaining to the travel demand model.

The timeliness of the travel demand model update is due primarily for four reasons. First, a Household Travel Survey was completed for the 3-county NIRPC Region in 2018-2019. An updated travel demand model would be able to take full advantage of the analytical capabilities of the Household Travel Survey. Second, the United States Environmental Protection Agency (EPA) issued a directive on January 7, 2021, requiring by January 9, 2023, Air Quality Conformity Determinations to be conducted using MOVES3, an updated network emissions software, so it is an ideal time to pair an updated Travel Demand Model, a key input into MOVES3, with MOVES3. Third, 2020 Census data will be released during 2021 and 2022. Finally, the next update of the region's Long Range Transportation Plan is due May 16, 2023.

1.3. Method of Procurement

The method of procurement will be Competitive Negotiation.

1.4. Solicitation Schedule

| | |
|--------------------------|---|
| Release Date: | Friday, September 10, 2021 |
| Deadline for Inquiries: | Friday, September 17, 2021, 12:00 PM (CST) |
| Deadline for Responses: | Tuesday, September 21, 2021 |
| Deadline for Submittals: | Tuesday, October 12, 2021, 12:00 PM (CST) |
| Interview Dates: | Wednesday, October 20, 2021, between 9:00 AM and 11:00 AM (CST) |
| Award Date: | Thursday, November 18, 2021 |
| Contract Start Date: | Thursday, November 25, 2021 |

1.5. Contact

Lisa Todd

2. INSTRUCTIONS TO PROPOSERS

2.1. Inquiries

Any question related to this solicitation shall be directed to the contact whose name appears herein. The Proposer shall not contact or ask questions of the department or agency for which the requirement is being procured. Questions shall be submitted in writing or by e-mail. Any correspondence related to a solicitation should refer to the appropriate Solicitation number, page and paragraph number. Oral interpretations or clarifications will be without legal effect. Only questions answered by formal written solicitation amendment will be binding. All questions and answers will be shared with the mail/e-mail list and posted on the Commission's website.

It is the interested parties' responsibility to contact the individual whose name appears herein to be added to the mail/e-mail list. If the interested party is not on the mail/e-mail list, they will not be sent any addendums, questions, answers, and etc. This can be done by submitting an email to Lisa Todd (ltodd@nirpc.org), with the subject line:

RFP 21-05.06 Travel Demand Model

All questions and clarifications are due by 12:00 p.m. CST on Friday, September 17, 2021, with subject line: **RFP 21-05.06 Travel Demand Model**.

2.2. Instructions for Submittal

Proposer(s) must include the following information in the order outlined below in their submission of Proposal(s):

1. Individuals: Qualifications of and relevant experience of any and all members of the consulting team to be used, with an indication as to the team leader for any and all work, and what work each member(s) will do;
2. Company: Qualifications of and relevant experience of the company or companies;
3. Qualifications that are clearly evident and formidable in: a) urban and conservation planning; and b) facilitating public meetings including the collection and analysis of the results of the public meetings;
4. Proposer(s) must describe their capacity to perform the professional services;
5. Previous work: Names, titles, addresses, email addresses and telephone numbers of three client references, with local government and/or council of government references preferred;
6. A schedule of fees to be charged.
7. Executed Exhibits: Proposer(s) must submit all the attached Exhibits under Section 4.
8. Submission: each Proposer(s) must submit an electronic/digital copy of Proposals (in PDF format); three (3) hard-copy sets of Proposals, including one signed original, plus the contents of the proposals on one flash drive (in either MS-Word or Adobe PDF format), in a sealed envelope marked on the outside as follows: RFP 21-05.06 Travel Demand Model.
9. Completeness: All Proposal materials must be complete and be received at the offices of and addressed to: Northwestern Indiana Regional Planning Commission, 6100 Southport Road, Portage, IN 46368-6409.

2.3. Evaluation and Vendor Selection

2.3.1. Proposal Evaluation

Proposal(s) will be subject to a review by the Commission. Interested Proposers shall be deemed responsive if they conform to the essential requirements of this document which includes the specifications, terms, and conditions to be met.

All submitted Proposal(s) will then be reviewed by the review committee. Where there are apparent deficiencies, ambiguities and uncertainties present in the Proposal(s), the Commission may engage in discussions, in the manner most appropriate (either via writing or verbally), with interested Proposers for the sole purpose of addressing these deficiencies, ambiguities, and uncertainties.

2.4. Interviews, If Necessary

Interviews of top scoring candidates may or may not be necessary. After evaluation and scoring of the Proposal(s), the Committee may wish to interview the top scoring consultants. A relatively short notice will be given to those that would be invited for an interview; therefore, this notification of the date is given in advance. Interviews may be held virtually or in person at the Commission’s office in Portage, Indiana. Notwithstanding the above, the Commission reserves the right to select one Proposer based on the original submission of the Proposals, without negotiations with any Proposers or without oral presentations.

2.4.1. Evaluation Criteria

Responsive Proposal(s) will be evaluated in accordance with the following six evaluation and selection criteria, listed in general order of relative importance. The Commission will evaluate the Proposal(s) received based on the following criteria:

| | |
|-------------------------------------|----|
| Experience of organization | 25 |
| Technical capabilities | 25 |
| Price Competitiveness | 15 |
| Demonstrated Understanding of Scope | 15 |
| Past Record of Performance | 10 |
| Customer Service and Responsiveness | 10 |

Each Proposal(s) will be reviewed to determine if it meets the minimum requirements. The Proposal(s) must be complete, in the required format and in compliance with all the requirements. A list of ranked Proposals will be developed based upon the totals of each committee member’s score for each Proposal. The review committee will then recommend the selected proposal to the Commission’s Finance and Personnel Committee.

2.5. Deadlines

All Proposal(s) for the Submittal must be received at the Commission by **Tuesday, October 12, 2021, at 12:00 p.m. CST.** No Proposal(s) will be accepted after this time and date. The Commission reserves the right to reject any or all Proposal(s) received.

3. GENERAL CONDITIONS

3.1. Definitions

Proposal(s): Proposal(s) may refer to a quote, proposal, sealed bid, or set of qualifications that is to be submitted by the Proposer.

Proposer: Proposer shall refer to a firm, agent, company, or person submitting a Proposal(s) to the Commission.

Contract: Refers to an agreement between the Proposer and the Commission in which a set of terms and conditions and a scope of work are agreed upon after evaluations have determined a competitive Proposer.

The Commission: The Commission refers to the Northwestern Indiana Regional Planning Commission.

Solicitation: Refers to this document.

3.2 Right of Rejection

The Commission reserves the right to postpone the closing/opening date for its own convenience and to reject any or all Proposal(s) for any reason.

3.3 Proposer Responsibility

The Proposer shall have the responsibility of satisfying all parts of this solicitation. It is the desire of the Commission to procure goods and services of the finest quality. No advantage shall be taken by the Proposer in the omission of any part of detail that would be necessary to fully satisfy all work required in this solicitation.

3.4 Familiarization of Scope of Work

Before signing a contract, each Proposer shall familiarize itself with the Scope of Work, laws, regulations, and other factors affecting performance of work. It shall carefully correlate its observations with requirements of the solicitation and contract and otherwise satisfy itself as to the expense and difficulties attending the performance of the work. The signing of a Contract will constitute a representation of compliance by the Proposer. There will be no subsequent financial adjustment, other than that provided by the Contract, for lack of such familiarization.

3.5 Responsive Proposal(s)

The Commission shall award contracts only to responsible/responsive Proposers who possess the potential to perform successfully under the terms and conditions of the Request for Proposals. The Proposer shall affirmatively demonstrate its responsibility and, when necessary, the responsibility of any proposed Sub-Contractors.

If information obtained by the Commission clearly indicates that the Proposer is not responsive and the Commission has doubts about the productive capability or financial strength of a Proposer that cannot be resolved affirmatively, a determination that the Proposer is non-responsive shall be rendered.

3.6 Eligibility

Proposers must not be on the U.S. Government Excluded Parties List System of ineligible firms. The successful Proposer will be required to comply with all applicable Equal Employment Opportunity laws and regulations.

Federal Requirements

This plan is being funded with federal funds. As such, the project will be developed in a manner which satisfies all applicable Federal, State, and Local regulations. If selected, the Consultant must be able to verify that they can meet the following terms and conditions:

1. Debarment and Suspension (2 CFR Part 200 Appendix II (I), 2 CFR 180)
2. USDOT Disadvantaged Business Enterprise Program Requirements (49 CFR Part 26)
3. Byrd Anti-Lobbying Amendment (2 CFR Part 200 Appendix II (J))
4. Access to records
5. Equal Employment Opportunity (2 CFR Part 200 Appendix II (C))
6. Title VI of the Civil Rights Act of 1964
7. Termination for Cause and Convenience (2 CFR Part 200 Appendix II (B))

8. Sanctions and Penalties for Breach of Contract (2 CFR Part 200 Appendix II (A))
9. Conflict of Interest (24 CFR Part 570)

4. SCOPE OF WORK

4.1. Project Background

The Commission desires to engage a qualified firm in the transportation planning or engineering field capable of building and updating regional travel demand models. The firm will be responsible for adhering to the itemized scope and schedule in this Request for Proposals (RFP).

4.2. Project Overview

The Commission is seeking a firm to engage in the following itemized scope of work as described in this Request for Proposals (RFP). NIRPC staff will make its travel demand model software and all of its related components available to the contractor *for the itemized scope of work described* in this RFP, but it is highly recommended that the contractor possess its own equivalent software and operating environment to minimize any possible disruptions and their impacts. [any NIRPC Finance team requirements for billing statement frequency I need to include?]

4.3. Timeline

It is required that the Proposer complete and deliver all deliverables by July 31, 2022.

4.4. Scope of Work

The Commission seeks to update its travel demand model. The timeframe for the update is expected to be from November 2021 through June 2023, or a period of roughly 19 months. The Commission desires to split the 21-month period into 3 roughly 6-month periods: 1) constructing a Base Year model of 2019, 2) constructing a trend-based Future Year model of 2050 as well as interim year models, and 3) developing transportation planning extracts and applications from the model.

Period 1 (November 2021 – May 2022) 2019 Base Year Model:

The scope of work for this particular period includes:

1. Delineation of Internal Travel Analysis Zones (TAZs) into 4 categories: 1) Internal Indiana Zones (currently 455 zones), 2) Chicago Central Business District/Loop Zone(s) (currently 24 zones), 3) Non-Chicago Loop Illinois Zones (currently 47 zones), and 4) External Zones/stations (currently 19 zones/stations). Highly desirable to use the existing delineation to the extent practicable, subject to revisions based on quality of 2018-2019 Household Travel Survey Data.
2. Network update to remove any links Functionally Classified as a Local Road, addition of any links Functionally Classified as a Minor Collector or higher in the urbanized areas, Major Collector or higher in the rural areas. Smooth over the georeferencing of all links to better align with their actual location in an automated fashion or importation if possible. Update the fixed-route transit network with the current stop locations and fares. Incorporate tolling to reflect the current tolling amounts of the network links that are tolled including the Indiana Toll Road and Cline Avenue Bridge. Incorporate transit fares and tolling into mode choice model if deemed relevant. Incorporate ability to model managed lanes on I-80/94 in Lake County and to the extent practicable the other Interstates in the Commission's region.
3. Trip generation for at least 4 trip purposes (more if highly recommended based on experience): Home-based Work, Home-based Shop, Home-based Other, and Non-home-based.
4. Trip distribution using a gravity model or other recommended framework that takes into account various impedances.
5. Mode choice model that uses at a minimum Single Occupancy Vehicle (SOV), High Occupancy Vehicle (HOV), fixed-route bus transit, commuter rail transit, and non-motorized (do not have to be assigned to the network).

Single Unit and Combination Unit trucks should also be modes assigned to the network, but they do not have to be incorporated in the same mode choice framework as the prior modes. Option to retain the existing mode choice model if a mode choice update is cost prohibitive to the budget of the project, but still affix a cost estimate.

6. Update of the traffic and transit assignments – can be static assignments, but have to include at least 4 time-of-day periods: AM Peak (6:00 AM – 8:59 AM), PM Peak (3:00 PM – 5:59 PM), Off-Peak (9:00 AM – 2:59 PM and 6:00 PM – 5:59 AM), and 24-hour total
7. Calibration procedure using 2019 data to the extent possible.
8. 2019 Validation Report showing Root Mean Square Error (RMSE) by County and by Functional Classification categories of Freeways, Other Principal Arterials, Minor Arterials, and Collectors, with RMSE \leq 35% for each County-Functional Classification category highly desirable.
9. Update of the freight components of the travel demand model to more accurately forecast truck movements, including movements with trip end(s) in the region as well as external-external through movements
10. Review and adjustments to external stations in the model in coordination with adjacent regions that have models.

Period 2 (May 2022 – November 2022) 2050 Future Year Model and Interim Years:

1. Incorporation of the Commission’s 2050 demographic and socioeconomic forecasts disaggregated into the chosen TAZ delineation.
2. Incorporation of the Commission’s 2050 network into the road and transit networks.
3. Application of the trip generation framework developed for the base year model applied to the future year model.
4. Application of the trip distribution framework developed for the base year model to the future year model.
5. Application of the mode choice model developed for the base year model to the future year model.
6. Application of the traffic and transit assignment framework developed in the base year model to the future year model.
7. Application of the calibration procedure developed in the base year model to the future year model (if applicable).
8. Incorporation of a 2050 freight forecast into the freight model developed in the base year model and assigned to the future year model network.
9. Review and adjustments to external stations in the model in coordination with adjacent regions for the 2050 future year.
10. Repeat all of the above Period 2 tasks for 2025, 2030, and 2040 interim years model using the Commission’s 2025 demographic and socioeconomic forecasts.
11. Include a modeling framework that allows for additional interim years and is explained in the Model Users Guide.

Period 3 (November 2022 – June 2023) Developing Transportation Planning Extracts and Applications from the Model:

1. Development of a script that extracts EPA MOVES3 model inputs, including link-by-link volumes and speeds as well as intrazonal trips.
2. Development of a script that summarizes Vehicle Miles Traveled (VMT), Vehicle Hours Traveled (VHT), Median Speed, and Hours of Delay for each County-Functional Classification category.
3. Development of a script that converts assigned network and its attributes into ESRI formats.
4. Development of a script that summarizes travel demand and travel time attributes for each TAZ.
5. Development of a framework that would allow alternative demographic and socioeconomic forecasts (preferably tied to land use).

Respondents are requested to affix a cost/time allocation plan separately for each above numbered item in the scope and as shown in the table in Section 4.6.

4.5. Project Deliverables

1. Timeline from start to completion.
2. Travel Demand Model files compatible with the Commission’s computers and network equipment.
3. Travel Demand Model documentation document showing the basis for the Items in Section 4.4 as well as any additional items necessary for executing the Travel Demand Model.
4. Travel Demand Model Users Guide document explaining how to execute the Travel Demand Model and each of its component parts and processes.

4.6. Cost Breakdown and Detail

| SERVICE | COST |
|--|------|
| Development of Base Year Model | |
| Mode Choice Model Update Component | |
| Development of Future Year and Interim Year Models | |
| Development of Transportation Planning Extracts and Applications | |
| Additional costs | |
| TOTAL COST | |

Please explain any additional costs:

4.7. Resources Related to this Project

Research for the project scope of work can begin with a review of the 2018-2019 Household Travel Survey results and Travel Demand Model example year 2020. Download links are available:

- 2018-2019 Household Travel Survey Results
- Travel Demand Model example year 2020

5. CERTIFICATIONS

5.1. Compliance With Federal Requirements

CERTIFICATION OF COMPLIANCE WITH FEDERAL REQUIREMENTS

_____ (Proposer) certifies that it can comply with the Federal requirements and conditions as outlined in this document.

Signature

Title

Date

5.2 Compliance With Debarment and Suspension

CERTIFICATION OF COMPLIANCE WITH GOVERNMENT-WIDE DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION PROVISIONS – LOWER TIER COVERED TRANSACTIONS

(Contractors that apply or bid for an award of \$25,000 or more must file the required certification)

In regard to 2 CFR Part 180 and Executive Order 12549 and 12689

By signing and submitting this bid or proposal, the prospective lower tier participant is providing the signed certification set out below in accordance with the following instructions:

1. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, NIRPC may pursue available remedies, including suspension and/or debarment.
2. The prospective lower tier participant shall provide immediate written notice to NIRPC if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
3. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "persons," "lower tier covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549 and 12689 [2 CFR Part 180]. You may contact NIRPC for assistance in obtaining a copy of those regulations.
4. The prospective lower tier participant agrees by submitting this proposal that should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized in writing by NIRPC.
5. The prospective lower tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction", without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
6. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List issued by U.S. General Service Administration.
7. Nothing contained in the foregoing shall be construed to require establishment of system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
8. Except for transactions authorized under Paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to all remedies available to the Federal Government, NIRPC may pursue available remedies including suspension and/or debarment.

Pursuant to the above instructions:

(1) The prospective lower tier participant certifies, by submission of this bid or proposal, that neither it nor its "principals" [as defined at 2 C.F.R. 180] is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

(2) When the prospective lower tier participant is unable to certify to the statements in this certification, such prospective participant shall attach an explanation to this proposal.

_____ **Signature of Proposer's Authorized Official**

_____ **Name and Title of Proposer's Authorized Official**

_____ **Date**

5.3 Certification Regarding Lobbying

CERTIFICATION REGARDING LOBBYING

2 CFR Part 200 - Appendix II

Certification For Contracts, Grants, Loans, And Cooperative Agreements

(Contractors that apply or bid for an award of \$100,000 or more must file the required certification)

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

_____ **Signature of Proposer's Authorized Official**

_____ **Name and Title of Proposer's Authorized Official**

_____ **Date**