

## Memorandum

### Department of Planning & Development Services

**To:** Michael O. Geisel, City Administrator

**From:** Justin Wyse, Director of Planning and Development Services

**Date:** February 28, 2018

**RE:** Comprehensive Plan and Travel Demand Model Update

JW  
Please forward to  
PPLW for discussion  
& recommendations  
MOL  
3/1/18

#### BACKGROUND

For several years, City Council, Planning Commission, Legal Counsel, and Staff have all expressed a desire to review and update the City's Comprehensive Plan. The City's website describes the Comprehensive Plan as follows: *"The City of Chesterfield Comprehensive Plan is the official statement of the City of Chesterfield that sets forth goals, policies and guidelines for physical, social and economic development within the City. The Plan serves as a guide for zoning, addressing both short and long term planning concerns."*

There were minor amendments and updates completed on the plan in 2009; however, the last major update to the plan was completed in 2005. Despite the rapid growth we have experienced for both residential and commercial development in the last 10-15 years and the inclusion of new parks, trails and improvements to the road network throughout several key areas, the Comprehensive Plan has not been thoroughly reviewed and / or updated in over 10 years. As a result, each plan policy and chapter of the City's Comprehensive Plan is potentially outdated.

Further, over the last several years, we have seen the Comprehensive Plan itself challenged by both residents and property owners. The Comprehensive Plan is intended to convey the land use expectations such that land owners can make reasonable development-related decisions. As time has passed, land owners and citizens have identified perceived conflicts. As development progresses, the remaining undeveloped or under-developed land is under increased pressure and it is critical that the community take a fresh look at the existing land use plan. Owners and citizens alike have had cause to review the existing plan and have alleged it is out of date and does not reflect the current sentiments of the community. The legitimacy and validity of the plan itself relies upon an ongoing and effective community engagement process.

Accordingly, I am recommending that City Council consider funding a comprehensive review of the City's Comprehensive Plan. Such a process would involve a substantial public engagement process, policy development and review, retention of outside consultants\experts, and participation by residents, businesses, elected officials, Planning Commissioners, and City Staff. Review of the Comprehensive Plan should be completed concurrently and integrated with a review and calibration of the City-wide transportation model. There will most certainly be an iterative process of determining development character, density, and the related infrastructure necessary to support same. The complete review of the Comprehensive Plan will help to define the community vision and guide orderly growth, while promoting existing services and public amenities within the City.

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The current plan and model have served the City well and provided a critical tool in proactively identifying future network failures for investment. However, like all plans, their relevance lies in their ability to reflect the current reality, and I believe now is an opportune time to update the plan and the model.

### **COMPREHENSIVE PLAN**

RSMo 89 grants municipalities the authority to create a planning commission to create, amend, and carry out a plan for the city. As permitted in RSMo 89.340, “the commission shall make and adopt a city plan for the physical development of the municipality.” The City of Chesterfield Comprehensive Plan is the official statement of the City of Chesterfield that sets forth goals, policies, and guidelines for physical, social, and economic development within the City.

As stated previously, the City has seen continued growth and is beginning to experience redevelopment pressures alongside this existing growth. Nearly \$400 million in construction costs were approved in 2017 alone within the City. While the investment bodes well for the long-term viability for owners within the City, the official policy for the physical development of the City is beginning to age.

Recently, the City has seen several instances of public input into the development process that question both the implementation and the interpretation of the Comprehensive Plan. This reinforces the need for an update to the plan to address these issues and attempt to create a more clear vision for the future of Chesterfield. City Code includes specific elements that must be included in the Comprehensive Plan, and the Revised Statutes of Missouri lay the basis of items to be included in a City Plan. Paramount to the success of the plan update, community input and involvement is a focus within the process where elected officials, appointed officials, residents, and business owners throughout the City will have an opportunity to participate in shaping the plan.

Staff also believes that, in addition to generally updating the plan, several specific areas need to be addressed. The current plan designates and creates a conceptual vision for the Urban Core. Staff believes that updating this area and providing additional clarity on the vision is critically important. Along with this process, the boundaries of the Urban Core should be scrutinized, as well as any recommended changes presented through the process.

Development continues and redevelopment opportunities are likely in the near future within the Chesterfield Valley. The plan will need to address shifts in the retail economy and the emergence of more entertainment-based uses.

The areas above are simply examples of areas where Staff believes significant updates to the plan may be warranted; however, any changes need to be done in the context of the overall plan update where the stakeholders are actively invited into the process. I fully expect that additional areas will be included, and that these will emerge through the public involvement portion of the process. A current and updated Comprehensive Plan provides the city with a publicly and legally defensible basis for land use, subdivision, and land development, other controls, and public policies recommended by or evolving from the planning effort.

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Staff has prepared the attached Request for Qualifications to solicit information from qualified consultants. Once a qualified consultant is selected, Staff would negotiate a contract for the update to the Comprehensive Plan to bring to City Council for consideration.

### **TRAVEL DEMAND MODEL**

Legislation enabling planning in the State of Missouri specifically calls out that in creating a plan for the physical development and uses of land, the Planning Commission may include the “general location, character and extent of streets and other public ways.” In order to closely align land use and transportation planning, the City has historically embedded the transportation element, a required element of the Comprehensive Plan dictated by City Code, into the Comprehensive Plan process. While this adds complexity to the process, the end result has been very positive in providing a clear vision for the future of the transportation network when evaluating private developments and when coordinating with other local agencies (MoDOT and St. Louis County Department of Transportation) to promote a transportation network that supports the vision of the City of Chesterfield.

The City created its first travel demand model which resulted in the 2003 City-Wide Transportation Study. This study identified areas of future concern as development continued in accord with the land use element of the Comprehensive Plan. Specific recommendations for each of the areas of concern were created to provide a framework for evaluating public projects and improvements associated with private development. For example, the study was critical in identifying capacity improvements along Swingley Ridge Road as part of the development of RGA. Through this process, necessary right-of-way was preserved and roadway improvement obligations of the developer were allocated to the areas where modeling indicated the most benefit.

The model was updated in 2007, which included a conversion to a new software. This process built on the prior process that relies on scenario-based modeling and roadway improvements. However, as a major update to the plan was not completed, this update simply updated inputs into the model (include existing network improvements and land use inputs) to create a new baseline for evaluation that accurately reflected existing conditions and provided a better resource in evaluating public expenditures.

Services to update the model are classified as professional services under RSMo 8.285 – 8.291 and under City Code. Since 2002, the City of Chesterfield has retained George Butler and Associates (GBA) as our transportation consultant. GBA created the original model for the City and worked on the most recent conversion into VISUM. Additionally, GBA has modeled various scenarios over the years at the request of the City. Because GBA possesses a history and provides unique qualifications, I believe the City should enter into a contract with GBA for the update of the travel demand model using VISUM and to coordinate the process with the Comprehensive Planning process. The existing relationship, and the fact that GBA clearly has the technical qualifications, will reduce potential increases to project costs that would likely be necessary for other consultants to become familiar with the product. It is also critically important to understand that the traffic demand model is both a science and an art. Over time, Staff has worked with GBA to refine, correct, calibrate, and adjust

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the model. This effort and experience would be lost if another consultant were used and there would certainly be errors introduced into the model development.

**PROCESS**

The process to update the Comprehensive Plan and Travel Demand Model is estimated to be 18 – 24 months in duration, and the two products will be cohesive and coordinated in their final product. For example, anticipated build-out of the future land use plan will be utilized in creation of a model scenario to determine the impact of full development of the City on the City’s roadway network. This will result in improvement recommendations and / or consideration in modifications to the future land use map and policies of the Comprehensive Plan.

**BUDGET IMPLICATIONS**

The projects above, if approved, will be managed as two projects by Staff with an integrated final product. The projects are not included in the 2018 budget, but were discussed during the budget process that a separate request for funding would be presented to City Council. As discussed during the 2018 budget preparation, the anticipated cost of the two projects is estimated to be \$300,000 and would be funded through General Fund – Fund Reserves over the 40% reserves policy.

The total project cost for the Comprehensive Plan and Travel Demand Model will not be known until final scopes are developed and a contract is brought back to City Council for approval. Staff believes that the original estimate of \$300,000 that was presented during the 2018 budget process is still reasonable and can accommodate both projects. It is estimated that approximately \$125,000 will be necessary to update the Travel Demand Model and approximately \$175,000 for the Comprehensive Plan. In order to fund the projects, a transfer of \$300,000 from General Fund – Fund Reserves is necessary.

**RECOMMENDATION**

I recommend that the request to update the Comprehensive Plan and Travel Demand Model be forwarded to the Planning and Public Works Committee for consideration of a budget amendment to fund the effort to update the Comprehensive Plan and Travel Demand Model.

If the Council decides to move forward with the request, Staff will begin coordination with the Planning Commission to begin the process of updating the plan. It should be noted that both State Statute and City Code delegate the creation and amendment of the Comprehensive Plan to the Planning Commission.



## Introduction & Background

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The City of Chesterfield incorporated in 1988 and is approximately 32 square miles in size. Located just 25 miles west of downtown St. Louis, the City of Chesterfield is a thriving community where residential, commercial, office, and industrial growth continues. The City of Chesterfield is home to the Spirit of St. Louis Airport which opened in the early 1960's, two top-rated public school districts, an athletic complex, robust park system, and amphitheater. The City of Chesterfield is also home to a number of major companies, including Reinsurance Group of America, Monsanto, Pfizer, and Bunge North America, along with a host of national retailers and industry leaders.

According to the American Community Survey (ACS), Chesterfield is home to nearly 50,000 residents who have a median household income of approximately \$99,000. The City of Chesterfield median population age is 46.5 years with over 30% of the population over the age of 25 having obtained a graduate or professional degree.

## Purpose

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The City's first Comprehensive Land Use Plan was adopted in 1990 and the most recent update to select sections of the Comprehensive Land Use Plan was completed in 2009. Due to the amount of growth the City has enjoyed and continues to see, changes in industry trends, and a need to refocus the City's vision, the City of Chesterfield's Comprehensive Plan is in need of being updated.

Since the last major plan adoption in 2005, the City has seen significant activity and interest in the Chesterfield Village, including the redevelopment of existing buildings. There has also been an emergence of entertainment uses, which have begun to develop or express interest in locating in the City. Examples of these include Topgolf and iFly. These trends and emerging economies are coinciding with the point in the lifespan where buildings constructed 30+ years ago are ripe for redevelopment and/or re-use; a new Comprehensive Plan would ensure that the City is at the forefront of these changes. Finally, there have been a number of controversial projects throughout the City which have attracted hundreds of people to oppose developments where visions may have evolved or shifted and require a re-evaluation of the existing Plan.

## Description

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The City of Chesterfield is soliciting qualifications from individuals and/or firms for an updated Comprehensive Plan. While not all inclusive, some key elements shall include a heavy focus on public participation and creating a community-led vision, a review of the City's Urban Core, an evaluation of the current Land Use Plan to reflect recent development trends, and a focused vision for key sub-areas and/or corridors.

## Community Input

From the early days leading to incorporation, the City of Chesterfield has a strong legacy of citizen participation in the decision-making process. The participation of citizens, developers, land owners, business owners, appointed and elected officials, and other stakeholders throughout the community is both a point of pride for the city and is paramount to the success of the Plan update; therefore the City will place a strong emphasis in the selection process in choosing a consultant that has strong facilitation skills with respect to the open house and public meeting process. The selected consultant will be responsible for organizing and either leading or co-leading public meetings with City staff. The chosen consultant will also be expected to assist the City staff with developing and implementing community engagement tools that foster public outreach and citizen participation, which should include a variety of mediums such as social media, mailings, flyers, etc. to ensure that broad citizen participation forms the foundation of the Comprehensive Plan.

## Land Use Plan

As a forward-looking city, Chesterfield strives to be effective and nimble in recognizing and responding to emerging trends, including the evolution of retail toward online sales, the emergence of flexible offices, and an influx in senior housing and apartment living. These

development trends and others should drive an evaluation of the current Land Use Plan to ensure that the city is well positioned to support stable, cohesive, high-quality development into the future. Additionally, the Land Use Plan must recognize and value the importance of residential neighborhoods, achieving a balance that protects the high quality of life enjoyed by Chesterfield's citizens.

## Key Areas & Corridors

In addition to an overall evaluation of the current land use plan, the City has a number of key areas and corridors of growth and redevelopment which require a focused vision and guide. This includes the Urban Core, Chesterfield Valley, Old Chesterfield Road Historic District, and key corridors such as I-64/US-40, Clarkson Rd/Olive Blvd, and Chesterfield Airport Road.

### Urban Core

Prior to the City's incorporation, Louis Sachs of Sachs Properties created a vision of a 1,500-acre area which is known as the Chesterfield Village. After the City's incorporation in 1988, the Chesterfield Village and surrounding area became known as the Urban Core, which is now a major component of Chesterfield's identity and is intended to be the visual focus of the City. In recent years, the City has seen a surge of interest in development and redevelopment within the Urban Core; however, a number of controversial projects in the past year have brought to light a need to gather consensus and create a more focused vision of what this area is and should be. The selected consultant will be responsible for gathering community input and vision and using this to create a focused guide for the future development of the area. This should include land uses, character, and transitions for the area.

### Chesterfield Valley

The Chesterfield Valley is widely remembered for the Great Flood of 1993, which was among the most costly and devastating to ever occur in the United States. The City of Chesterfield alone experienced a flood of roughly 4,500 acres in Chesterfield Valley, which was known at that time as Gumbo Flats. Shortly thereafter, major improvements were made to the levee so that it could sustain a 500-year flood event.

Following the flood, a tremendous amount of investment transformed Gumbo Flats into modern day Chesterfield Valley, which is home to a number of major offices, retail areas, and industrial developments, including the Spirit of St. Louis Airport and associated airpark. In light of the paradigm shift in retail trends over the last decade, the clear emergence of a new entertainment industry in the area, and growing market pressures, the Comprehensive Plan update should

establish specific criteria for growth and development in these areas and determine how they work or interact together in the Valley.

### Old Chesterfield Road Historic District

The City of Chesterfield has grown from fields and floods into a City of almost 50,000 people. The City has worked hard over the decades since incorporation to preserve many of the various characters and neighborhoods of the City, including what is now known as the Old Chesterfield Road or Burkhardt Subdivision. The Record Plat, created in 1918, subdivides the area into a series of roughly 150 x 50 foot wide small lots; this traditional lot size is the foundation for the charming historical character of this area, with small-lot bungalows and human-scale design. This area has long been seen as the City's historic district and the plan update should develop policies that are in keeping with the historic nature of the area. The selected consultant should consider community input to develop a Plan update which addresses the needs of this area to determine and guide its future.

### Transportation Corridors

Positioned between St. Charles County and the metropolitan St. Louis region, the City of Chesterfield has a number of thoroughfares that are utilized by those who are commuting in and through the city. Additionally, many of the city's key attractions, including Chesterfield Mall and Chesterfield Valley, are located along these corridors. Many of these commuters and visitors form their impression of the city from this limited view from the major thoroughfares and corridors, and the selected consultant will be expected to take a critical look at the City's key corridors, including, but not limited to, I-64/US 40, the Chesterfield Parkway, Chesterfield Airport Road, and Clarkson Rd/Olive Blvd to ensure that these thoroughfares continue to be an efficient and attractive means of transportation, and that development along these areas reflects the high-quality character of Chesterfield.

### Travel Demand Model

While a separate process is underway to update the City's travel demand model, the selected consultant will be required to coordinate with the City's traffic consultant on the Transportation element of the Comprehensive Plan and to ensure seamless integration of the land use and transportation elements.

The City of Chesterfield utilizes VISUM for its travel demand model. It allows the City to review proposed enhancements to the transportation network, to analyze various improvements, and provides critical data to support decisions with regard to the network.



## GIS Data

Relevant GIS data and digital map documents used in the creation of maps and other supporting documentation in the Plan update shall be provided to the City at the end of the project. GIS data formats and standards shall be created in consultation with the City of Chesterfield's GIS team to ensure that data can be used later in City operations.

## Existing Plans

The Plan Update should coordinate with other approved plans of the City of Chesterfield to ensure that all plans in the City are mutually supportive and consistent with one another.

### Comprehensive Plan (2009)

The first City of Chesterfield Comprehensive Plan was completed and adopted in February of 1990. Subsequently, a dozen updates have taken place between 1991 and today. The most recent Comprehensive Plan update was in 2009 in which a Comprehensive Plan Committee and residents selected sections of the Plan to update, including the Plan Policies element, the Land Use element, the Land Use Plan, the Transportation element, and the Chesterfield Valley Policies element.

### Chesterfield Valley Stormwater Master Plan

While the City of Chesterfield is within the Metropolitan Sewer District's stormwater management area, the City created and manages the Chesterfield Valley Stormwater Master Plan which serves to manage flood risks and ensures that as properties within the Chesterfield Valley develop, there is a system in place with the capacity to handle stormwater efficiently.

### Chesterfield Bikeable Walkable Community Plan

The Bikeable Walkable plan was approved in 2010 and was created in conjunction with Trailnet in partnership with James Pona & Associates, LLC and Southwestern Illinois Resource Conservation & Development. It is intended to provide the City of Chesterfield with a plan to ensure that bicyclists and pedestrians of all ages and abilities can safely and conveniently travel throughout the City.

### Parks, Recreation & Arts Comprehensive Master Plan

The Parks, Recreation & Arts Comprehensive Master Plan was initially developed in 1999 to create a current inventory of existing parkland and to develop conceptual plans for existing park sites, as well as plan for future park acquisitions and/or partnerships. This Plan is currently in the

process of being updated and the selected consultant will need to ensure that all guidelines and policies related to these amenities are aligned with those in the updated Parks, Recreation, and Arts Comprehensive Master Plan.

## Submittal Instructions

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Submittals should be no more than 20 pages. Those submittals which are less than 20 pages will not be penalized. Six (6) hard copies and one (1) digital copy of the submittal must be received no later than **5:00 p.m. May 1, 2018**.

Submittals must be submitted to:

Justin Wyse, AICP, Director of Planning & Development Services  
City of Chesterfield  
690 Chesterfield Parkway West  
Chesterfield, MO 63017

## Submittal Requirements

1. Name of firm principal.
2. Outside consultants and associates usually retained.
3. Short resumes for professional individuals who will be working on the project.
4. Description of how the firm's typical Comprehensive Plan process is conducted.
5. Data-gathering methods.
6. Typical time frame for a Comprehensive Plan and ability of firm to meet time schedules.
7. Examples of completed projects on which the firm was the lead consultant and budgeted/completion cost of each.
8. The type and amount of assistance to be given by the Department involved.

It is required that your firm's Statement of Qualification (RSMo 8.285 through 8.291) and an Affidavit of Compliance with the federal work authorization program, and a copy of your firm's E-Verify Memorandum of Understanding (15 CSR 60-15.020) be submitted with your firm's Letter of Interest. These documents will not be included in the total page count.

## Evaluation

Specialized experience in the type of work required.	(20 points)
Recent experience showing on-budget delivery.	(20 points)
Community relations including evidence of sensitivity to citizen concerns.	(20 points)
Qualifications of individuals who would have direct involvement in this project.	(20 points)
Record of the firm in accomplishing work on other projects in the required time.	(10 points)
Geographic location of the principal officers of the firm.	(10 points)

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**100 points**

## Selection Process

All submittals will be reviewed by a Selection Committee. The top firms will subsequently be interviewed by said committee. Based upon the submittal and interview, the committee will recommend the firm they judge to be most responsive, responsible, and qualified. The selected consultant will then enter the contract negotiation stage with the City. The City reserves the right to reject any and all submittals and the right in its sole discretion to accept the submittal it considers most favorable to the City's interest. Final recommendation shall be made to and approved by the City Council. It is anticipated that the final selection will occur in mid- to late July of 2018.

## **EXHIBIT A**

### **SCOPE OF WORK TRAFFIC ENGINEERING SERVICES TRAVEL DEMAND MODEL UPDATE**

This scope of work includes six tasks of work including Model Update / Data Collection; Model Calibration; Near-term and Long-term Model Scenarios; Capacity Analyses; and Improvement Recommendations. The first three tasks would be included in the base agreement while the last three could be added to the contract as additional services if it is determined that they are required based upon the completed initial tasks.

#### **BASIC SERVICES**

##### **TASK 1: MODEL UPDATE / DATA COLLECTION**

- A. The ENGINEER and the CITY shall meet and update land use information.
  - 1. The ENGINEER will work with the CITY to derive / compute required land use information from East - West Gateway data files and from City land use master plans.
  - 2. It is understood that the CITY will provide EXCEL worksheets that list the current (Existing), approved and anticipated development expect to be completed within five years (Near Term Development) and Master Plan land use information (Long Term Development) by current Traffic Analysis Zone (TAZ).
  - 3. The CITY will also provide GIS shape files of the TAZ configurations.
- B. The ENGINEER along with the CITY will meet with representatives from both St. Louis County and Missouri Department of Transportation (MoDOT) to discuss model update and request additional input regarding future land use as well as future transportation network improvements. Any available traffic counts and traffic signal phasing and timing information will also be requested.
- C. The ENGINEER will modify the model link-node system to reflect the current TAZ boundaries and configurations provided by the CITY.
  - 1. The CITY will provide the ENGINEER with the current cross sections and traffic control information including traffic signal phasing and timing information for each thoroughfare link and major intersection.
  - 2. The ENGINEER will also update the zone connectors in the link-node system
- D. The ENGINEER will update the existing City traffic count database:
  - 1. The ENGINEER and the CITY will identify locations where Peak Hour counts should be taken. PM Peak Hour turning movement counts will be recorded between 4:00 PM and 7:00 PM on a typical weekday at thirty-nine (39) intersections, as listed in **Exhibit A1**, and will be utilized for the model calibration. The traffic counts will be conducted by Miovision at each intersection, using video technology. Manual counts at additional locations can be recorded for an increased fee.

2. The ENGINEER will update external zone information, including through trip tables, using external station counts, information from East-West Gateway models, fratar analyses and traffic counts provided by St. Louis County and MoDOT. Refinement of the external zone information would be completed during the calibration process.
- E. The ENGINEER will update the Project Modeling Workbook, including the detailed project records of all pertinent information such as sources of data, assumptions used, and calculations.
- F. The ENGINEER will create reproducible maps with the following information:
1. Input link and node location information using a coordinate system based on GIS mapping to be provided by the City.
  2. Maps at scales desired by the City indicating street alignments, street names, and other parameters as desired.
- G The ENGINEER will coordinate future roadway improvement needs and recommendations with consultant selected to develop the Transportation Master Plan.

## **TASK 2: MODEL CALIBRATION**

- A. The ENGINEER will complete VISUM computer runs, with incremental adjustments, until simulated traffic volumes replicate existing PM peak hour link and node counts within acceptable variation as stipulated by NCHRP 716.
- B. The ENGINEER will update and maintain project records and documentation of the calibration procedures to keep the Project Modeling Workbook current.
- C. The ENGINEER will review model calibration with the Model Review Committee (MRC). In addition to CITY staff, the MRC could include representatives from St. Louis County and MoDOT. After approval from the MRC, the ENGINEER will proceed to TASK 3.

## **TASK 3: NEAR-TERM AND LONG-TERM MODEL SCENARIOS**

- A. The ENGINEER, along with input from the CITY, will develop future PM peak hour models including:
1. A near-term projection period based on existing approved and anticipated development plans and planned near-term infrastructure improvements (i.e. 5 years).
  2. A long-term projection period based on the existing City Master Plan and the newly developed Transportation Master Plan.
  3. A modified long-term projection based on an adjustment of the land use densities and/or modification of the City Master Plan.
  4. Model runs will be completed for each projection period and reviewed for reasonableness.
- B. The ENGINEER will create reproducible traffic projection maps for each of the projection periods.

## **ADDITIONAL SERVICES**

### **TASK 4: CAPACITY ANALYSES**

- A. The ENGINEER will complete a series of Highway Capacity Manual (HCM) computations to evaluate existing conditions at up to 20 critical operation locations identified by the model or as requested by the City.
- B. The ENGINEER will complete a series of Highway Capacity Manual (HCM) computations to evaluate future conditions at the previously analyzed 20 locations for each of the three previously define future year projections.
- C. The ENGINEER will summarize the levels of service and indicate improvement needs for the analyzed locations.

### **TASK 5: IMPROVEMENT RECOMMENDATIONS**

- A. The ENGINEER will define traffic control and geometric improvement needs which should be implemented on a short term and long-term basis for up to 20 critical operation locations identified by the model or as requested by the City.
- B. Based on field reviews of the defined improvement needs at each study location, the ENGINEER will prepare estimates of the construction costs that should be budgeted for short term and long-term projects. These cost estimates will be based on unit cost per linear foot of lane addition, per traffic signal installation / modification, and other gross unit of measure which would be derived and submitted to the City Engineer for approval prior to use in the study results.
- C. The ENGINEER will prepare a prioritization of the improvement measures based on levels of service, benefit / cost, and system wide compatibility.
- D. The ENGINEER will prepare an update to the report which summarizes the improvement recommendations, the methods used in the analyses, and implementation priority.
- E. The ENGINEER will present the recommendations report to the City Planning Commission and City Council.

### **TASK 6: SOFTWARE TRAINING**

- F. The ENGINEER will provide VISUM software training for City staff specific to the City's existing Travel Demand Model

## **DELIVERABLES**

City shall receive three sets of the Traffic Model Update documents. GBA will also prepare an electronic copy of the document in PDF format for use by the city.

## **SCHEDULE**

The field data collection portion of the project shall be completed within 45 calendar days after receipt of a notice to proceed. The preparation of model update will be completed within 120 days after receipt of Notice to Proceed. The schedule for Additional Service will be determine at the time the work is authorized.

## **COMPENSATION**

Tasks 1, 2 and 3 shall be completed for a not to exceed amount of Eighty-One Thousand, Seven Hundred Fifty-Six Dollars (\$81,756.00). When requested, the Additional Services which included Tasks 4, 5 and 6, shall be completed for Forty-One Thousand, Five Hundred Forty-Six Dollars (\$41,546.00). Any serviced required by the City staff outside of the scope of services shall be at an hourly charge out rate plus expenses, as illustrated on the attached ***Attachment A***.

DRAFT

**EXHIBIT A1**  
**Calibration Nodes**

1. Chesterfield Airport Road with Oliver Street Road
2. Chesterfield Airport Road with Spirit of St. Louis Blvd
3. Chesterfield Airport Road with Long Road
4. Chesterfield Airport Road with Boone's Crossing
5. EB I-64 Ramps with Boone's Crossing
6. WB I-64 Ramps with Boone's Crossing
7. Chesterfield Airport Road with Baxter Road
8. Chesterfield Parkway West with Wild Horse Creek Road
9. Chesterfield Parkway West with WB I-64 Ramps
10. Clarkson Road with Kehrs Mill Road
11. Clarkson Road with Wilson Avenue
12. Clarkson Road with Baxter Road
13. Clarkson Road with Chesterfield Parkway
14. Clarkson Road with EB I-64 Ramps
15. Oliver Blvd with WB I-64 Ramps
16. Olive Blvd with Chesterfield Parkway
17. Olive Blvd with Ladue Road
18. M-141 with Olive Blvd
19. M-141 with Ladue Road
20. M-141 with Conway Road
21. M-141 with WB I-64 Ramps
22. M-141 with EB I-64 Ramps
23. Clayton Road with NB M-141 Ramps
24. Clayton Road with SB M-141 Ramp
25. Clayton Road with Woods Mill Road
26. Clayton Road with Baxter Road
27. Chesterfield Parkway East with Conway Road
28. Chesterfield Parkway East with WB I-64 Ramp
29. Chesterfield Parkway East with EB I-64 Ramp
30. Wild Horse Creek Road with Long Road
31. Wild Horse Creek Road with Kehrs Mill Road
32. Wild Horse Creek Road with Wilson Road
33. Wild Horse Creek Road with Baxter Road
34. Boone's Crossing with North Outer Forty Road
35. Baxter Road with Edison Avenue
36. Long Road with Edison Avenue
37. Olive Boulevard with Woods Mill Road
38. Clayton Road with Schoetlier Road
39. Schoetlier Road with South Outer Forty Road



**GEORGE BUTLER ASSOCIATES, INC.**  
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 (913) 492-0400

**\*DRAFT\* ATTACHEMENT A - MANHOOR ESTIMATE**

Date: 3/2/2018  
 Client: Chesterfield, MO  
 Project: Traffic Model Update  
 Made by: MJA

TASK / SUBTASK	Firm		Project AES	Design AES	Design Tech I	Sr Admin Assist	TOTAL LABOR COSTS	OTHER DIRECT COSTS		TOTAL FEE
	Principal	Associate						ITEM	COST	
<b>TASK 1 - MODEL UPDATE</b>										
A. Compile and Update Land Use Information including Meeting with City	1	16	20				\$5,876.00	Travel	\$500	\$6,376.00
B. Review Modeling Process and Expectations with MoDOT and St. Louis County		4	4				\$1,272.00			\$1,272.00
C. Update the Link & Node system	1	4	40				\$6,220.00			\$6,220.00
D. Evaluate and Update Existing City Count Databases (39 locations)	1	4	20				\$3,620.00	Traffic Counts	\$13,800	\$17,420.00
E. Update Project Modeling Workbook	1	16	40	24			\$11,116.00			\$11,116.00
F. Create Reproducible Maps Using Graphic Parameters		2	16	4	4		\$3,276.00			\$3,276.00
G. Coordinate Model Update with Transportation Master Plan Development	2	40	40				\$13,256.00			\$13,256.00
SUBTOTAL	6	86	180	28	4	0				\$57,664.00
<b>TASK 2 - MODEL CALIBRATION</b>										
A. Complete VISUM Modeling Runs	1	12	40				\$7,724.00			\$7,724.00
B. Update and Maintain Project Records		4	8	8			\$2,672.00			\$2,672.00
C. Review VISUM Calibration with Model Review Committee (MRC)	4	8	8				\$3,616.00	Travel	\$500	\$4,116.00
SUBTOTAL	5	24	56	8	0	0				\$14,512.00
<b>TASK 3 - NEAR-TERM AND LONG-TERM MODEL SCENARIOS</b>										
A. Establish Projection Periods and Run Model	1	8	40				\$6,972.00			\$6,972.00
B. Create Reproducible Maps		2	8	4	4	4	\$2,608.00			\$2,608.00
SUBTOTAL	1	10	48	4	4	4				\$9,580.00
<b>BASE PROJECT TOTAL HOURS :</b>	<b>12</b>	<b>120</b>	<b>284</b>	<b>40</b>	<b>8</b>	<b>4</b>	<b>\$68,228.00</b>		<b>\$14,800</b>	<b>\$ 81,756.00</b>
<b>TASK 4 - CAPACITY ANALYSES</b>										
A. Evaluate Existing Conditions	1	4	40				\$6,220.00			\$6,220.00
B. Evaluate Future Conditions	1	8	60				\$9,572.00			\$9,572.00
C. Summarize Levels of Service	1	8	20	20			\$6,572.00			\$6,572.00
SUBTOTAL	3	20	120	20	0	0				\$22,364.00
<b>TASK 5 - IMPROVEMENT RECOMMENDATIONS</b>										
A. Define Improvement Measures	1	8	8				\$2,812.00			\$2,812.00
B. Prepare Improvement Cost Estimates	1	8	24				\$4,892.00			\$4,892.00
C. Prioritize Improvement Needs	1	4	8				\$2,060.00			\$2,060.00
D. Update Improvement Recommendations Report	1	8	16				\$3,852.00	Printing	\$150	\$4,002.00
E. Present Report to City Planning Commission and City Council		8	8				\$2,544.00	Travel	\$500	\$3,044.00
SUBTOTAL	4	36	64	0	0	0				\$16,810.00
<b>TASK 6 - SOFTWARE TRAINING</b>										
A. Provide VISUM Training to City Staff						4	\$372.00		\$2,000	\$2,372.00
SUBTOTAL	0	0	0	0	0	4				\$2,372.00
<b>ADDITIONAL SERVICES TOTAL HOURS :</b>	<b>7</b>	<b>56</b>	<b>184</b>	<b>20</b>	<b>0</b>	<b>4</b>	<b>\$38,896.00</b>		<b>\$2,650</b>	<b>\$ 41,546.00</b>
<b>TOTAL HOURS :</b>	<b>19</b>	<b>176</b>	<b>468</b>	<b>60</b>	<b>8</b>	<b>8</b>				
<b>TOTAL FEE :</b>	<b>\$5,092.00</b>	<b>\$33,088.00</b>	<b>\$60,840.00</b>	<b>\$6,600.00</b>	<b>\$760.00</b>	<b>\$744.00</b>	<b>\$ 107,124.00</b>	<b>\$ -</b>	<b>\$17,450</b>	<b>\$ 123,302.00</b>

C:\Users\rcolson\Documents\Chesterfield Ints\Exhibit A1.dwg Layout: Exhibit A1 -- Monday December 11, 2017, 9:47am -- Copyright 2017, George Buller Associates, Inc. Architect 00212, Professional Engineer 000133, Landscape Architect 000025, Professional Land Surveyor 000039

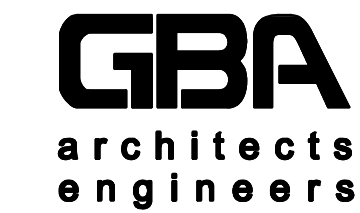
**EXHIBIT A1**  
**Calibration Nodes**

1. Chesterfield Airport Road with Oliver Street Road
2. Chesterfield Airport Road with Spirit of St. Louis Blvd
3. Chesterfield Airport Road with Long Road
4. Chesterfield Airport Road with Boone 's Crossing
5. EB I-64 Ramps with Boone 's Crossing
6. WB I-64 Ramps with Boone 's Crossing
7. Chesterfield Airport Road with Baxter Road
8. Chesterfield Parkway West with Wild Horse Creek Road
9. Chesterfield Parkway West with WB I-64 Ramps
10. Clarkson Road with Kehrs Mill Road
11. Clarkson Road with Wilson Avenue
12. Clarkson Road with Baxter Road

13. Clarkson Road with Chesterfield Parkway
14. Clarkson Road with EB I-64 Ramps
15. Olive Blvd with WB I-64 Ramps
16. Olive Blvd with Chesterfield Parkway
17. Olive Blvd with Ladue Road
18. M-141 with Olive Blvd \*\*
19. M-141 with Ladue Road \*\*
20. M-141 with Conway Road
21. M-141 with WB I-64 Ramps
22. M-141 with EB I-64 Ramps
23. Clayton Road with NB M-141 Ramps
24. Clayton Road with SB M-141 Ramp
25. Clayton Road with Woods Mill Road
26. Clayton Road with Baxter Road
27. Chesterfield Parkway East with Conway Road

28. Chesterfield Parkway East with WB I-64 Ramp
29. Chesterfield Parkway East with EB I-64 Ramp
30. Wild Horse Creek Road with Long Road
31. Wild Horse Creek Road with Kehrs Mill Road
32. Wild Horse Creek Road with Wilson Road
33. Wild Horse Creek Road with Baxter Road
34. Boone 's Crossing with North Outer Forty Road \*
35. Baxter Road with Edison Avenue \*
36. Long Road with Edison Avenue \*
37. Olive Blvd with Woods Mill Road \*
38. Clayton Road with Schoettler Road \*
39. Schoettler Road with South Outer Forty Rd \*

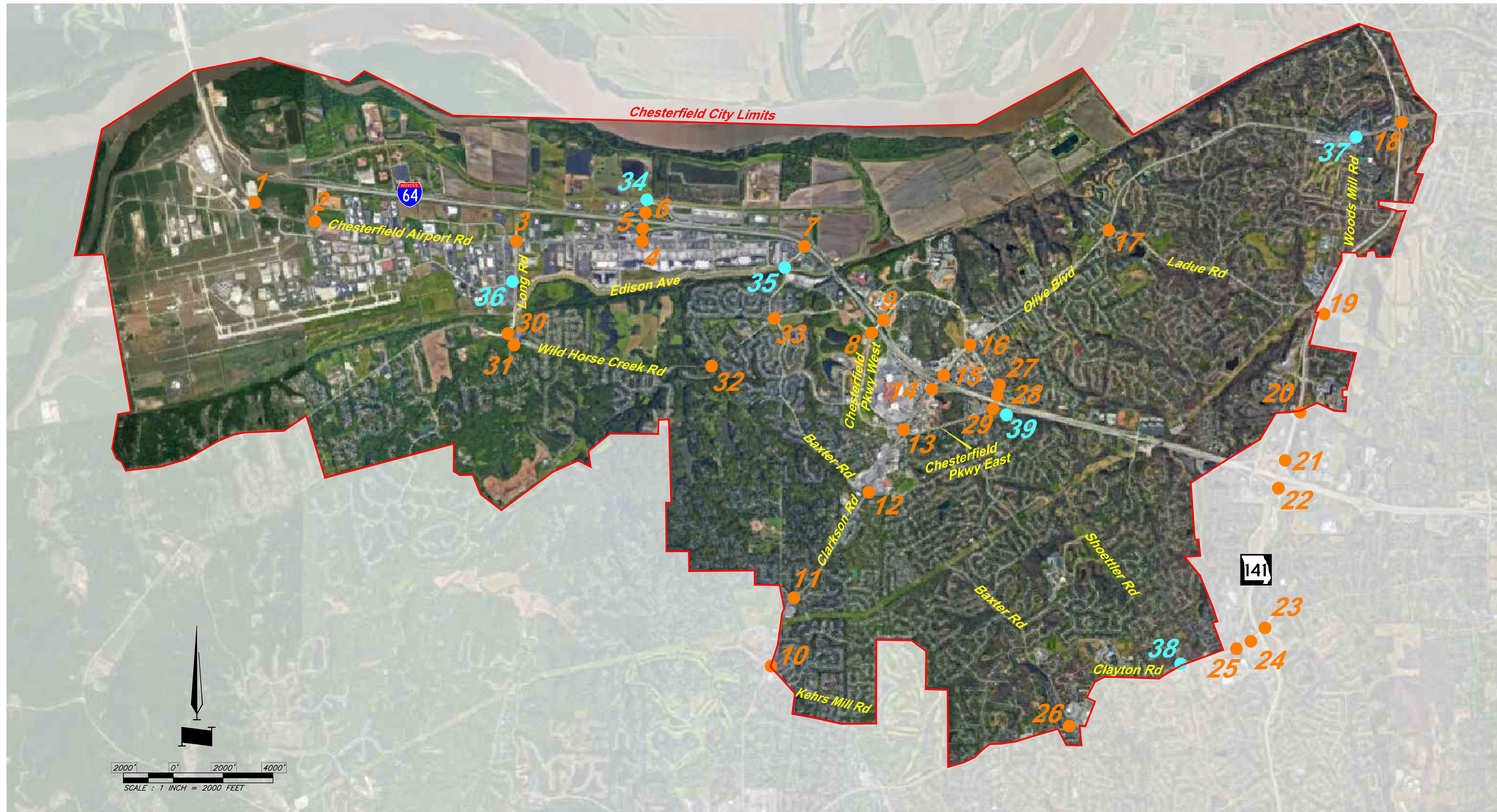
\* Possible Count Locations



9801 Renner Boulevard  
 Lenexa, Kansas 66219  
 913-492-0400  
 www.gbateam.com

DATE:	
DESIGN BY:	
DRAWN BY:	
PROJECT NO.:	
SHEET NO.	TOTAL SHEETS

XXXX XXXX XXXX Professional Engineer License No. XXXXXX	
NO.	DATE
REVISIONS	BY APPROVED



**Exhibit A1 - Calibration Node Locations**