Downtown Lexington Traffic Movement & Revitalization Study
Revised Scope of Work (Contract Modification No. 2)

Introduction

The original Scope of Work for the Downtown Lexington Traffic Movement & Revitalization Study included the evaluation of alternatives for converting the current one-way streets to two-way. "Alternatives" were defined to incorporate physical changes to the street system plus corresponding changes to traffic control (such as signal timing). Alternatives include conversion of specific one-way pairs to two-way or other improvement projects (such as roundabout intersections) need to implement two-way conversion or to enhance mobility.

The original Scope of Work defined the following alternatives that would be evaluated:

A. All one-way streets converted to two-way
B. Main Street/Vine Street converted to two-way*
C. High Street/Maxwell Street converted to two-way*
D. Limestone Street/Upper Street converted to two-way*
E. Short Street/Second Street converted to two-way*
F. Up to three combinations of B. through E. above
G. The "downtown mobility plan" that includes one-way streets to be converted to two-way, recommended mitigation strategies, and corresponding strategies for non-auto modes – pedestrians, bicycles and transit.

** All other one-way streets remain as one-way*

The first contract modification involved reorganization of the original Scope of Work tasks to reflect the decision that had been made to divide the Downtown Area into three smaller focus areas and to conduct an analysis for each focus area. The modification did not involve any change to the contract amount, only a reorganization of the Scope of Work tasks to be aligned with an evaluation of each of the three focus areas. Those tasks related to evaluation of two-way street alternatives were reorganized as follows:

1. **North Area Study**
    a. Complete analysis of alternatives
    b. Develop recommended improvements/mitigation measures
    c. Develop preliminary cost estimates
    d. Prepare summary technical memorandum
2. **Core Area Study**
    a. Complete analysis of alternatives
    b. Develop recommended improvements/mitigation measures
    c. Develop preliminary cost estimates
    d. Prepare summary technical memorandum
3. **South Area Study**
    a. Conduct analysis of alternatives
    b. Develop recommended improvements/mitigation measures
    c. Develop preliminary cost estimates
    d. Prepare summary technical memorandum

Additionally, public involvement-related tasks were reorganized as follows:

a. Monthly Technical Steering Committee Meetings
b. Policy Committee Meetings
    i. North Area
    ii. Core Area
    iii. South Area

c. Public Meetings
    iv. North Area
    v. Core Area
    vi. South Area

d. Stakeholder Meetings*

** At least two (2) stakeholder meetings are to be conducted per each subarea study, with additional stakeholder meetings to be conducted as needed and as approved by the LFUCG Project Manager, up to a total of fifteen (15) Stakeholder meetings for the entire project. Subarea study stakeholder meetings are to consist of approximately 12 – 15 representatives for each of the three subareas, to occur after the respective Policy Committee Meeting and before the public meeting. The remaining additional stakeholder meetings are to be held ad hoc and as needed to address particular problem/mitigation areas such as the Broadway Block or the University of Kentucky area.*

An initial analysis of a Main Street/Vine Street conversion was performed and was referred to as "Alternative 1." This assumed that Main Street and Vine Street both would be one-lane in each direction, with a continuous center left-turn lane.

A second alternative of the Main Street/Vine Street conversion was performed and was referred to as "Alternative 3." This assumed that Main Street and Vine Street both would be two lanes in each direction, with no center left-turn lane (except at a couple of critical intersections) peak period left-turn prohibition.

The Alternative 3 analysis was performed much later than the Alternative 1 analysis. During the interim, several project parameters had changed so that a direct comparison of Alternatives 1 and 3 could not be made. Thus, it is necessary to perform an additional analysis for Alternative 1, incorporating changes to make it consistent with Alternative 3, so that a direct comparison between these two, along with a comparison to the current one-way configuration, can be made.

Scope of Work

An analysis will be conducted for which comparison of anticipated traffic conditions will be made in association with the Core Area. The following downtown street network scenarios will be evaluated and compared:

I. **Existing Plus Committed Network.** This will consist of the Main Street and Vine Street remaining as one-way streets, plus the completion of the Newtown Pike Extension (Oliver Lewis Way) from West High Street to Broadway.

II. **Alternative 1.** This alternative has been examined previously in the downtown study. It includes Main Street and Vine Street as two-way streets. For both, there will be single through lanes in each direction, plus a continuous center left-turn lane. This alternative would retain existing on-street parking and bicycle lanes. Alternative 1 was examined relatively early in the study process; it will require revision to be consistent with the other two-way alternative for the Core Area (Alternative 3) so that an equitable comparison can be made.

III. **Alternative 3.** This alternative also has been examined previously (and most recently) in the downtown study. It includes Main Street and Vine Street as two-way streets, with each having two through lanes in each direction. There is no center left turn lane and peak period left-turn prohibition is assumed for several key intersections along Main Street. Existing bicycle lanes along both Main and Vine would be lost due to conversion. Roughly half of the on-street parking on the south side of Main Street would be lost as well. Access to and from major parking garages along Main and Vine would be restricted to right-in/right-out.

Alternatives 1 and 3 will incorporate assumed changes from the North Area analysis; i.e., the following streets would be converted to two-way:

- North Limestone (north of Main)
- North Upper (north of Main)
- Short Street
- West Second Street (from Newtown Pike to North Limestone)

Each of the four scenarios will include the assumption that the Newtown Pike Extension (Oliver Lewis Way) will be completed from High Street to Broadway. The final phase of that project, the Scott Street Connector, will not be included. For Alt. 1 and Alt. 3, the High Street extension to Manchester Street (also called for in the RAAED plan) will be included.

Regarding travel demand, the Moderate Growth Scenario will be used.

The following activities will be undertaken:

TASK 1. RUN LAMPO TRAVEL DEMAND MODEL FOR ALTERNATIVE 1

The Lexington Area MPO Travel Demand Model will be used to create a scenario that reflects the network modifications associated with Alternative 1. This will include re-coding Main Street and Vine Street in the downtown area to be two-way, with one lane in either direction. The North Area streets assumed to become two-way will be coded into the model network as well.

The travel demand model will be run for the 2012 base year to identify traffic diversion that would be expected to accompany the conversion. This will include identification and quantification of trips normally passing through the downtown study area that would be expected to divert away from the study area.

Based on the diversion analysis associated with Alternative 1, new simulation model origin-destination (O-D) trip matrices will be developed. These will reflect in the simulation model the anticipated reduction in through trips if Alternative 1 were implemented.

TASK 2. MODIFY ALTERNATIVE 1 SIMULATION MODEL

The simulation model for the previously developed version of Alternative 1 will be updated so that an equitable comparison can be made with the E+C options and Alternative 3. The Alternative 1 simulation model update will include the revised O-D trip matrices developed in Task 1. Specific network revisions to the original version of Alternative 1 will include:

- North Area streets become two-way
- Scott Street Connector is removed

Alternative 1 also will include an optimization of network-wide signal timing plans, similar to the optimization that was performed for Alternative 3.

TASK 3. RUN SIMULATION MODELS AND SUMMARIZE RESULTS

Simulation models will be run for the revised Alternative 1. Models will be run for using the Moderate Growth scenario for the following weekday periods:

- A.M. Peak
- Mid-Morning
- Mid-Afternoon
- P.M. Peak

The results will be compiled and summarized. Performance measures to be extracted will include:

System-wide measures

- Vehicle-miles traveled (VMT)
- Vehicle-hours of delay (VHT)
- Total delay
- Number of trips
- Average delay per trip
- Average trip speed

Facility-specific measures

- Vehicular flow (vph)
- Average intersection delay
- Intersection level of service
- Average travel speed

TASK 4. PREPARE TECHNICAL MEMORANDUM

It is recognized that the results of this analysis may be used by several parties as part of the decision making related RAAED plan improvements. A technical memorandum will be prepared that describes the analysis and summarizes the results. The document will be submitted in electronic (PDF) format.

TASK 5. PUBLIC INVOLVEMENT

A joint Core Area/South Area public meeting will be held.

TASK 6. MAKE PRESENTATION TO TECHNICAL ADVISORY GROUP

The results of this analysis will be presented to the Technical Advisory Group for the Downtown Lexington Traffic Movement and Revitalization Study.

Fee Increase

The fee increase for the services described in the scope of work is $25,000.

Schedule

The technical analysis can be completed within approximately six (6) weeks from authorization to proceed; including documentation of results in a technical memorandum, all tasks can be completed within approximately eight (8) weeks. The anticipated schedule for completion of the individual tasks is shown below:

Activity	Week 1	2	3	4	5	6	7	8
Task 1. Run LAMPO Travel Demand Model for Alternative 1	■	■						
Task 2. Modify Alternative 1 Simulation Model		■	■	■				
Task 3. Run Simulation Models and Summarize Results				■	■			
Task 4. Conduct Yoke Analysis					■	■		
Task 5. Prepare Technical Memorandum							■	■
Task 6. Make Presentation to Technical Advisory Group							●	

▲ Authorization to proceed