



University of Kentucky
Kentucky Transportation Center
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Lexington, KY 40506
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To: Nancy Albright, P.E.
Commissioner of Environmental Quality and Public Works
Lexington-Fayette Urban County Government
200 East Main Street
Lexington, KY. 40507

October 5, 2022

RE: Proposal for Lexington Snowplow Route Optimization.

Dear Ms. Albright,

The Kentucky Transportation Center (KTC) proposes to assist the Lexington-Fayette Urban County Government (LFUCG) in meeting winter weather challenges by building a network model of the city's snowplow routes. The network model will be used to develop three optimized scenarios of snowplow routes that vary according to agreed-upon performance measures. Performance measures may include average treatment time, roadway level of service, labor required, and amount of change from the existing routes. Based upon evaluation and feedback from LFUCG, a preferred scenario will be selected, and any necessary modifications will be performed.

This proposal includes the following services listed below and will be in accordance with KTC's Standard Services Agreement.

- 1) Data collection: access and geoprocess GIS data, snow and ice program data, truck fleet information, roadway data.
- 2) Develop network model in ArcGIS and python-based platform.
- 3) Develop three optimized route scenarios that vary according to performance measures.
- 4) Elicit feedback from LFUCG snow program officials and perform needed modifications to the preferred scenario.
- 5) Develop maps and information for the finalized snowplow routes.

It is anticipated that the time frame for the delivery of these services is through December 31, 2023.

The schedule of charges for these services is as follows:

Service	Sched. Start Date	Sched. Completion Date
1. Data collection: access and geoprocess GIS data, snow and ice program data, truck fleet information, roadway data.	10/1/2022	12/31/2022
2. Develop network model in ArcGIS and python-based platform.	12/1/2022	2/28/2023
3. Develop three optimized route scenarios that vary according to performance measures.	2/1/2023	5/31/2023
4. Elicit feedback from LFUCG snow program officials and perform needed modifications to the preferred scenario.	5/1/2023	8/31/2023
5. Develop maps and information for the finalized snowplow routes.	8/1/2023	12/31/2023

We propose to perform these services at a cost of \$120,000.

We sincerely thank you for the opportunity to serve the LFUCG. In the event that you accept our proposal, please sign below and return one signed copy back to KTC. We will then be happy to discuss proceeding with the service.

Sincerely,
Benjamin Blandford, PhD
Kentucky Transportation Center

Authorized Representative of LFUCG: _____

Date: _____

Standard Service Agreement

GOAL: Our goal is to produce an optimized model of snowplow routes for LFUCG.

EXPLANATION OF PROCESS: Route optimization will be performed by building a network model of LFUCG snowplow routes using available ArcGIS and python-based tools and platforms. Performance measures will be developed through the model to track optimization according to appropriate criteria, such as time and cost.

LIMITATIONS: The quality of our model will be limited by the accuracy and robustness of data we are able to obtain from LFUCG pertaining to the existing snowplow fleet, facilities, and roadway network.

FINDINGS: Our findings are only an interpretation of how best to optimize the snowplow routes used by LFUCG during winter weather events. The results of the optimized network model will be presented to LFUCG and the decision of how to proceed with the findings will ultimately be that of LFUCG.

DISCLAIMER: Our analysis will be based on our interpretation of the data collected and is provided solely for illustration and informational purposes. We do not warrant that our services, the data collected, or the resulting analysis will be free from errors or defects or that any such errors or defects will be corrected by us.

STANDARD OF CARE: The standard of care for all services provided will be the degree of care and skill ordinarily exercised by members of the subject profession practicing under similar circumstances at the same time and in the same locality.

PAYMENT: Statements for services will be submitted at KTC's option either upon completion of work or on a monthly basis. Statements will be e-mailed to the Client at the address on the Proposal and will be due net 30 unless otherwise stated in the accompanying proposal. Payments are to be made not later than 30 days following the date of the invoice. If payment is not so made, interest will be due on the amount of the statement at the rate of one and one-half percent (1.5%) per month from the date of the statement until the same is paid.