Resolution # 18-1

WHEREAS, County policies and procedures require both the assigned oversight committee and the County Board to approve all requests to procure goods and/or services costing $30,000 or more; and,

WHEREAS, the Springfield-Sangamon County Regional Planning Commission wishes to procure services from LSA to update the Springfield-Sangamon County Regional Travel Model (SSCRTM); and,

WHEREAS, LSA created the SSCRTM, provided subsequent updates, and is the sole entity which can provide such professional services; and,

WHEREAS, the Springfield-Sangamon County Regional Planning Commission will provide $81,355 to LSA for this service; and,

WHEREAS, funding for this contract is available using Illinois Department of Transportation, Statewide Research and Planning Funds and Rural Planning Funds and is included in the Springfield-Sangamon County Regional Planning Commission's approved FY 2020 budget; and,

WHEREAS, as documented by the approval of this resolution, the Finance Committee has approved the Springfield-Sangamon County Regional Planning Commission's request to procure the services specified herein and the committee recommends that the County Board approve procurement of the same; and,

NOW, THEREFORE, BE RESOLVED that the Sangamon County Board, in session this 14th day of July, 2020, approved the procurement of the services detailed above. The Department Head is authorized to sign the required documents to execute the provision of this procurement.

_____

Chairman, Sangamon County Board

ATTEST:

_____

County Clerk

Attachments: Purchase Order Form & LSA Agreement

FILED

JUL 06 2020

Sangamon County Clerk

18-2

Approved by the Finance Committee

July 14, 2020

_____, Chairman	_____, Member
_____, Member	_____, Member
_____, Member	_____, Member
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_____, Member	_____, Member

JUL 06 2020

Andy Goleman
SANGAMON COUNTY AUDITOR

LSA

CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

July 06, 2020

Shannan Karrick
Senior Planner
Springfield-Sangamon County Regional Planning
Commission
200 South 9th Street, Room 212
Springfield, Illinois 62701

Subject: Proposal for Springfield-Sangamon County Regional Travel Demand Model Update

Dear Ms. Karrick:

LSA is pleased to present this proposal to update the Springfield-Sangamon County Regional Travel Model (SSCRTM). LSA had prepared the TransCAD based SSCRTM in 2008 and had previously updated the model in 2013. Based on our recent discussions, LSA has developed the following recommended scope of services and budget to assist the Springfield-Sangamon County Metropolitan Planning Organization (MPO) with the model update. The scope of work has been divided in three phases with each phase being completed as funding is available.

PHASE 1: MODEL UPDATE PHASE 1

TASK 1.1: PROJECT MANAGEMENT

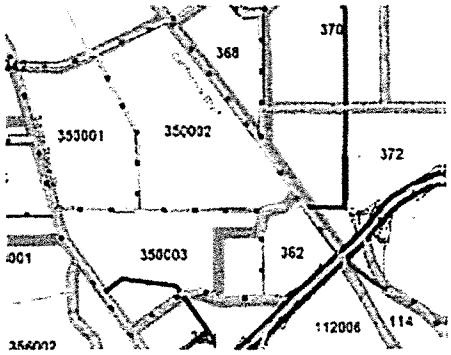
LSA understands that the success of the SSCRTM update project depends on the skill and commitment of the people working together, including the MPO staff and the LSA team. Hence, the model update will require close coordination between the MPO and LSA. This coordination will begin with a kickoff meeting (Video Conference Call) at the outset of work and will continue through regularly scheduled monthly coordination meetings.

Additional informal coordination also will occur as needed to facilitate project progress. These meetings will not only serve as a channel to update the MPO on the progress of the project but also to jointly resolve any modeling issues that may arise during the course of the project. The MPO may cancel these meetings when they are not necessary.

LSA will use the web conferencing technologies and conference calls to conduct these coordination meetings. LSA will also provide a monthly progress report, along with each invoice, that summarizes the work performed and key deliverables during the previous month. As stated earlier, the scope of work has been divided in three phases. Since this task is applicable for the first two phases, the hours and cost for this task has been accordingly distributed between the two phases.

TASK 1.2: MODEL INPUT UPDATES

Task 1.2a: Traffic Analysis Zones (TAZ) Updates



LSA will review the SSCRTM TAZ structure and propose any possible changes due to future developments and roadway alignment changes since the previous model update. SSCRTM currently contains 540 internal zones. The TAZ refinements for the proposed model update will be conducted in coordination with the roadway network detail. For example, TAZ splits will be added to align with existing roadways and future roadway projects. Zone boundaries will also be coordinated with the local jurisdictional boundaries to allow accurate subarea reporting. Other TAZ splits desired by the MPO can also incorporated into the TAZ structure at the same time.

Maps with TAZ changes will be presented to the MPO for review before finalizing the changes. Model inputs such as roadway network, socioeconomic data, and other input variables will be appropriately addressed for the zone disaggregation.

Task 1.2b: Socioeconomic Data Updates

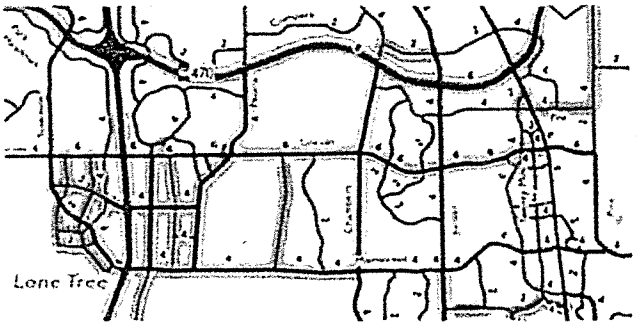
The model uses households along with household size and income to develop trip productions and six employment types to develop trip attractions. LSA proposes to retain the household attributes (income and household size) and employment types from the existing model. Existing household attributes and employment types from the existing model provide a good balance between providing sensitivity in the model for these variables and the resources that would take to forecast these household variables and employment by type for long term (2045).
The travel model is calibrated and validated to existing conditions which is referred to as the base year for the model. The existing base year for the model is 2011. LSA recommends updating the base year to year 2017 depending on the availability of various model inputs. Availability of most recent important model inputs such as household data, employment data, and traffic counts will assist the MPO and LSA in determining the appropriate model base year.

Household data for the model base year will be developed using 2011 household data from the existing model and adding all new building permit data from 2011 up to the model base year (2017) LSA will also explore other data sources that can be used in the development of base year household data. The household totals for the model base year will be compared against household counts from the latest 2017 Census data. In case of significant differences between the new base year model data and census data, LSA will coordinate with the MPO to resolve the differences. If the differences between the updated model data and Census are minor then the model data may be adjusted to reflect Census data control totals at a County level. This may require additional budget depending on the extent of difference between the two datasets. LSA will propose the appropriate methodology for the control total adjustment and will update the household data with MPO approval.

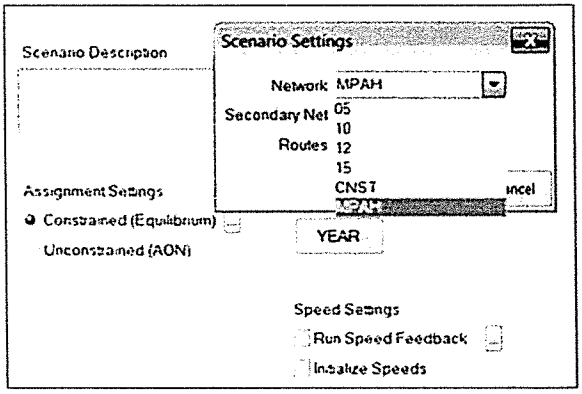
Employment data for the previous model updates were provided by the MPO. The data was provided in GIS format and contained North American Industry Classification System (NAICS) code. NAICS code was helpful in the classification of the employment into model employment categories whereas GIS format was used to aggregate the employment into updated TAZ system. Employment data, in GIS format, for the base year (2017) will be provided by the MPO along with the NAICS codes. LSA will distribute the employment into model categories using NAICS code and aggregate it to the new TAZ system. LSA will review the updated data for reasonableness using household/employment ratio, growth rates from 2011, and compare the data against data from Bureau of Labor Statistics (BLS).

Task 1.2c: Roadway Network Updates

LSA will update the roadway network to reflect the base year conditions. The roadway network updates will be focused on changes that have occurred since the previous model's base year along with any TAZ changes that might be identified in the Task 2a. LSA will obtain the list of roadway improvements constructed since the model's base year (2011) and will update the network accordingly.



The base year network will be reviewed for accuracy, connectivity, and consistency. Existing network approach of an integrated database (legacy network) will assist in maintaining network consistency for base and future years. LSA will develop roadway network maps identifying the improvements since 2011 which will be provided for MPO's review.



Task 1.2d: Compilation of Traffic Counts

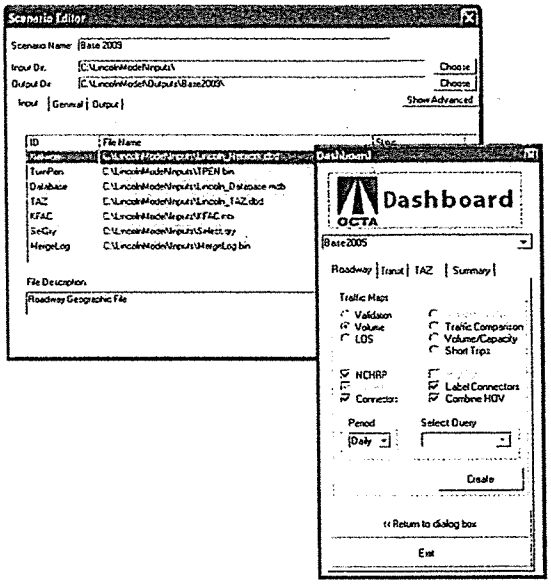
Updates to the roadway network will also include coding of latest available traffic counts onto the network for validation purposes. LSA will obtain the latest Average Daily Traffic (ADT) counts from Illinois Department of Transportation's (IDOT) website, and also gather any count data available from other sources as identified by the MPO. Coded count data will be plotted on a map and reviewed for consistency and reasonability. LSA has coded traffic counts on the model network during previous model updates that can be used to check count consistency and reasonability. Review of the count data will also include verification that the model network and screenlines are sufficiently covered for validation.

LSA will also obtain traffic counts from IDOT at external stations to update internal-external (IE) and external-external (EE) trips for the base year. Locations with counts from multiple years can be used to develop a growth rate factor that can be used to extrapolate counts in case of any locations where count data is unavailable.

As indicated above, LSA obtained traffic counts from IDOT's website during the previous model updates. If count data from IDOT is unavailable or has insufficient coverage, LSA may recommend collection of new traffic counts. Based on our recent discussion, all traffic counts will be provided by IDOT or the MPO. Therefore, this scope of work doesn't include any cost for obtaining traffic counts.

TASK 1.3: MODELING SYSTEM

LSA will update the model macros to use this latest scenario management system and to run in the current version of TransCAD 8.0, which now is in full release. As part of the model system update, LSA will work with the MPO to identify any specific changes that should be made to the model system and summary report.



LSA maintains a suite of TransCAD Add-Ins that streamline model post processing, reporting, and analysis. We will include these tools, packaged into the existing Dashboard interface, as part of this model update. These tools enable us to more efficiently update and validate the model, allowing us to deliver them with the travel model without significantly increasing project cost.

PHASE 2: MODEL UPDATE PHASE 2

TASK 2.1: PROJECT MANAGEMENT

Similar to Phase 1, for successful completion of the tasks listed under Phase 2 will also require constant coordination with MPO staff. Accordingly, anticipated hours and budget has been allocated for project management for this phase.

TASK 2.2: MODEL UPDATE

Task 2.2a: Land Use Data Review

The MPO recently updated their land use data set and hence requested LSA to re-examine the possibility of using land use information for the trip generation instead of socioeconomic data. During the development of 2008 model, LSA initially considered use of land use for trip generation. However, as the model's development proceeded, two things occurred. First, the parcel-based land use data contained a number of discrepancies, lack of necessary data, along with other concerns. Second, Dunn and Bradstreet employment data became available for the region from a source not previously thought available. These prompted a renewed discussion on the approach related to

using land use versus socioeconomic data. Details of that discussion can be found in a letter to the MPO "*Recommendation of Socioeconomic Basis for the Springfield-Sangamon County Regional Travel Model*" dated December 2, 2008 and was included as an appendix to Technical Memorandum "Technical Memorandum #4 – Socioeconomic Data Development".

LSA included the following discussion of "Land use vs. Socioeconomic data" for the MPO as an informational element.

Land use vs. Socioeconomic data

The locations that define the activities upon which trips are generated are typically input into the travel model as either land use or socioeconomic data. For trip productions, land use-based models typically use number of dwelling units by type (e.g., single family, multi-family, etc.) as an explanatory variable as compared to the use of household-based information (such as number of households by household size and income group) in socioeconomic-based models. The difference is much more distinct on the attraction side. Land use-based models use actual land use and zoning data (usually specified as acres or square feet of a particular land use) for establishing the attraction end of trips. In socioeconomic models, employment by specific employment groups is typically used and may rely on a detailed land use model that forecasts each category.

Either activity basis works fine for modeling, so the decision is often based on what data is available and what can be forecasted. In both cases, there needs to be a forecast methodology based on historical growth, a comprehensive planning process, or other source.

Models that utilize land use data rather than socioeconomic data have the advantage of improved trip generation accuracy at non-residential locations. Conversely, trip generation at residential locations will be less accurate if data is simplified to distinguish only between single-family and multi-family households. Use of socioeconomic variables such as household income and size provides better model trip generation at households.

Use of land use data as a key input to the trip generation model will allow testing of land use-based plan scenarios. Several important considerations must be taken into account when using land use data as input to a travel model. Use of land use data has the potential to overestimate commercial growth relative to household growth. If sufficient care is not taken, it is possible to produce a model with an unrealistic jobs/housing balance, to overestimate trip generation in developing areas, or to produce less accurate trip generation for residential uses. When a model is driven by socioeconomic data, it is possible to monitor the ratio of jobs to households. While the jobs/households ratio may vary over time in relationship to the regional value, it is still important for the planning staff to be aware of changes in the jobs/housing balance to avoid producing unrealistic forecasts.

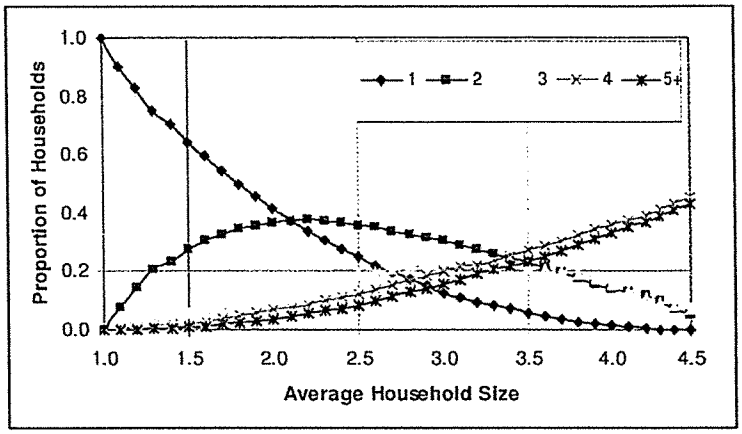
LSA will conduct a cursory qualitative review of the existing land use information available and identify any major discrepancy between the land use data and the socioeconomic data. If so, then LSA will consult with MPO staff to update the SED data accordingly.

Task 2.2b: Trip Generation

The household variables (household size and income) used in the current model provide sufficient detail to capture the trip making differences between different types of households. Similarly, six employment categories in the model provide ample sensitivity to the model trip generation.

Bivariate household variables household size, and household income used in the existing model were based on 2010 Census. LSA will explore the latest available American Community Survey (ACS) data and will consider update of the bivariate variables, if the data is deemed sufficient to do so. Regional bivariate distributions by household size and income will also be considered for update using latest available Public Use Microdata Sample (PUMS) data.

University of Springfield is the only special generator in the existing model. Even though other facilities such as airport and museums were identified as potential special generators, a need did not arise to include them in the previous model because trip generation rate along with TAZ employment data resulted in good validation around those facilities. Similarly, these locations will be observed closely during validation and depending on the validation outcome new special generators may be suggested for inclusion in the model.



2017 National Household Travel Survey (NHTS) was recently released and LSA has experience in the analysis of previous NHTS datasets and household travel surveys for multiple travel model updates. Trip rates from the existing model will be compared with the latest datasets available and any necessary changes will be included in the update after MPO's review.

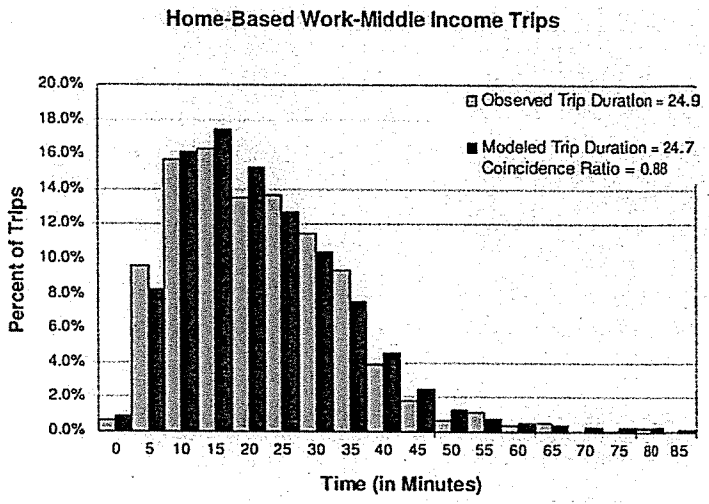
External station traffic counts will be updated to the new base year. No changes are proposed to methodology for external trips other than a simple update of the counts. IE trip splits, EE trip interchanges between external stations are not proposed for any modification.

Task 2.2c: Trip Distribution

Generally, trip distribution tends to be among the weaker component in a travel demand model system. Household travel surveys are invaluable for understanding individual and sub-group travel behaviors. However, due to lack of regional household travel surveys previous model development

and update efforts relied heavily on Census Transportation Planning Package (CTPP) data for trip distribution calibration. CTPP data is invaluable in the regions where household travel data is unavailable but is limited in the amount of detail. With the latest technological advancements, various other sources of data such as cell phone triangulation data and mobile app (applications) based GPS data is available commercially that can provide valuable insights on trip distribution patterns for the region.

For this project, LSA proposes to obtain the new GPS-based Origin – Destination (O-D) data and use this data for calibration of trip distribution. Since this is commercially available data from AirSage, there is a cost associated with the purchase of this data. An initial cost range to obtain this data is included in the cost proposal as a separate line item.



The dataset will include 24-hour trip table by trip purpose, at a minimum, for the modeling region. LSA will define a time period for the model base year to pull the O-D trips (either Fall 2017 or Spring 2018). Additional detail such as disaggregation of trip table by time of day (AM Peak and PM Peak) will incur additional costs. Mid-week weekday data will be pulled to represent the typical travel conditions. LSA will review the data for reasonableness at an aggregate level and compare with Census data.

Trip length distributions will be calibrated using observed trip table (OD data) and model skims. Friction factors from the existing model will be used as a starting point and modified to match the new observed trip length distribution targets from the OD data. Since CTPP data was only available for the HBW trips, friction factors for other trip purposes were calibrated using a pivot point analysis during previous model calibrations. However, with the availability of observed spatially located GPS trip data by purpose, other trip purposes can be calibrated directly to the observed data.

Task 2.2d: Mode Split

Mode analysis is the third phase of the traditional 4-step travel demand modeling process, converting person trips from trip generation and distribution into vehicle trips for assignment to the roadway network. Mode choice models separate person trip tables into various modes such as drive alone, shared ride, transit, and non-motorized modes by trip purpose. The non-motorized trips and transit trips are identified based on trip distance and proximity to transit service. Auto occupancy factors are then applied to resulting person trips in vehicles. In areas where transit modal share is small enough, a simplified approach is to estimate district-to-district factors that represent transit, shared ride and drive-alone modal shares and then apply them to each trip table. The simplified

approach (i.e., factoring for mode split) is acceptable if the regional agency is not involved in testing the sensitivity of shared ride or transit policies. For example, a mode choice model would estimate transit usage based on a detailed representation of the region's transit service providing forecasts at a transit route and/or stop level. However, the SSCRTM does not include the complicated mode choice step. The SSCRTM provides limited information about transit usage in the region, but cannot be used to perform detailed transit forecasts.

The SSCRTM uses a distance-based algorithm to determine non-motorized mode share. This algorithm assumes that shorter trips are more likely to be made using non-motorized means, with the likelihood of a trip being made as a walk or bicycle trip decreasing as trip length increases. Different curves are used for walk and bicycle trips, as bicycle trips tend to occur over longer distances than walk trips. This distance-based approach ensures that the increased walk and bicycle trip activity associated with dense mixed-use developments is accounted for in the travel model.

The distance-based functions were calibrated through an iterative process that involved adjustments to calibration parameters and distance limits by trip purpose. Because non-motorized mode split is distance based, non-motorized mode shares will vary significantly by TAZ. Smaller zones tend to have more short trips because they occur in areas of higher land use activity and diversity. This leads to higher non-motorized shares. In rural areas where zones tend to be larger and trip lengths tend to be longer, non-motorized trips will be significantly less frequent.

LSA analyzed and used 2010 CTPP data to develop the modal split targets for the existing model. Currently 2010 is still the latest year for CTPP data. CTPP data for 2012-2016 is scheduled to be released soon. In case the latest CTPP data is released before LSA completes the trip distribution module, LSA will analyze and use the 2012-2016 CTPP data to calibrate the mode split parameters to achieve new mode share targets. Auto occupancy parameters will also be updated using the latest CTPP data. New mode share targets will be reviewed for reasonableness by comparing them with the existing model, and targets from other regions of similar characteristics. However, in case 2012-2016 CTPP data is unavailable, LSA proposes to retain existing mode split parameters and mode shares from the current model.

The SSCRTM estimates transit trips using an enhanced mode split procedure. While the predictive capabilities of this transit model are limited, it does provide value in observing relative totals when comparing different transit options. Transit ridership forecasts are based on availability of transit, quality of transit service, and implicitly reflect land use implications on transit performance.

Transit availability is represented in the travel model at the TAZ level. Each TAZ is ranked on a scale from 0 to 5 for transit availability. Levels 1 and 2 represent existing transit service, Levels 3 and 4 can be added to future scenarios which might include improvements to transit service. Level 5 represents an exceptional level of transit and land use coordination including transit oriented development.

To account for transfers, areas with accessibility to transit have been divided into districts. Trips that occur within a single district are not assigned a transfer penalty, while transit trips between districts are reduced by 50% to account for the inconvenience of transferring between routes.

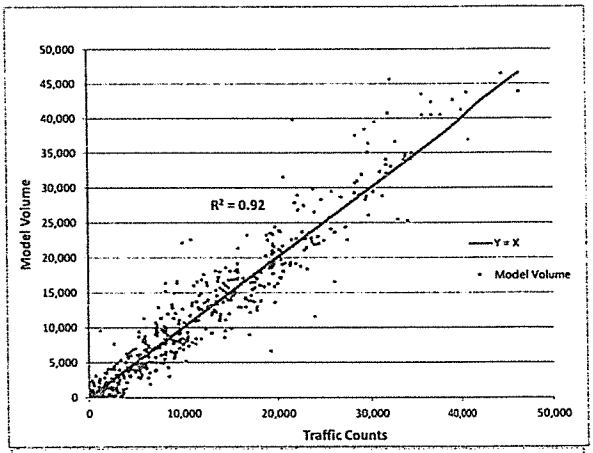
The transit model is implemented by factoring trips between each zone pair based on the conditions described above. A set of factors was developed based on 2008 ridership data, census journey to work data, and sensitivity analysis from other areas. LSA will obtain new base year transit ridership information to develop transit trip targets and mode split calibration in the updated model. Additionally, LSA has obtained the new route patterns as the transit system has undergone a system wide change. TAZ attributes associated with transit mode split will be updated to reflect the quantitative and qualitative nature of the transit changes and to achieve transit trip targets at a regional level.

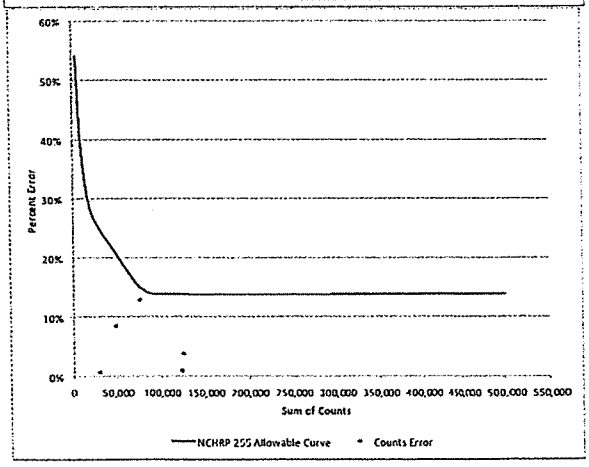
Task 2.2e: Time of Day

Based on hourly count data available for the region during the initial model development, 1 AM peak hour (7:00-8:00AM) and 1 PM peak hour (4:30-5:30PM) were defined in the Springfield model. LSA reviewed the possibility of changing the time of day parameters during pervious update but the same peak periods were retained as there was no change in the percent of peak hour trips. LSA doesn't expect the peak hour definitions or percent peak hour trips to change this time around.

Task 2.2f: Validation

Model validation occurs throughout the model update process. It begins with the verification of the trip rates and continues forward to trip length analysis, mode analysis and traffic assignment. LSA will monitor model calibration and reasonableness measures throughout the model update process and include such measures in the documentation. Model validation will focus primarily on the model's ability to match observed traffic count data but also will include comparisons of model parameters and statistics to generally accepted guidelines (Travel Model Validation & Reasonableness Checking Manual 2nd Edition). Several validation metrics used to quantify differences between modeled and observed volumes include Volume-to-count ratio, the Correlation Coefficient, and Percent Root Mean Square Error etc.





During the model validation process, LSA expects to make changes to any of the four individual model steps (trip generation, trip distribution, mode split, and assignment) as needed to better model existing conditions. In doing so, we will monitor calibration of each step to ensure that metrics such as average trip rates, trip lengths,

and mode shares remain within adopted thresholds.

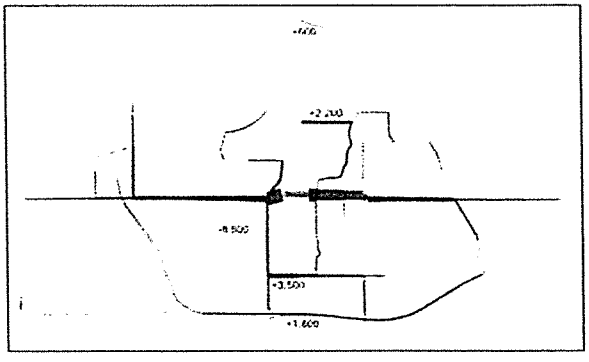
Task 2.2g: Validation Workshops

LSA proposes a validation workshop for the MPO during model validation task to increase their involvement with the process and also to improve their confidence in using the model.
In this workshop, MPO staff will work directly with LSA to review the model results and investigate issue areas. Adjustments will be made in real time to determine the most appropriate changes. The workshop serves an important purpose in learning from local experts who can provide valuable insight into the validation process. In addition, the validation workshop helps participants vested in model's success, improving confidence in the mode's ability to provide useful information. The workshop will be conducted using web-based technology like WebEx.

LSA proposes to conduct two validation workshops using web-based technologies. The initial workshop will be conducted during the start of the model validation. The MPO staff will be provided with the draft version of the model along with the initial validation conditions. Once the validation issues have been identified, potential solutions to improve the validation will be discussed. LSA will provide instructions to modify the various parameters required as the next steps and will let the MPO staff conduct the model run and extract the model outputs. A similar exercise will be conducted towards the final stages of validation. These validation workshops will be invaluable in that they will allow the MPO staff to contribute their local knowledge with the model validation while the workshops provide hands-on experience of the model validation to the MPO staff.

Task 2.2h: Sensitivity tests

A key component of the validation process is sensitivity testing. Sensitivity testing will be applied to both base year and future year scenarios. Sensitivity testing can be performed by applying the model using alternative demographic, socioeconomic, or transportation supply to determine the plausibility of the resulting travel forecasts. The sensitivity of the model to the specific variable being manipulated can therefore be estimated by comparing the results of the alternative run to the base run. The types of model inputs that might be manipulated during sensitivity testing could include the following:



- Land use/socioeconomic inputs—Examples (which may be region wide or area-specific) might include increases in population or employment or changes in income levels;
- Highway Network—Examples may include changes to travel times or speeds or activation of roadway alternatives.

Sensitivity testing is a valuable tool for confirming that future changes to model input variables and assumptions result in predictable changes to future travel behavior. These variables include

socioeconomic growth, land use policy, and planned changes to transportation facilities. This important step can also draw out any problems or inconsistencies in the model dataset and algorithms prior to application of the model for planning purposes. For purposes of this model update, up to seven sensitivity tests will be performed for each scenario.

TASK 2.3: FORECAST DATA

Task 2.3a: Socioeconomic Data

LSA has developed the 2040 forecast socioeconomic data set as a part of previous model update. LSA will update the dataset to reflect a horizon year of 2045 using a simple linear or compound extrapolation methodology depending on the data sources available. Growth rates, forecast jobs/housing ratio, and average household size etc., for the updated forecast year will be compared with the forecast data from the current model and also with areas of similar size and trip making characteristics. Any potential problems will be identified for discussion with the MPO. Also, the review will focus on potential localized problems such as decrease over time, unexpectedly high densities, and areas with very high growth rates. Once the socioeconomic data has been finalized, LSA will incorporate the new data into the travel model database. The assumptions and input data used for the process will be available for review by the MPO before its use in the model update.

The initial 2035 forecast socioeconomic dataset was developed using 2020 Springfield Comprehensive Plan during the 2008 model update. A simple linear extrapolation methodology was used for the subsequent 2040 socioeconomic data development during the 2013 model update. Since then the MPO has updated forecast land use information. LSA will develop the control totals for the 2045 households and employment based on the recent historical growth rates for the region. The growth rates will be coordinated and confirmed with the MPO. The established growth will be spatially distributed using the updated land use information. Based on the resolution of the available land use information, a detailed approach will be coordinated with the MPO in regards to the forecast data development.

Task 2.3b: Roadway Network

The input roadway network for the Springfield model is a legacy format network which would allow multiple years and alternatives to be coded in one roadway network. LSA will review the current Transportation Improvement Program (TIP), previous long range transportation plan, and any other studies available to identify roadway improvement projects to include in the forecast network. LSA will update the roadway network with the addition of a forecast network year and code up the improvements provided by the MPO.

TASK 2.4: DOCUMENTATION

LSA will document the model update processes, parameters, and assumptions throughout the course of the project as the project advances. Sections of the final documentation will be provided to the MPO for review and individual sections will be integrated into a complete document. This document will be provided with the intention that a person with good understanding of the travel modeling process would be able to fully understand the model development and validation process.

LSA will provide an updated User's Guide document that outlines the process required to prepare and run travel model scenarios, defines the data structures used in the model, and documents standards required to correctly maintain and modify travel model inputs. The User's Guide will also include updated graphical depictions of the user interface, as well as a data dictionary describing the input and output files and parameters.

PHASE 3: MODEL UPDATE PHASE 3

TASK 3.1: TRAINING

LSA has provided a variety of modeling training sessions for different audiences, including modelers and non-modelers interested in using model data. Our extensive model training experience will be invaluable when it comes time to deploy the new SSCRTM. LSA will prepare model training sessions that are tailored to the specific skill sets of participants. LSA proposes on one full-day training session with the model update. The training session will be imperative in ensuring that staff planning to use the model will have a full understanding of the model data, processes, and parameters. The interactive training session will include detailed instructions on the use of the model, along with interactive examples and exercises to help reinforce the material. Upon completion of the training session, participants will be able to successfully install and run the travel model; edit and maintain model inputs; view model outputs; and test proposed roadway and demographic alternatives.

TASK 3.2: ON-CALL CONSULTATION AND SUPPORT

Upon completion of the model update and training, LSA will provide MPO staff with on-call consultation and support on an as need basis.

BUDGET

The proposed budget for the project is shown by task in the attachment. Even though most of the tasks are similar to a model development project, this update does not include the upfront setup and conversion costs for the model inputs such as developing a legacy network, TAZ layer, and input database as the core essence of the model created during the model development project will remain intact. Familiarity with TransCAD and especially with the MPO's modeling system also helps LSA to be very efficient and effective by avoiding system learning time for this update. LSA will redo all the tasks performed in the previous model update project.

Based on our recent discussion, LSA has also included a line item in the budget for obtaining regional OD data. Obtaining this commercial OD data helps in complementing the lack of regional household travel survey data which significantly helps in travel model calibration and validation. The OD data will provide detail trip information specific to the Springfield region that would help in a better calibration and validation of a travel model. LSA has adjusted its labor costs for the tasks to share some of the burden of the data costs and to make the overall budget reasonable.

SCHEDULE

As the model update has been divided into 3 different phases, the schedule for each phase will be determined during the phase initiation. LSA can accelerate or extend the schedule depending on the MPO needs. In case of an accelerated schedule LSA would like to make sure that the MPO staff has sufficient time to review and comment on the model update products as they are developed. LSA would appreciate the opportunity to continue our working relationship.

Sincerely,

LSA Associates, Inc.

A. Mukherjee

Ambarish Mukherjee, AICP, PE
Principal

Attachment: Cost Proposal

The above-stated terms re: Proposal for Springfield-Sangamon County Regional Travel Demand Model Update are hereby accepted and authorized.

CONSULTANT:	CLIENT:
LSA Associates, Inc.	
Authorized Signature	Authorized Signature
Ambarish Mukherjee	
Print Name	Print Name
Principal	
Title	Title
June 24, 2020	
Date	Date

LSA

Springfield / Sangamon County Regional Travel Model (SSCRTM) Update
LSA Associates, Inc. Cost Proposal

Phase		Tasks	LSA Associates, Inc.						
			Tony Petros	Ambarish Mukherjee	Ravi Palakurthy	Debmalya Sinha	Kenneth Tan	Graphics / GIS	Total LSA
			$250	$195	$160	$115	$115	$100	
Phase 1	1.1	Project Management							
		Project Coordination Meetings	1	2	2				$960
	1.2	Model Input Updates							
		Traffic Analysis Zones (TAZ) Updates		1	2	4			$975
		Socioeconomic data Updates		1	4	12	6		$2,905
		Roadway Network Updates		1	4		12		$2,215
	1.3	Modeling System Update			16			1	$2,660
		Phase 1 sub-total							**$9,715**
Phase 2	2.1	Project Management							
		Project Coordination Meetings	1	12	4	2			$3,460
	2.2	Model Update							
		Land Use Data Review		1	4	4			$1,295
		Trip Generation			4	8	8		$2,480
		Trip Distribution		2	8	12	12		$4,430
		Mode Split		4	12	12			$4,080
		Time Of Day			2		4		$780
		Validation		2	4	12	16		$4,250
		Validation Workshops		8	8	12			$4,220
		Senstivity Testing	1	2	8	20	10		$5,370
	2.3	Forecast Data							
		Forecast socioeconomic data	1	2	8		24		$4,680
		Forecast Roadway network		1	4	14			$2,445
	2.4	Documentation	1	16	8	4	4	1	$5,670
		Phase 2 sub-total							**$43,160**
Phase 3	3.1	Training		12	4				$2,980
	3.2	On-Call Consultation and Support *							$5,000
		Phase 3 sub-total							**$7,980**
		Total Labor and Expenses	5	67	106	116	96	2	$60,855
		Expenses - Travel ($1500 per trip)						1	$1,500
		GPS based Origin - Destination (OD) Data							$19,000
		Total Labor and Expenses							**$81,355**

* - *On-Call Consultation and Support budget will be utilized according to MPO needs.*

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