



# ALLIANT

August 2, 2024

Ms. Keelee Roggenbuck  
Dakota County Transportation Department  
14955 Galaxie Avenue  
Apple Valley, MN 55124  
(sent via email)

**RE: CSAH 43 (Lexington Avenue) - Eagan  
Request for Additional Services**

Dear Ms. Roggenbuck,

Alliant Engineering, Inc. appreciates the opportunity to provide you with the following Proposal for Professional Services. Our proposed Scope of Services includes additional services related to public engagement, traffic, and multimodal analysis and reporting for the Lexington Avenue improvements in Eagan. Additional scope is being requested to address preliminary feedback gathered during the initial round of public engagement. Feedback included concerns regarding operations and safety at the Northview Park Road intersection and concerns about multimodal crossing safety along the corridor. Specific additional scope items are listed below.

**Task 1.0 Project Management**

**Task 1.6 Additional Agency Meetings and Coordination**

The initial project schedule assumed the study and final design would be completed in August 2024. With the level of public engagement to date, additional investigation will be needed. The completion of the majority of the deliverables is extended out to November 2024. The completion for the additional analysis tasks included in this amendment request related to Northview Park Drive will be extended to February 2025. The longer schedule will result in additional Project Management Team meetings, agency coordination meetings and coordination meetings with Dakota County staff and the City of Eagan. Additional project management and administrative tasks will be needed.

Service Fee      \$3,050.00

**Task 2.0 Public Engagement**

**Task 2.1 Additional Open House**

The original scope included two public open houses. An additional open house is being requested. The first project open house was used to gather feedback on the existing conditions. Open House #2 will gather feedback on design concepts. Open House #3 will present the recommended alternative and present information related to construction staging and schedule. The additional open house will include in-person event and online components. Alliant will prepare all notices, meeting exhibits, static boards,

materials, refreshments, and meeting summaries. The County will be responsible for printing and mailing notices.

Service Fee \$9,800.00

### **Task 2.2 Additional Communications**

Initial public participation has been intensive for the project to date. The County desires to enhance the communications with the public. Additional efforts may include preparation of content for website updates, summary documentation, and newsletters. The original scope included two preparation of two newsletters. A third newsletter will be developed to communicate project progress and design concepts to the public in the immediate vicinity of the project. Alliant will develop the newsletter. Dakota County will print and mail the newsletters.

Service Fee \$3,780.00

### **Task 8.0 Preliminary and Final Design**

#### **Task 8.3 Preliminary Design – Northview Park Drive Intersection**

Alliant will prepare 10% design layouts for up to 3 intersection concepts that are evaluated in the ICE report. Design will consist of colored layouts depicting the following:

- Design turning movements (Autoturn analysis)
- Lane and shoulder dimensions
- Approximate construction limits
- Conceptual drainage scheme
- ROW/easement needs

Cross sections will not be required. A high-level grading design will be prepared to estimate construction limits. We will prepare 10% level cost estimates for up to 3 layouts.

Service Fee \$6,710.00

#### **Task 8.4 Preliminary Design – Multimodal Crossing Layouts**

Alliant will prepare conceptual layouts up to a 10% level design for up to 3 crossing concepts along Lexington Avenue. Design will consist of colored layouts depicting the following:

- Roadway configuration and dimensions
- Pedestrian/bicycle facility configuration and dimensions
- Approximate construction limits

Service Fee \$4,195.00

### **Task 11.0 Corridor Study**

Based on public comments received at Open House 1 and results of initial analyses, Dakota County requested additional evaluation of the CSAH 43 (Lexington Avenue) and adjacent intersections.

#### **Task 11.1 CSAH 43 (Lexington Avenue) Corridor Study**

##### **Task 11.1.1 Data Collection**

- Collect 24-hour typical weekday vehicle, truck, and ped/bike counts at the following locations (includes camera setup, pick up, and video processing):
  - Lexington Ave/Savannah Road

- Lexington Ave/Westbury Drive
- Wescott Rd/Danbury Trail
- Wescott Rd/Westbury Dr
- Northview Park Road/Clinton Trail
- Northview Park Road/Savannah Rd
- Collect 24-hour recreational event weekday vehicle, truck, and ped/bike counts at the following locations (includes camera setup, pick up, and video processing):
  - Lexington Ave/Patrick Road
  - Lexington Ave/Lexington Pointe Parkway/Kensington Trail
  - Lexington Ave/Goat Hill Park driveway (300' south of Lexington Point Parkway)
- Collect 24-hour typical weekday vehicle, truck, and ped/bike counts at the following locations (includes camera setup and pick up):
  - Lexington Ave/Holiday Gas Station Access (400' north of Diffley Road)
- Set radar equipment to record Lexington Avenue speed data for at least 24 hours at the following locations:
  - Lexington Ave between Northview Park Rd and Patrick Eagan Park ped crossing
  - Lexington Ave between Patrick Rd and Lexington Point Parkway

#### Task 11.1.2 Existing Conditions

##### Task 11.1.2.1 Existing Operations and MOE

- Analyze existing year 2024 AM and PM peak hours for existing conditions using Synchro/SimTraffic at the following intersections:
  - Lexington Avenue & Northview Park Road
  - Lexington Avenue & Westbury Drive
  - Lexington Avenue & Savannah Road
  - Wescott Road & Westbury Drive
  - Wescott Road & Danbury Trail
  - Northview Park Road & Clinton Trail
  - Northview Park Road & Savannah Road
- Summarize Measures of Effectiveness (MOE) results (intersection delay and LOS, worst approach delay and LOS, average and 95<sup>th</sup> percentile queues) for the intersections

##### Task 11.1.2.2 Traffic Forecasts

- Develop 20-year traffic forecast AM and PM peak hour volumes assuming no access modifications.
- Utilize MnDOT traffic mapping application, MnESAL, and Dakota County 2040 Transportation Plan to develop historical growth rate.
- Traffic growth rate to be shared with County and approved before proceeding with further analysis
- Assumes analysis for 2 segments (one on Lexington Avenue and one on Northview Park Road)

##### Task 11.1.2.3 Warrant Analysis/RAB Capacity

- Perform all-way stop warrant analysis for existing conditions at the intersection of Lexington Avenue and Northview Park Road under existing year 2024 and forecast year no build 2044 traffic volumes
- Perform traffic signal warrant analysis for existing conditions at the intersection of Lexington Avenue and Northview Park Road under existing year 2024 and forecast year no build 2044 traffic volumes

- Perform roundabout capacity analysis for the intersection of Lexington Avenue and Northview Park Road under existing year 2024 and forecast year no build 2044 traffic volumes to determine the number of approach, circulating, and bypass lanes that will be needed

#### Task 11.1.2.4 Crash Analysis

- Perform 5-year (2019-2023) crash analysis at the following intersections:
  - Lexington Avenue and Northview Park Road
  - Lexington Avenue and Westbury Drive
  - Lexington Avenue and Savannah Road
  - Lexington Avenue and Patrick Road
  - Lexington Avenue and Lexington Pointe Parkway/Kensington Trail
- Calculate crash and K/A rates, critical rates, critical index, and compare to statewide averages
- Summarize crash types and trends
- Create collision diagram for each intersection

#### Task 11.1.2.5 Gap Analysis

- Perform 60-minute AM and PM peak hour gap analysis for vehicles and pedestrians at the following intersections using video collected for turning movement counts
  - Lexington Avenue and Northview Park Road
  - Lexington Avenue and Westbury Drive
  - Lexington Avenue and Savannah Road
  - Lexington Avenue and Patrick Road
  - Lexington Avenue and Lexington Pointe Parkway/Kensington Trail
  - Lexington Avenue and Patrick Eagan Park
- Conduct 60-min vehicle and pedestrian gap analysis in-field at up to 4 locations to confirm/compare with gap analysis results completed using video. 60-minute study period will fall within the identified AM or PM peak hour

#### Task 11.1.2.6 Review Video at Lexington Avenue and Holiday Gas Station Access

- Review video at Lexington Ave/Holiday access and note northbound left-turn operational or safety concerns during 2 hour AM and 2 hour PM peak hours

#### Task 11.1.2.7 Access Management Assessment

- Analyze access spacing along Lexington Avenue between Westcott Road and Wilderness Run Road. Reference the Dakota County 2040 Long Range Plan for access spacing policy and assess which guidelines are met or not.
- Research origins-destinations of traffic at locations that do not meet access spacing guidelines utilizing County provided StreetLight license.
- Provide access recommendations at all full access driveways and intersections
- Assess potential RIRO or  $\frac{3}{4}$  access at the intersections of Lexington Avenue and Westbury Drive and Lexington Avenue and Savannah Road. Document impacts to traffic and pedestrian routes as relates to access spacing guidelines. Discuss results with County to agree upon up to two access modification scenarios to use in task 11.1.3.2

#### Task 11.1.2.8 Multimodal Analysis

- Evaluate the crossing locations listed below using Dakota County's *Pedestrian Crossing Assessment* and the *20 Design Flags to Evaluate Pedestrian and Bicyclist Safety at Alternative and Other Intersections*
  - Lexington Avenue & Savannah Road
  - Lexington Avenue & Westbury Drive
  - Lexington Avenue & Northview Park Road
  - Lexington Avenue & Patrick Road
  - Lexington Avenue & Lexington Pointe Parkway/Kensington Trail
  - Lexington Avenue & Goat Hill Park Driveway
- Document pedestrian generators, pedestrian destinations, and feedback received during public

- engagement to date
- Document existing multimodal volumes, results of the pedestrian gap analysis (Task 11.1.2.5), and 85<sup>th</sup> percentile speeds (Task 11.1.1) in figure(s) format
- Develop one preliminary recommendation (results of the *Pedestrian Crossing Assessment*) and one final recommendation at each location based on engineering judgement, multi-modal/area context, and results of the *20 Design Flags* evaluation
  - Document data needs for the Dakota County Pedestrian Crossing Assessment at each intersection in excel format, including the following:
    - AADT of crossing roadway
    - Multimodal volumes
    - Pedestrian/bicycle crashes from the most recent 10 years (2014-2023)
    - Available stopping sight distance to the point of crossing
    - Location distance to nearest marked crosswalk
    - Key destinations and active transportation facilities
    - Number of lanes and roadway configuration at the crossing
    - Posted speed limit
- Perform warrant analysis for turn lanes at the following intersections using *MnDOT's Access Management Manual*:
  - Lexington Avenue & Patrick Road
  - Lexington Avenue & Lexington Pointe Parkway/Kensington Trail
- Perform photometric analysis at crossings where a marked crosswalk is proposed, if applicable (number of locations not yet determined)
  - Create a map summarizing results of the analysis for City coordination with electric company

#### Task 11.1.3 Alternatives Analysis

##### Task 11.1.3.1 Develop Access Modification Volume Scenarios

- Develop volume scenarios for the network for up to two access modification scenarios as identified in Task 11.1.2.7. Volume scenario will assume a portion of Westbury Drive and Savannah Road traffic re-routes throughout the network. Research origins-destinations of traffic in the neighborhoods served by Savannah and Westbury utilizing County provided StreetLight license. Traffic volume methodology shall be approved by Dakota County before development of the volume scenarios

##### Task 11.1.3.2 No Build & Build Alternatives Operations Analysis

- Perform analysis of the alternatives listed below using modeling tools and volume scenarios as stated. Assume operations analysis not performed in VISSIM. All build alternatives will be analyzed with Lexington reduced to a 3-lane roadway
  - TWSC (Synchro/SimTraffic) for the following volume scenarios:
    - Existing Volumes
    - 20-Year Forecast No Build Volumes
    - Access Modification Scenario 1
    - Access Modification Scenario 2
  - Traffic Signal – only if warranted (Synchro/SimTraffic) for the following volume scenarios:
    - Existing Volumes
    - 20-Year Forecast No Build Volumes
    - Access Modification Scenario 1
    - Access Modification Scenario 2
  - Roundabout with lane geometry recommended in Task 11.1.2.3 (Arcady/HCS7) for the following volume scenarios:
    - Existing Volumes

- 20-Year Forecast No Build Volumes
    - Access Modification Scenario 1
    - Access Modification Scenario 2
  - Undefined Alternative for the following volume scenarios:
    - Existing Volumes
    - 20-Year Forecast No Build Volumes
    - Access Modification Scenario 1
    - Access Modification Scenario 2
- Report intersection delay and LOS, worst approach delay and LOS, and average and 95<sup>th</sup> percentile queues by approach (MOE) in tabular format for the following intersections:
  - Lexington Avenue & Northview Park Road
  - Lexington Avenue & Westbury Drive
  - Lexington Avenue & Savannah Road
  - Wescott Road & Westbury Drive
  - Wescott Road & Danbury Trail
  - Northview Park Road & Clinton Trail
  - Northview Park Road & Savannah Road
- Develop recommendations for mitigation strategies at the intersections of Wescott Road and Danbury Trail and Northview Park Road and Clinton Trail as a result of redistributed traffic, if applicable

#### Task 11.1.4.1 Corridor Study Report

- Provide draft and final corridor study report that summarizes the analysis completed in Task 11.1
  - Include a public engagement section that summarizes public feedback received.
  - Summarize operational results of the alternatives identified in Task 11.1.3.2 in an alternatives evaluation matrix. Document expected safety impacts and other key considerations (at a high-level: expected construction cost and impacts, R/W impacts, public perception, access considerations, multimodal impacts). Recommend an alternative for implementation.
  - Summarize analysis and results of the multimodal evaluation.
- Create a one-page handout summarizing the analysis and results of the corridor study in an easy-to-read format to include in newsletter and to be posted on the website.
  - Include project timeline, next steps, and contact information

#### Deliverables:

Draft and Final Corridor Study Report  
 Turning Movement Counts  
 Excel file documenting existing conditions at crossing locations as studied  
 One page summary handout

Service Fee      \$64,071.00

#### Task 11.2 Intersection Control Evaluation

##### Task 11.2.1 Operational Analysis

- Calculate operational benefit at the intersection of Lexington Avenue & Northview Park Road for each alternative evaluated in Task 11.1.3.2

##### Task 11.2.2 Safety Analysis

- Estimate expected number of crashes, crash rate, and safety benefit at the intersection of Lexington Avenue & Northview Park Road for each alternative evaluated in Task 11.1.3.2 using CMFs and other safety studies as applicable

Task 11.2.3 Benefit-Cost Analysis

- Calculate benefit/cost at the intersection of Lexington Avenue & Northview Park Road for each alternative evaluated in Task 11.1.3.2 using safety and operational benefit and construction cost estimate

Task 11.2.4 Concept Development (Design)

- Develop preliminary concept layouts and construction cost estimates in 2024 dollars for the alternatives as detailed in Task 11.1.3.2

Task 11.2.5 Intersection Control Evaluation Report

- Create an Intersection Control Evaluation summarizing all of the analysis completed in Task 11 and clearly state the recommended alternative for the intersection as a result of Task 11.1 Corridor Study

**Deliverables:**

Draft and Final ICE Report

Service Fee      \$17,905.00

**Task 12.0 Parcel Sketches**

Alliant will prepare parcel sketches for up to four parcels to depict Right-of-way encroachments, temporary and permanent easements. Sketches will be 8 ½ X 11 and will be depicted over an aerial photo. Easement areas will be depicted and quantified.

Service Fee      \$1,440.00

**Total Service Fee Not to Exceed = \$110,951.00**

We ask that you consider this proposal for additional services. Please call me at 612-767-9347 should you have any questions or comments regarding the contents of our proposal or associated service fees.

Sincerely,

Alliant Engineering, Inc.



Steve Weser  
Principal

cc: File