



January 20, 2011

Fort Bend County Toll Road Authority  
c/o Mr. Bill Jameson  
WJ Interests, LLC  
2333 Town Center Drive, Suite 100  
Sugar Land, TX 77478

Re: **Westpark Tollway Extension: Feasibility Study Update, 2011**

Dear Mr. Jameson:

At your request, Wilbur Smith Associates (WSA) is pleased to present this proposal for Fort Bend County Toll Road Authority (FBCTRA) to develop updated estimates of traffic and revenue (T&R) for the proposed extension of the Westpark Tollway. If constructed, it is understood that the extension would run westwards from the current terminus at S.H. 99 for approximately six miles. The extension would generally continue along the FM 1093 alignment west of FM 1463 to the Fulshear city limits. The tolling plan and configuration would be expected to be consistent with the existing Westpark Tollway facility.

The purpose of the study would be to significantly refine the preliminary feasibility assessment last performed by WSA in September 2006. The study will benefit from the very latest information and models currently under refinement for an investment grade study of Segment D of the Grand Parkway. Consequently, performing this study at this time will result in significant efficiencies.

The study would be performed at a higher level of detail than previous studies making use of the latest market research on local toll preferences, the very latest socio-economic forecasts and WSA-refined regional travel demand models. At this time we do not propose to undertake any new travel pattern surveys on the FM 1093 corridor but otherwise the study could be considered to be of sufficient detail to be used for a 'Level 2' analytical result. This result would not be of sufficient detail to support project financing, but elements of the work effort could still be employed to advance the analysis to investment grade at a later date if used within a reasonable timeframe.

For this T&R Study update WSA will consider a narrow range of project configurations along with a limited number of possible toll collection concepts if needed. For the purposes of the scope and cost proposal it has been assumed that the study would consider up to a maximum of five alternatives, scenarios or sensitivity tests.

## **STUDY OBJECTIVES**

This new Level 2 T&R Study is being performed to serve several objectives, including:

- Development of a refined toll model for the corridor which reflects the most recent socioeconomic forecasts and travel demand model being developed by WSA for other Fort Bend toll projects, plus any new information obtained as part of this study; and
- Development of updated traffic and revenue estimates for a Westpark Tollway base case and limited number of alternatives reflecting assumed project configurations and tolling methods.
- A special analysis regarding the viability of introducing time of day pricing on the Westpark Tollway, in an attempt to relieve congestion.

The study would include, among other tasks, completion of a corridor growth assessment. It would utilize a large amount of data collected recently for Fort Bend including traffic counts and detailed travel time runs during different times of the day. The travel demand modeling effort would be conducted reflecting the specific nature of the project. If required, a limited number of sensitivity tests would also be conducted to demonstrate the variation in revenue under different assumptions.

## **WESTPARK TOLLWAY EXTENSION**

The existing Westpark Tollway is a 19 mile toll facility that runs in an east-west configuration and is situated in the western Houston metropolitan area. Approximately two thirds of Westpark Tollway is located in Harris County with an extension that crosses into Fort Bend County covering about 6 miles. The current terminus of Fort Bend County's section, known as Segment A, is just west of the interchange of Grand Parkway (SH 99). The western portion of the Westpark Tollway is accompanied by frontage roads with several access points to the mainlines via slip ramps, some of which are tolled. All tolls on the Westpark Tollway are collected using an electronic toll collection system.

In 2006, WSA was asked to perform a sketch level study of a possible addition to the Westpark Tollway Extension in Fort Bend County. The newly proposed portion, which is called Segment B, involves a four-lane, roughly 6 mile extension of the current Westpark Tollway Extension along the alignment of FM 1093 west to FM 1463 east of the city limits of Fulshear.

This study would address known project configurations and future infrastructure. It is understood that four new access points would be provided from the extended mainlines:

- Ramps to and from the west at SH 99;
- Ramps to and from the east at Katy-Gaston Road;
- Ramps to and from the east at FM 723; and
- Ramps to and from the east at FM 1463.

Additional ramps or configurations could be considered as alternative options in this study, if needed.

Toll collection would be consistent with FBCTRA/HCTRA tolling plans and tolling policy. All vehicles would be electronically tolled. Specific details will be discussed at the kick-off meeting.

## **SCOPE OF WORK**

A work program has been developed as defined in more detail below. The study would be comprised of a total of eight tasks, including:

- Task 1: Mobilization and Data Collection;
- Task 2: Value of Time Review;
- Task 3: Corridor Growth Analysis;
- Task 4: Regional Model Update;
- Task 5: Base Case Traffic and Revenue Analysis;
- Task 6: Alternatives and Sensitivity Tests
- Task 7: Congestion/Time of Day Pricing; and
- Task 8: Documentation and Meetings.

### **TASK 1: MOBILIZATION AND DATA COLLECTION**

The study would commence immediately upon receipt of notice-to-proceed. It would begin with a refinement of the study approach and an early kick-off meeting to officially begin the work. At that kick-off meeting, it would be important to discuss details and physical limitations of the project as currently envisioned, as well as, exploring the various possible dimensions of the project's configurations and operations plans which will need to be considered, and any possible institutional and regulatory issues. In addition, staffing, lines of communication and other items regarding project administration would be discussed and agreed upon.

All available prior studies on the corridor including competing facilities would be obtained and reviewed. WSA would also obtain any other routinely maintained speed profile information along the Westpark and Katy Tollway corridors. Additional selected speed and delay runs may also be made on the other principal competing/complementary routes as needed to complement the information already collected on the Grand Parkway study.

The existing traffic count profile is a key input in the model calibration process. Current traffic counts will be obtained from TxDOT flow maps and other databases maintained by WSA. These include historical and current Average Annual Daily Traffic (AADT) volumes and vehicle classification counts within the study corridor. These base year volumes will be reviewed and adjusted if needed based on current AADT information. All available historic traffic count information in the corridor, as obtained by TxDOT, Fort Bend, H-GAC, HCTRA or others would

be assembled and reviewed. We do not propose, at this time, to undertake a comprehensive program of machine traffic counts but have assumed a small nominal budget for limited traffic counting for key locations of interest.

#### **TASK 2: VALUE OF TIME REVIEW**

WSA has worked extensively in the Houston region and possesses a wealth of information and experience in motorists' perceptions and willingness to pay tolls. A stated preference survey is to be performed on the Grand Parkway corridor that will greatly enhance the understanding of users' perceptions on paying tolls in Fort Bend County.

In addition, for this study, WSA will briefly review the new census, BLS, and independent forecasters' data regarding the median and distribution of income in the study area. These will be used to verify the Value of Time estimates used for this study.

#### **TASK 3: CORRIDOR GROWTH ANALYSIS**

WSA would employ CDS Market Research to extend their demographic analysis they are currently undertaking for the Grand Parkway Study. Their current (Segment D) study area covers most of the area we would define for the Westpark Tollway, therefore extending their analysis is very cost-effective.

CDS would expand their review of planned developments to the Westpark Tollway project corridor. This would include the location of anticipated residential and non-residential activity, and the impact of the Project on development timing. This information would be used to aid in disaggregating larger traffic zones in the project corridor, and in adding additional detail to the highway network in the area to reflect future planned facilities. In addition, development forecasts available through the county in this immediate corridor would be compared with the latest H-GAC estimates. If necessary, changes would be made in trip tables in the local vicinity of the project to reflect any changes in the socioeconomic outlook.

Projections of total households and employment will be extracted by WSA from model input data for the H-GAC model and compared with 2000 U.S. Census and Bureau of Labor Statistics estimates, as well as projections from the other sources such as published by independent forecasters Moody's economy.com or Woods and Poole, Inc.

#### **TASK 4: REGIONAL MODEL UPDATE**

As part of its work on the Grand Parkway Investment Grade Study, WSA has received and made significant refinements to the latest regional travel demand models from H-GAC. This model assumes progressive completion of Grand Parkway and other future projects, and will reflect recently updated socioeconomic forecasts. The model will be modified further, as needed, to reflect the latest Westpark Tollway project configuration.

The base year model would be validated in the study area and corridor against count and travel time data collected in Task 1. WSA would then use the refined regional travel model to develop

future estimates of global demand for the corridor. Assignments would be made at base year and two future-year levels to provide a measure of long-term traffic growth potential

WSA has already obtained and reviewed the latest updates in the regional transportation improvement program and longer-term plans for the H-GAC region. WSA has also already recoded toll facilities in the new model to enable proper reflection of toll diversion software used by WSA in this analysis.

This task would also include the development of new future trip tables based on any refined socioeconomic forecasts as a result of the corridor growth analysis conducted in Task 3.

#### **TASK 5: BASE CASE TRAFFIC AND REVENUE ANALYSIS**

A refined traffic and revenue analysis would be conducted in this task. Annual traffic and revenue forecasts would be prepared based on detailed modeling analysis at prevailing toll rates. In testing rates, any currently adopted future rate setting policy will be taken into consideration. This includes future inflationary toll adjustments.

Traffic assignments would be made at the assumed opening year and up to two future years, probably 2025 and 2035. For each traffic analysis condition, assignments would include:

- No-build scenario (provides a basis for estimating traffic and revenue impacts due to the extension);
- Build scenario; and
- A hypothetical toll-free condition (extension only) for comparison;

These would be performed for each analysis year. Annual revenue forecasts would be developed by use of interpolation between the various modeling years adjusting for any rate changes. The forecast would then be extended beyond 2035 based on nominal assumed rates of traffic growth and inflationary or "real" increases in toll rates subsequent to 2035.

The results of the traffic modeling work would be used to estimate traffic and revenue over a 40-year horizon period. Estimates could be extended beyond the horizon year, if desired, by using nominally assumed traffic and revenue growth rates.

The end product would be a traffic and revenue impact summary, of the extension, including both revenue collected on the extension itself, as well as revenue impacts on other Fort Bend portions of the Westpark facility.

#### **TASK 6: ALTERNATIVES AND SENSITIVITY TESTS**

Any traffic and revenue study is based, in part, on certain key assumptions regarding future growth, motorists' perceived value of time, highway improvement assumptions and so on. Sensitivity tests would be intended to estimate the "sensitivity" of the revenue estimates to potential changes in basic assumptions. If requested, sensitivity test scenarios would be run at up

to two analysis years. Sensitivity tests would count towards the maximum of five scenarios costed for this proposal, but could also be purchased as supplemental services on the basis of our standard schedule of hourly rates. Typical tests might include:

- Alternative variations on access/egress locations or project configuration
- Alternative economic growth scenarios;
- Alternative value of time scenarios;
- Modified assumptions regarding highway or transit improvement scenarios; and
- Any other key assumptions used in the base case.

Should the project proceed to investment grade analysis, the financial community would be particularly interested in a detailed sensitivity analysis for purposes of risk assessment. At the current level of analysis we recommend only a small number of sensitivity tests be considered, if at all.

#### **TASK 7: CONGESTION/TIME OF DAY PRICING**

The Westpark Tollway corridor is experiencing high levels of demand, due to high levels of economic growth in the corridor and the secondary impacts of activities on the parallel IH-10 freeway. As such, FBCTRA would like WSA to specifically evaluate the potential for time of day tolls on Westpark Tollway. The goal would be to establish rates which could help alleviate congestion during morning and afternoon peak period conditions. Since Westpark Tollway is a fully electronic facility, it would be relatively easy to implement.

Since congestion reduction is a key objective of the new pricing strategy for the Westpark Tollway, it will be important to develop a more detailed traffic profile for the facility. As such, hourly traffic counts would be obtained on all non-tolled ramps along the Westpark corridor. This, together with hourly traffic data which can be obtained from the FBCTRA/HCTRA toll accounting system at toll zone locations, will enable development of a detailed traffic distribution by hour, and direction, on all Westpark Tollway links. This would be extremely important in identifying the target thresholds for demand reduction designed to eliminate or reduce congestion.

The toll sensitivity analysis for the Westpark Tollway would be conducted on a peak vs. off-peak basis. It may also be necessary, depending on hourly variation patterns, to test multiple toll changes in shoulder and "super peak" hours. Consideration would also be given to applying peak period toll surcharges only in the major travel direction.

The end product of this task would be a recommended rate structure, which could be implemented, which would reduce congestion on the Westpark Tollway.

At the conclusion of this task, a brief technical memorandum would be submitted discussing the methodology and variable rate adjustments for the Westpark Tollway.

#### **TASK 8: DOCUMENTATION AND MEETINGS**

This task would extend from the beginning of the work throughout the course of the study and would include all of the efforts related to development of documentation and meetings during the course of the study. In addition to the kick-off meeting, there would be periodic interim meetings, which would also be used for coordination and communication with FBCTRA and their consultants during the course of the work. Most meetings could be conducted by telephone, but the budget includes one in-person meeting which could be used for a final presentation.

WSA will provide documentation of the base year data used as input in the analysis, the assumptions used for the traffic and revenue analysis, and resulting traffic and revenue estimates. WSA would provide a traffic and revenue forecast summary table in both PDF and Microsoft Excel formats, and any other format on request.

The traffic and revenue report would initially be submitted in draft final form. After receipt of comments, 5 final copies of the report would be provided, together with originals in electronic form.

#### **SCHEDULE AND FEE**

WSA is prepared to initiate the study immediately upon receipt of your notice-to-proceed. The overall schedule would permit completion of all study efforts up to and including the draft report within four months assuming none of the information needed from the Grand Parkway study is delayed for reasons beyond our control. A period of an additional two weeks following receipt of final comments would be required to finalize the traffic and revenue study report. A detailed schedule would be provided at the kick-off meeting.

The lump-sum, fixed-fee for conduct of the study in accordance with the scope and schedule defined above is \$ 135,751.00. A detailed breakdown of this cost is provided in Exhibit 1.

The lump-sum fixed-fee would be payable monthly based on the estimated percentage of work on each task completed during each month. This would be documented in a written progress report to be submitted within two weeks following the completion of each month.

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We sincerely appreciate the opportunity to submit this proposal for professional services and thank you for considering WSA for this important assignment. We hope the proposed work program, as documented herein, meets your requirements. If not, WSA would be pleased to discuss ways in which it could be made more responsive.

Respectfully submitted,

WILBUR SMITH ASSOCIATES

Jonathan R Pagan  
Senior Project Manager

ACCEPTED BY CONTENT AND TERMS:

James D. Condrey  
NAME

Chairman, Board of Directors  
TITLE

Fort Bend Toll Road Authority  
ORGANIZATION

SIGNATURE

2/16/11  
DATE



| Proposal - Intermediate T&R Study Update - FBCTRA Westpark Tollway Extension |         |         |          |          |          |          |          |          |             |              |             |
|--|---------|---------|----------|----------|----------|----------|----------|----------|-------------|--------------|-------------|
| Personnel Category   | 1       | 2       | 3        | 4        | 5        | 6        | 7        | 8        | Total Hours | Average Rate | Salary Cost |
| Principal  | 4       | 2       | 2        | 4        | 8        | 2        | 8        | 8        | 38          | \$92.00      | \$3,496     |
| Project Manager  | 12      | 8       | 8        | 24       | 20       | 12       | 32       | 72       | 188         | \$67.00      | \$12,596    |
| Associate  | 0       | 0       | 0        | 0        | 0        | 0        | 0        | 0        | 0           | \$57.00      | \$0         |
| Senior Engineer/Planner  | 0       | 0       | 0        | 0        | 0        | 0        | 32       | 0        | 32          | \$50.00      | \$1,600     |
| Engineer / Planner   | 0       | 0       | 0        | 0        | 0        | 0        | 0        | 0        | 0           | \$41.00      | \$0         |
| Assistant Engineer / Planner   | 36      | 4       | 20       | 80       | 132      | 72       | 40       | 20       | 404         | \$35.00      | \$14,140    |
| Technician   | 0       | 0       | 16       | 0        | 104      | 48       | 24       | 24       | 216         | \$29.00      | \$6,264     |
| Other Support Staff  | 0       | 0       | 4        | 0        | 0        | 0        | 12       | 36       | 52          | \$27.00      | \$1,404     |
| Total Hours  | 52      | 14      | 50       | 108      | 264      | 134      | 148      | 160      | 930         |              |             |
| Total Salary   | \$2,432 | \$860   | \$1,982  | \$4,776  | \$9,712  | \$4,900  | \$6,900  | \$7,928  |             |              | \$39,500    |
| Overhead (163% of Salary)  | \$3,973 | \$1,405 | \$3,254  | \$7,802  | \$15,865 | \$8,004  | \$11,271 | \$12,950 |             |              | \$64,523    |
| Profit   | \$768   | \$272   | \$630    | \$1,509  | \$3,069  | \$1,548  | \$2,181  | \$2,505  |             |              | \$12,483    |
| Subtotal   | \$7,173 | \$2,537 | \$5,875  | \$14,087 | \$28,646 | \$14,453 | \$20,352 | \$23,384 |             |              | \$116,506   |
| Direct Expenses  |         |         |          |          |          |          |          |          |             |              |             |
| Travel   | -       | -       | -        | -        | -        | -        | -        | \$1,600  |             |              | \$1,600     |
| Subsistence  | -       | -       | -        | -        | -        | -        | -        | \$720    |             |              | \$720       |
| Postage and Express  | -       | -       | -        | -        | -        | -        | -        | \$75     |             |              | \$75        |
| Data (economy.com)   | -       | -       | \$750    | -        | -        | -        | -        | \$750    |             |              | \$750       |
| Traffic Counts   | \$2,100 | -       | -        | -        | -        | -        | \$5,500  | -        |             |              | \$7,600     |
| Subconsultants   | -       | -       | \$8,500  | -        | -        | -        | -        | -        |             |              | \$8,500     |
| Total Direct Expenses  | \$2,100 | -       | \$9,250  | -        | -        | -        | \$5,500  | \$2,385  |             |              | \$19,245    |
| Total Cost   | \$9,273 | \$2,537 | \$15,125 | \$14,087 | \$28,646 | \$14,453 | \$25,852 | \$25,779 |             |              | \$136,751   |
| Work Tasks   |         |         |          |          |          |          |          |          |             |              |             |
| Task 1: Mobilization and Data Collection                                     |         |         |          |          |          |          |          |          |             |              |             |
| Task 2: Value of Time Review   |         |         |          |          |          |          |          |          |             |              |             |
| Task 3: Corridor Growth Analysis   |         |         |          |          |          |          |          |          |             |              |             |
| Task 4: Regional Model Update  |         |         |          |          |          |          |          |          |             |              |             |
| Task 5: Base Case Traffic and Revenue Analysis                               |         |         |          |          |          |          |          |          |             |              |             |
| Task 6: Alternatives and Sensitivity Tests                                   |         |         |          |          |          |          |          |          |             |              |             |
| Task 7: Congestion/Time of Day Pricing                                       |         |         |          |          |          |          |          |          |             |              |             |
| Task 8: Documentation and Meetings   |         |         |          |          |          |          |          |          |             |              |             |

ESTIMATED BASIC STUDY FEE

EXHIBIT 1

**ESTIMATED BASIC STUDY FEE**  
EXHIBIT 1