

THE STATE OF TEXAS §

COUNTY OF CAMERON §

BE IT REMEMBERED on the 3rd day of MARCH 2009, there was conducted a SPECIAL Meeting of the Cameron County Regional Mobility Authority, at the Levis Building, thereof, in the City of San Benito, Texas, for the purpose of transacting any and all business that may lawfully be brought before the same.

THE BOARD MET AT:

12:00 P.M.

PRESENT:

DAVID E. ALLEX
CHAIRPERSON

FRANK PARKER, JR.
DIRECTOR

RUBEN GALLEGOS, JR.
DIRECTOR

DIRECTOR

MICHAEL SCAIEF
DIRECTOR

DAVID N. GARZA
DIRECTOR

DIRECTOR

Mary Robles
Secretary

VICTOR ALVAREZ
YOLANDA VILLALOBOS
ABSENT

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The meeting was called to order by Chairman David E. Allex at 12:05 P.M. At this time, the Board considered the following matters as posted and filed for Record in the Office of the County Clerk on February 27, 2009, at 1:29 P.M.:

AGENDA

ACCEPTED FOR FILING
CAMERON COUNTY

**Regular Meeting of the Board of Directors
of the
Cameron County Regional Mobility Authority**

2009 FEB 27 P 1:29

**Levis Building
1390 W. Expressway 83
San Benito, Texas 78586**

JOS G. RIVERA
COUNTY CLERK

Tuesday, March 3, 2009

12:00 NOON

- I. Public Comments**
- II. Approval of minutes of the February 12, 2009 Meeting**
- III. Consideration and approval of an Interlocal Agreement between CCRMA and Cameron County for the FM 509 Project.**
- IV. Consideration and approval of proposal from C & M Associates, Inc. for traffic and revenue studies**
- V. Executive Session Items**
 - a. Consultation with Attorney - Consultation with, and advice from Legal Counsel concerning pending/contemplated litigation, settlement offers and negotiations, market valuation negotiations and related issues regarding the Cameron County Regional Mobility Authority's projects, specifically SH 550 and West Loop and other legal issues affecting the authority, Pursuant to V.T.C.A. Government Code, Section 551.071**
 - b. Deliberation regarding real property concerning acquisition of parcel 6, for right of way for the West Rail Project, pursuant to Vernon Texas Code Annotated (V.T.C.A.), Government Code, Section 551.072**
- VI. Action relative to Executive Session**
 - a. Possible Action**
 - b. Possible Action**
- VII. Adjournment**

Signed this 27th day of February 2009


David E. Alex
Chairman

EXECUTIVE SESSION

V. EXECUTIVE SESSION

Upon motion by Director Gallegos, seconded by Director Parker and carried unanimously, the

Board met in Executive Session at 12:06 P.M. to discuss the following matters:

- A. Consultation with Attorney-Consultation with, and advice from Legal Counsel concerning pending/contemplated litigation, settlement offers and negotiations, market valuation negotiations and related issues regarding the Cameron County Regional Mobility Authority's projects, specifically SH 550 and West Loop and other legal issues affecting the authority; Pursuant to Vernon Texas Code Annotated (V.T.C.A.), Government Code, Section 551.071.**
- B. Deliberation regarding real property concerning acquisition of parcel 6, for right of way for the West Rail Project, pursuant to Vernon Texas Code Annotated (V.T.C.A.), Government Code, Section 551.072.**

Upon motion by Director Gallegos, seconded by Director Parker and carried unanimously, the Board reconvened into Regular Session at 12:46 P. M.

VI. ACTION RELATIVE TO EXECUTIVE SESSION:

- A. Consultation with Attorney-Consultation with, and advice from Legal Counsel concerning pending/contemplated litigation, settlement offers and negotiations, market valuation negotiations and related issues regarding the Cameron County Regional Mobility Authority's projects, specifically SH 550 and West Loop and other legal issues affecting the authority; Pursuant to Vernon Texas Code Annotated (V.T.C.A.), Government Code, Section 551.071.**

Director Gallegos moved that the Status Report be acknowledged.

The motion was seconded by Director Garza and carried unanimously.

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- B. Deliberation regarding real property concerning acquisition of parcel 6, for right of way for the West Rail Project, pursuant to Vernon Texas Code Annotated (V.T.C.A.), Government Code, Section 551.072.**

Director Gallegos moved that the settlement in the amount of \$97,680.00 be approved.

The motion was seconded by Director Parker and carried unanimously.

II. APPROVAL OF MINUTES OF THE FEBRUARY 12, 2009 MEETING

Upon motion by Director Garza, seconded by Director Scaief and carried unanimously, the Minutes for the February 12, 2009 Meeting were approved.

**III. IN THE MATTER REGARDING CONSIDERATION
AND APPROVAL OF INTERLOCAL AGREEMENT
BETWEEN CCRMA AND CAMERON COUNTY FOR
THE FM 509 PROJECT (TABLED)**

Upon motion by Director Gallegos, seconded by Director Garza and carried unanimously, this Item was
TABLED.

**IV. CONSIDERATION AND APPROVAL OF PROPOSAL
FROM C&M ASSOCIATES, INC. FOR TRAFFIC AND
REVENUE STUDIES**

Mr. Carlos M. Contreras, MBA-C&M Associates, presented and highlighted the proposal from C&M Associates, Inc., for Traffic and Revenue Studies for SH 550 Project and 281 Connector Project.

Mr. Pete Sepulveda, RMA Coordinator, clarified that the proposal was inclusive of Level I and Level II Studies that would lead to Level III studies.

Director Scaief moved that the Proposal from C&M Associates, Inc., for Traffic and Revenue Studies be approved, subject to time constraints and that the studies include an alternate for the 281 Connector.

The motion was seconded by Director Garza and carried unanimously.


The Proposal is as follows:

I. PUBLIC COMMENTS

None were presented at this time.

- VII.** There being no further business to come before the Board and upon motion by Director Gallegos, seconded by Director Parker the meeting was **ADJOURNED** at 1:05 P.M.
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APPROVED this 5th day of **August 2009**.



CHAIRMAN DAVID E. AILEX

ATTESTED:



SECRETARY RUBEN GALLEGOS, JR.

**IV. CONSIDERATION AND APPROVAL OF PROPOSAL
FROM C & M ASSOCIATES, INC. FOR TRAFFIC AND
AND REVENUE STUDIES**



**Cameron County East Loop
and
US 281 – US 77 Connector
Traffic and Revenue Advisory
Services**

Proposal to the



February 24, 2009

1 PRESENTATION

C&M Associates, Inc. (C&M) is pleased to present this proposal to provide Traffic and Revenue Advisory Services to the Cameron County Regional Mobility Authority (CCRMA) for the analysis of the Tolloed Components of the County's East Loop Project and the US 281 – US 77 Connector.

C&M's experience includes the preparation of many toll feasibility and investment grade studies for the issuance of \$11B USD in bonds and loans, for hundreds of projects in the U.S. and Latin America. In the U.S., the C&M staff experience includes projects in the states of Texas, Georgia, Virginia, Florida, New York, New Jersey, West Virginia and Colorado. In collaboration with state agencies, our staff has participated in formulating project financing plans including GARVEE bonds, TIFIA loans, and has experience working with innovative financing mechanisms such as State Infrastructure Banks, and Revolving Trust Funds.

1.1 C&M Associates, Inc.

C&M Associates, Inc. is a Texas-based corporation founded by Carlos Contreras and by Cal y Mayor y Asociados, S.C., the premier Mexican engineering firm with offices and operations in 13 Latin American countries. The combined experience of C&M Associates, Inc. and Cal y Mayor y Asociados, S.C., jointly referred to as C&M, is based on more than 20 years of international traffic and revenue analysis



Rafael Cal y Mayor

Cal y Mayor y Asociados was founded in Mexico City in 1976 by Rafael Cal y Mayor, the recipient of an International Road Federation fellowship to attend the Bureau of Highway Traffic at Yale University in New Haven, CT. During his tenure at the Bureau of Highway Traffic, Mr. Cal y Mayor had the opportunity to work with worldwide leaders in the discipline of traffic engineering. This included an opportunity to join the then Institute of Traffic Engineers (ITE) and become associated with pioneers in the profession, to include Wilbur Smith, Burton W. Marsh, Bob Swain, Bob Holmes, Ted Matson and others. Upon his return to Mexico, Mr. Cal y Mayor became a pioneer as traffic engineer in Mexico City, an early manager of Mexico's Toll road system and a prolific writer and lecturer. For his significant contributions to the traffic engineering field, in Latin America and the United States, Mr. Cal y Mayor was posthumously honored in 2003 as an ITE Honorary Member, a selective award given by the Institute of Transportation Engineers to only 73 individuals since 1933. See ITE's website at:

<http://www.ite.org/aboutite/honorarymembers/CalYMayorR.asp>

2 TRAFFIC AND REVENUE FORECASTING EXPERIENCE

2.1 General T&R Experience

The C&M Staff has demonstrated unequivocal success in hundreds of T&R studies with a combined total of more than \$11 billion in bonds and loans backed by C&M staff investment grade traffic and revenue studies in the U.S. and Latin America. In addition, Kawkeb Said, P.E., Ph.D., our proposed project manager, lead the development of the South Padre Island Second Causeway traffic and revenue study for the Texas Department of Transportation (TxDOT) and the CCRMA.

In Texas, C&M has been part of the pool of recognized T&R firms under contract with the Texas Turnpike Authority Division (TTA) of TxDOT. C&M has also provided T&R consulting services to Montgomery County and to the Hidalgo County Regional Mobility Authority (HCRMA). C&M has recently performed an intermediate level Traffic and Revenue Study for the Hidalgo County Loop on behalf of Pate Transportation Partners (PTP) and the HCRMA that would be the start up project for the authority after an eventual investment grade traffic and revenue study. This study includes the development and maintenance of a travel demand model for Hidalgo and Cameron Counties. C&M's investment grade T&R experience in Texas includes the SH 121 T&R study developed to support the bid of Skanska Infrastructure Development and the North Tarrant Express T&R study developed to support Itinere North America efforts in conjunction with their bid for the concession of the project.

Outside of Texas, C&M has been a consultant to the Virginia Department of Transportation, the Georgia Department of Transportation and, has recently been selected by the South Carolina, Washington State and Maryland Departments of Transportation to advise them in the toll related projects.

Working for Private Developers, C&M has provided T&R consulting services to Cintra, Skanska ID, Obrascon Huarte Lain (OHL), ACS Infrastructure (Iridium), Citi Infrastructure Investments, Global Via (Formerly Fomento de Construcciones y Contratas or FCC), Acciona, Ingenieros Civiles Asociados, (ICA) and Isolux Corsain among others in the private sector.

Outside of the United States, C&M has advised the national governments of Mexico and Colombia in the development of their toll programs and has served as traffic consultant tasked with the fulfillment of traffic and revenue responsibilities of trust indentures for numerous projects.

Some recent projects that C&M has worked on include:

- Traffic and revenue forecast for the proposed South Padre Island Second Causeway on behalf of TxDOT and the CCRMA (2007)
- Traffic and revenue forecast for the proposed Hidalgo Loop Project on behalf of PTP and HCRMA (2008-9)
- Investment grade traffic and revenue study for the Jackson Airport Parkway on behalf of Globalvia USA Corp (2008-9).
- Advisor to the Virginia Department of Transportation (VDOT) on the proposed US 460 toll project private concession (2008-9)
- Traffic and revenue study for the Georgia Department of Transportation (GDOT)'s I-20 Managed Lanes in Atlanta (2008)

TRAFFIC AND REVENUE ADVISORY SERVICES TO THE CAMERON COUNTY REGIONAL MOBILITY AUTHORITY

- Traffic and revenue forecast for the conversion of the High Occupancy Vehicle (HOV) lane network to High Occupancy Toll (HOT) lanes in Atlanta, Georgia on behalf of GDOT (2008)
- Investment grade study to support the concession of the North Tarrant Express project for Itinere North America, LLC (2008)
- Traffic and revenue forecast for an unsolicited proposal by a major developer for a HOT lanes project in Florida (2008)
- Investment grade traffic and revenue study to support the bid of ACS Infrastructure, Citi Infrastructure Investments and Isolux Corsán for the Pennsylvania Turnpike lease (2007-8)
- Investment grade study to Skanska ID for the SH121 CDA project in Texas (2006)
- Peer review of the investment grade traffic and revenue study of the I-495 HOT lanes project around Washington D.C on behalf of the Virginia DOT (2006).

C&M's staff experience in the US provides an ample spectrum of toll road and managed lanes and complements the vast experience that the firm has internationally. Table 1 lists C&M's staff experience in 59 projects throughout the United States and Table 2 lists the investment grade experience of the C&M staff in the support of more than \$11 billion of debt.

Table 1 C&M Staff Traffic and Revenue Experience in the United States

Project	State	Project	State
Jackson Airport Parkway T&R Study	MS	IH 610 Managed Lanes Toll Study	TX
Pennsylvania Turnpike T&R Study	PA	Miami Dade Expressway Refinancing	FL
North Tarrant Express T&R Study	TX	SH 288 Managed Lanes Preliminary T&R Study	TX
Montgomery County Sketch T&R Study	TX	Grand Parkway Preliminary T&R Study	TX
Hidalgo County Loop T&R Study	TX	US 290 Managed Lanes Preliminary T&R Study	TX
I-75 Managed Lanes T&R Study	FL	Bolivar Bridge Preliminary T&R Study	TX
I-64 T&R Study	VA	Florida Turnpike Traffic Study	FL
US 460 T&R Study	VA	Mass Turnpike Metropolitan Highway System T&R	MA
I-20 Managed lanes T&R Study	GA	Las Vegas Monorail Bond Issue T&R	NV
HOV to HOT Atlanta Conversion Study	GA	Goethals Bridge Modernization Plan T&R	NY, NJ
SH 121 T&R Study	TX	Chicago Skyway Toll Road Concession	IL
SH 161 T&R Review	TX	NY Metropolitan Traffic Network Modeling,	NY, NJ
Poinciana Parkway T&R Review	FL	I 65 and I 10 Proposed Hwy for Florida Turnpike	FL
I-495 HOT Lanes Peer Review	VA	Orlando Traffic Demand and Forecast Model	FL
South Padre Island T&R Study	TX	New York City Traffic Network Modeling	NY, NJ
Brownsville West Loop T&R Study	TX	New Jersey Turnpike EZ Pass Deployment study	NJ
Eagle Pass SL-480 T&R Study	TX	New Jersey Turnpike EZ Pass Traffic Impact Study	NJ
Lake Lewisville Toll Bridge T&R Study	TX	NJ Turnpike, Newark Bay, Extension Study	NJ
Pres. George Bush Turnpike T&R Study	TX	SR 836 Managed Lanes Feasibility Analysis	FL
SH 121 Tarrant County T&R Study	TX	SR 836 Extension Toll Feasibility Analysis	FL
SL 1604/281 T&R Study	TX	SR 924 Extension to I 95 Toll Feasibility Analysis	FL
IH 10 Toll Lanes Study	TX	SR 924 Extension Toll Feasibility Analysis	FL
Sam Houston Tollway Expansion Study	TX	SR 874 Extension Toll Feasibility Study	FL
Hardy South Toll Road Extension Study	TX	Central Parkway Toll Feasibility Analysis	FL
Westpark Tollway	TX	U.S. 1 Tollway feasibility analysis	FL
Harris County Toll Road System Refinancing	TX	C-470 Value Express Lanes Toll Feasibility Analysis	CO
Fort Bend Parkway Extension	TX	E-470 Toll Revenue Study, Denver	CO
LBJ Managed Lanes Preliminary T&R	TX	West Virginia Toll Road and Bridge Feasibility Studies	WV
Bay Port Toll Road T&R Study	TX	Garden State Parkway Toll Traffic Study	NJ
SH 249 Toll Study	TX		

TRAFFIC AND REVENUE ADVISORY SERVICES TO THE CAMERON COUNTY REGIONAL MOBILITY AUTHORITY

Table 2. C&M Staff Investment Grade Traffic and Revenue Experience

C&M Staff Investment Grade Traffic and Revenue Studies						
Project	Client	Type	Official Statement Date	Rating Agency	Rating	Amount (Million USD)
Jackson Airport Parkway	Globalvia Infraestructuras USA Corp.	Stand Alone Road	NA	TBD	TBD	TBD
North Tarrant Express	Itinere North America LLC	Stand Alone Road	NA	NA	NA	NA
Pennsylvania Turnpike	Cili Infraestructuras, ACS Infraestructuras	Road System	NA	NA	NA	NA
Texas SH 121	Skanska ID	Stand Alone Road	NA	Moody's S&P	Private	Private
FARAC I Concession Package	SCT-Mexico	Road System	NA	NA	NA	\$4,019
FARAC Northeast Concession Package	SCT-Mexico	Road System	NA	NA	NA	NA
System of nine highways in the State of Chihuahua	Chihuahua State Government	Road System	NA	S&P, Fitch	MXAA, AAA(mex)	250
Fresnillo and La Calera Loop's	Interacciones Banca Múltiple	Road System	3/15/2003	S&P, Fitch	MXAA, AA(mex)	42
Mexico-Queretaro	Banco Santander	Stand Alone Road	NA			
Mexico-Puebla	Banco Santander	Stand Alone Road	NA	Loan by Banco Nacional de Obras Públicas (Banobras)		2500
Queretaro-Irapuato	Banco Santander	Stand Alone Road	NA			
San Luis Potosí Eastern Loop	META	Stand Alone Road	8/11/1999	S&P	MXAA+	13
Tijuana-Tecate	ATM	Stand Alone Road	10/30/2000	S&P, Fitch	MXAA	60
Chamapa-La Venta y Ramal Interlomas	Grupo Tribasa	Stand Alone Road	8/27/2002	Fitch	AA(mex)	120
Ecatepec-Pirámides	Grupo Tribasa	Stand Alone Road	5/30/2003	S&P, Fitch, MBIA Insurance	AAA, AAA(mex); AAA, AAA(mex)	200
Armeria-Manzanillo	Grupo Tribasa	Stand Alone Road	5/30/2003	S&P, Fitch, MBIA Insurance	AAA, AAA(mex); AAA, AAA(mex)	
México-Toluca	Grupo Tribasa	Stand Alone Road	9/25/2003	Fitch, MBIA Insurance	AAA (mex)	360
Kantunil-Cancún	Multivalores	Stand Alone Road	2/7/2002	Fitch, Moody's	Serie "A" AA(mex) Serie "B" A(mex) Serie "S" B(mex)	25
Cardel- Veracruz	BBVA-Bancomer	Stand Alone Road	2/4/2003	S&P, Fitch	AA+(mex)	70
Acapulco Tunnel	Tuneles Concesionados de Acapulco S.A. de C.V. (TUCA)	Stand Alone Road	3/9/2001	S&P, Fitch	MXAA, AA(mex)	18
Monterrey-Cadereyta	Autopistas de Nuevo León	Stand Alone Road	12/16/2004	S&P, Fitch, Moody's, MBIA Insurance	mxAAA, AAA, Aaa.mx	220
Perifoneo-Textoco	Grupo Tribasa	Stand Alone Road	12/23/2004	Fitch	AA(mex)	168
Libramiento Plan del Rio	CPM	Stand Alone Road	5/4/2005	NA	NA	45
Puebla-Atlixco	Carreteras de Cuota Puebla	Stand Alone Road	8/23/2004	S&P, Fitch	mxAAA, AAA	50
Sistema Carretero del Oriente, Mexico City	Concesionaria Mexiquense-OHL	Stand Alone Road	8/12/1999	Syndicated loan led by BBVA		200

2.2 Modeling Experience

C&M's Dallas based modeling staff highly qualified individuals, lead by Shahram Bohluli, P.E., PhD., has been responsible for the development of the models for C&M's traffic and revenue forecasts based on a dozen different travel demand models in Texas, Georgia, Virginia and Florida. With over 14 years of experience, Dr. Bohluli has been responsible for the modeling of a variety of tolling studies ranging from preliminary feasibility to investment grade level studies. Recently, Dr. Bohluli led his team in the development of a four step travel demand model for the purpose of conducting a traffic and revenue study Cameron and Hidalgo Counties in Texas.

3 FIRM ORGANIZATION AND PROPOSED STAFF

Under Dr. Kawkeb Said, a capable project manager with previous experience serving CCRMA, C&M has assembled a team that ensures expert participation in each phase of the T&R consulting process. For individual resumes, see section 8 of this proposal. The following is the individual staff proposed to serve CCRMA:

Kawkeb Said, P.E. Ph.D., the project manager, has over 20 years of transportation engineering experience including project management of Traffic and Revenue Analysis for Toll Roads and Transportation Systems Modeling. Dr. Said served recently as project manager for the Preliminary Feasibility Analysis (Level II) for the South Padre Island Second Causeway in Cameron County and the I-20 Managed Lanes Intermediate traffic and revenue study in Atlanta Georgia. She has also served as project manager for the T&R study on the East-West Expressway (SR 836) on behalf of the Miami-Dade Expressway Authority. This study involved Variable Pricing Lanes (VPL) analysis along SR 836 using a model which takes into consideration the level of congestion on the general purpose lanes and the pricing on the VPL in order to determine the share of the VPL traffic. She also led the "Preliminary Assessment of the Traffic and Revenue on SH 161, Dallas- FortWorth Area" for a private developer, "Operational and Traffic Benefits of E-ZPass Deployment" project for the New Jersey Turnpike, identifying and quantifying the benefits related to traffic operations, delay reduction, savings in terms of drivers' time, direct and indirect cost. Also related to E-ZPass, she led the "Impact of E-ZPass on Local Roadways" study to assess the degree of the impact of the deployment of E-ZPass and to recommend mitigation measures

Carlos M. Contreras, M.B.A. C&M's President and Principal-in-Charge, has more than 17 years of experience. He is responsible for overall client satisfaction, allocation of resources and quality of the projects. Mr. Contreras started his involvement with the transportation industry in 1994 and has promoted transportation infrastructure projects throughout Latin America including leading consortia of international entities in the pursuit of transportation projects. Mr. Contreras is an Engineer with a Master in Business Administration from the Harvard Business School. As President of the firm, Mr. Contreras is also responsible for looking at macro-economic issues affecting the toll industry and toll projects.

Marcos Noguerón, M.S. the QA/QC officer for, brings over 17 years of experience to the team serving as planner, project manager, task leader and financial community liaison on numerous toll studies ranging from conceptual level to investment grade studies. He has lead studies for the issuance of \$11 billion in loans and bonds to finance toll road and toll tunnel projects in the U.S. and Latin American markets. He has lead C&M's relationship with underwriting institutions, rating agencies, credit enhancers, and institutional and individual investors and presented C&M's investment grade T&R studies at bond placement road shows. As an experienced practitioner of T&R studies, Mr. Nogueron is able to anticipate potential questions from clients and the financial community and to evaluate in an efficient manner the quality and reasonableness of C&M's results.

Shahram Bohluli, P.E. Ph.D., Vice President and chief modeler, has over 13 years of toll facility modeling, transportation planning and engineering experience. He recently lead the modeling aspects of the Hidalgo Loop traffic and revenue study on behalf of the HCRMA and the Jackson Airport Parkway investment grade traffic and revenue study on behalf of Global Via. Recently, Dr. Bohluli oversaw the modeling aspects of the Pennsylvania Turnpike traffic and revenue study, the North Tarrant Express investment grade traffic and revenue study, the I-75

HOT lanes Traffic and revenue study and the I-20 managed lanes traffic and revenue study. Previously, Dr Bohluli oversaw the modeling of the preliminary feasibility study for the South Padre Island second causeway and was task leader in charge of the modeling component of the SH121 CDA project in Collin and Denton counties, TX. His experience as task leader also includes the following toll feasibility projects in Texas: US 280 / Loop 1604, San Antonio, TX.; IH 30 Managed Lane Corridor, TxDOT - Fort Worth, TX; SH 121 South-west Parkway, Tarrant and Johnson County, TX; US 31 Bypass, Corsicana, TX; IH 30/US 80, Dallas, TX; SH 190 Extension, Dallas County, TX; US 190 Express Lane Concept, Copperas Cove, TX and; Loop 49, Tyler, TX; US 281 Falfurrias Relief Route, Falfurrias, TX.. Dr. Bohluli has also assisted in the development of Mexico's National Strategic Highway Plan Study where he advised on the integration of Texas and Mexico traffic flows for the Secretaria de Comunicaciones y Transportes (SCT).

Carlos Miranda, E.I.T., will lead data collection tasks. He brings extensive experience in transportation planning and traffic engineering projects, including T&R studies, technological applications for toll road operations; EIS report production, traffic simulations, capacity analyses, traffic surveys and data collection. His experience encompasses traffic simulation for the evaluation of alternatives, level-of-service/capacity analyses, and alternatives for construction phases, and future traffic operations. His responsibilities have included the design of static toll revenue models, traffic projection and reduction, toll facility feasibility studies and implementation strategies on several Intelligent Transportation Systems projects.

Support staff is located in our Dallas office to perform traffic and revenue studies exclusively. C&M puts high value in the academic and practical training of its staff and supports their continued development. In addition to academic training, staff receive periodic formal training in aspects specifically relevant to our traffic and revenue specialty including modeling with Cube Voyager, TransCAD, EMME, Vissim and other platforms as well as logit choice modeling and risk analysis.

4 PROJECT UNDERSTANDING

The CCRMA, as a result of the economic stimulus package recently enacted by the United States Congress, is evaluating options for the development of the tolled components of the East Loop project and, secondarily, the development of the US 281 – US 77 connector. In order to assess the potential traffic and tolled revenue generated by these projects, the CCRMA would like to obtain preliminary (level 2) traffic and revenue estimates for both projects including a rapid response sketch level analysis to be delivered in a few weeks.

The projects will be analyzed using internationally accepted methodologies to estimate the traffic and revenue, paying special attention to the unique nature of this particular area. A travel demand model will be developed for the projects, calibrated to existing traffic data, gathered in the field or obtained from reliable sources. The value of time and willingness to pay information will be incorporated in the travel demand model for analysis of the opening year and future years in order to determine an estimate of traffic and revenue.

The scope of work in section 5 considers the availability and validity of the data collected over the years by TxDOT, Texas Transportation Institute (TTI), Cameron County, C&M or its affiliates, and other sources. Other data sources that will be consulted include the US Census data, Mexican Census data, Bureau of Labor Statistics, and other reliable sources. The CCRMA will be consulted to review all C&M assumptions with regards to the project throughout the performance of the technical work.

4.1 East Loop

The East Loop in Cameron County, Texas is located within an area surrounding the east side of the City of Brownsville. The project will primarily benefit the truck traffic that originates from and/or is destined to the Port of Brownsville. It will provide an alternative to the use of existing route 48 towards the south, the City of Brownsville and the international bridges across the border to Mexico. US 48 passes through the City of Brownsville, and can be classified as an urban arterial, characterized by slow speed, numerous signalized intersections, vehicular interaction and delays. For the traffic originating at the port and destined north, the proposed SH 500 and 511 truck lanes will provide an alternative to the existing FM 511, which has limited capacity and design speed compared with the proposed toll facilities.

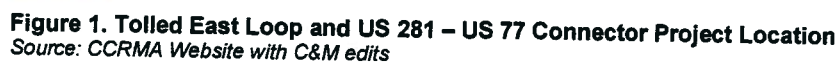
The project location and its area of influence are shown in Figure 1. It is C&M's understanding that SH 500 will be a toll road for both passenger cars and trucks. The northern segment of route 511, from its junction with SH 500 to Rt.77 will impose toll on truck traffic only. The southern segment of route 511, which extends from junction of route 511 with SH 500 to the south, and ultimately connects to route 77, will be a non-tolled roadway, providing a quick access to the international bridges to Mexico.

The analysis of this project will focus heavily on the truck traffic component within the traffic stream in the study project area. Therefore, within the tasks that are defined in this proposal, a truck traffic survey is proposed, from which a value of time and willingness to pay for trucks will be estimated. Specific geometric configurations will be taken into consideration in the project analysis as they become available.

Projected socioeconomic information, coupled with truck traffic movement estimates will provide future projections of traffic and revenue on the proposed East Loop project. Traffic and revenue estimates on the East Loop project will take into consideration parallel existing and future

4.2 US 281 – US 77 Connector

Capacity improvements on US 281 west of the project could potentially include truck only tolled lanes or other form of tolled capacity however, this has not yet been defined. For purposes of its analysis, C&M will assume that capacity improvements west of the project will not be tolled.



5 SCOPE OF WORK

C&M intends to conduct this study, in such a way that it would deliver a sketch level analysis at approximately four weeks following the commencing of the project. An intermediate level of traffic and revenue analysis results will be delivered after four and a half months from the commencement of the project. It should be realized that these two deliverables do not stem from two independent phases, but rather they will be based on various levels of analysis accuracy, given the data that is expected to be available within the defined time periods. The following tasks are expected to be performed in the course of this study:

Task 1: Project Management/Mobilization

Upon receiving Notice to Proceed, the Project Manager will schedule a project kick-off meeting with key stakeholders (CCRMA, TxDOT, etc.) with the objective to define the alternatives, overall project methodology and data requirements. Based on this meeting, the Project Manager will develop a Project Control Plan, outlining the identified project stakeholders, specific project procedures, project methodology, data collection needs, schedule, and project contact information. The Project Manager will issue a notice to stakeholders regarding project commencement and may request assistance in gathering existing data, traffic reports for the area, details and specifics for the project and/or other planned projects in the area of influence, when applicable.

The Project Manager will provide CCRMA with progress reports on a monthly basis and will provide minutes of meetings held with project stakeholders.

Task 2: Existing Information

Task 2.1—Review of existing information: Including previous traffic reports, current and historical traffic volumes, existing origin-destination surveys, socioeconomic data (including population, employment, and income), as well as macroeconomic variables. Data will be compiled from the appropriate government information repositories and other available sources such as TxDOT, Cameron County, MPOs, Port operators, International bridges operators, Truck Companies, and others.

Task 2.2—Highway network characteristics, review and validation of supply inventory: Inventory of existing highway network characteristics and definition of an "area of influence," ascertaining "decision making points," where competition and the general users' trade-offs occur. Identification of a "network supply" for potential user markets, including planned improvements to highways and bridges within the project area of influence and the region.

Task 2.3—Review of existing models. Review of the travel demand models available in the area: Hidalgo, Harlingen/San Benito, Brownsville and the Texas State Wide Analysis Model (TexasSAM). In addition, C&M will utilize the model that was developed for the traffic and revenue analysis of the South Padre Island 2nd Causeway project. During this task, C&M will review and assess the applicability of joining some of those models into a single area-wide model, for its use in this project. The envisioned joint model will address the modeling needs of the area of influence in sufficient detail. In addition, drawing on C&M's vast experience along the U.S.-Mexican border, the joint model will address local and non-local (bi-national) travel patterns: It will pay special attention to the area as part of a trade corridor with its added international commuting and specific travel characteristics.

Task 3: Field Work and Surveys

Task 3.1—Road Observations: C&M will perform a field observation of the main roads as well as competing roads. Project area and road observation, such as traffic signals, operation conditions, posted speeds, number of moving lanes, general land use characteristics and others, will be conducted. Observation notes that are relevant would be incorporated into the study.

Task 3.2—Travel Times: Travel times will be assessed by time of day periods (AM, MD and PM). Average speeds on relevant highway stretches will also be determined.

Task 3.3—Limited Stated Preference Survey for Truck Traffic: This will be conducted as field interviews to determine travel characteristics specific to the truck traffic in the study area. Interview teams will be organized and interviews will be conducted in order to obtain a representative sample of the area. Interview forms will be designed to include a number of questions, which will be utilized to investigate truck travel patterns. These questions will include, truck ownership (owner, operating for a company, operating for someone else), willingness and decision to pay toll, truck registration by nationality (US versus Mexican), origin-destination, cargo information and other aspects that would help in incorporating the information within the travel demand model. No specific stated preference survey for passenger car users will be conducted for this project, since its primary focus will be on truck traffic, which will generate the revenues. Instead, readily available data used for other projects in the region will be used for that purpose.

The results of such survey will be the basis to develop a toll diversion model, the travelers' probability of using the proposed toll facility as a function of their trade-offs in time savings, cargo weight, toll expenditures, other possible travel costs, and other perceptible trip attributes, if applicable. As a by-product, a user's Value of Time (VOT), by subcategory, is developed from the SP survey.

Task 3.4—Traffic count programs: Plan and conduct classification traffic count program to cover a sufficient number of screenlines for the purpose of calibrating and validating the travel demand model. The screenline identification will be based on targeting major highways, arterials and main roadways that would cover the project area of influence.

Task 4: Socioeconomics

Task 4.1—Socioeconomic analysis: This project is unique in the sense that the proposed corridor addresses primarily truck traffic. Nevertheless, the travel demand model developed for this project need to be calibrated and validated for all traffic using the network. In order to achieve that, an evaluation of the available socioeconomic data (such as population, employment and income) and/or generation of new supplementary socioeconomic information need to be conducted in the project area. Working with available socioeconomic data from the MPO models, TexasSAM model, and Cameron County, this data will be supplemented with information extracted from the US Census data and Mexico Census data, Bureau of Labor Statistics and state employment statistics, as well as other sources. The other sources will include interviews with business and government agencies and personnel, as well as consulting economic variable projection entities, such as Woods and Poole and Moody.

Socioeconomic variables will be used to update the information fed into the travel demand model in order to estimate its trip generation and distribution, ultimately developing trip tables between traffic analysis zones (TAZ).

TRAFFIC AND REVENUE ADVISORY SERVICES TO THE CAMERON COUNTY REGIONAL MOBILITY AUTHORITY

Growth models for the socioeconomic variables will be developed based on historic and other aspects associated with these variables.

The socioeconomic study will determine the following:

1. Trip generation characteristics of land uses in the project area
2. Major planned developments in the project area.
3. Development of estimated socioeconomic data for opening year and for 30 years after opening year

Task 5: Travel Demand Model Development

Task 5.1—Travel Demand Model Component: A travel demand model will be developed for this project using a TransCad platform and a four step model will be adopted.

Task 5.2—Transportation Network Updates : This model will use the transportation network extracted from the MPOs and TexasSAM models, as well as networks developed by C&M for other projects in the area, such as the South Padre Island model network. The resultant network would then be checked at main roadway level, and its functionality and attributes would be enhanced, to include updated speed, capacity, connectivity, and delays if deemed specifically relevant to the project. Future network configuration will be determined based on information obtained from TxDOT, County and MPOs which would reflect future projects committed for the area of influence.

Task 5.3—Trip Generation and Trip Distribution Modules: Socioeconomic variables for the current year will be used, as described in a previous task in this proposal, and will be fed into the trip generation module. Trip distribution module will be used to ultimately develop trip tables between TAZs.

Task 5.4—Model Calibration and Validation: Traffic assignment module runs will be performed to estimate traffic volumes on individual links in the network. The travel demand model will be calibrated to corroborate with the field data collected and it will be validated according to validation criteria and process adopted by the Federal Highway Administration (FHWA).

Special methodology will be developed within this task to address truck trips. This methodology will depend on availability and ease of obtaining data (within the time frame of the project schedule) required to address this aspect of the project.

The calibrated model (base year model) will be used as a base for the future year projections of the opening year and future years, given the growth models associated with the socioeconomic variables, as well as the truck traffic growth pattern.

Task 6: Opening Year Traffic

Task 6.1—Traffic trends: Analysis of historic traffic trends for the corridor/area, including other modes of transportation, if applicable.

TRAFFIC AND REVENUE ADVISORY SERVICES TO THE CAMERON COUNTY REGIONAL MOBILITY AUTHORITY

Task 6.2—Toll diversion model: Willingness to pay and general cost differentials between the proposed toll facility and its free alternative will be the basis to establish diverted traffic to the proposed project.

Task 6.3 —Opening Year Trip Tables: Preparation of opening -year trip tables that include diverted traffic (toll diversion model), induced traffic (trips not present at the time), and traffic generated from special generators (as applicable).

Task 6.4 — AADT Traffic Estimates: Traffic seasonal variation factors will be determined based on information obtained under the "Field data collection" task. These factors will be used to adjust the model's daily traffic into AADT values for each vehicle class.

Task 7: Future Year Forecast

C&M will use travel demand and toll diversion models to develop traffic forecast for the opening year and two more horizon years as per the availability of networks, and socioeconomic forecast structures. Based on that, C&M will report forecasted traffic in every year through the projection period.

Task 7.1: Future Year Trip Tables: A growth model will be used to develop future (projected) socioeconomic variables. Using trip generation and distribution as part of the travel demand model development, new set of trip tables for future years will be developed.

Task 7.2—Competing Transportation Improvements: Investigate plans pertaining to possible competitors in the area of influence, such as other roads improvements, and/or competitive modes (e.g., bus, rail, others).

Task 7.3—Ramp-Up Period: The opening year estimated traffic will be adjusted to account for project ramp-up based on toll operation characteristics such as electronic toll collection market penetration and other factors characteristic of start-up projects and/or characteristic to the area.

Task 7.4—Future years forecast: Based on the opening year and future networks and trip tables, the traffic will be forecasted for two future years after opening year estimated by the developed travel demand model.

Task 8: Sensitivity Analyses

Conduct toll sensitivity analysis, by varying proposed toll rates and determining the potential toll traffic associated with it. As a result, a set of toll sensitivity curves will be established. These curves show the potential diverted traffic in relation to toll rates, and the potential revenue in relation to toll rates. A preferred toll rate will be determined from this analysis with a specific criterion that is compatible with the goals and policy of the CCRMA have for the project, such as maximizing traffic, maximizing revenue, striking a balance of the two, or earning sufficient revenue while maintaining a certain traffic operational level of service.

Task 9: Traffic and Revenue Forecast

Develop annual traffic estimates for the opening year and anticipated future years of the projection period. The traffic projection will be adjusted to reflect variation within the week (weekday vs. weekend), monthly variations, and taking into consideration other possible variation found as a result of traffic pattern investigation, such as holidays. Based on that, annual revenues will be calculated for the opening year and future years.

Task 10: Documentation

C&M will report its findings for this Traffic and Revenue Study in accordance with the following:

Task 9.1—Preparation of A Technical Memorandum for A Sketch Level Analysis: A Technical Memorandum will be prepared to document assumptions, inputs, early preliminary findings, and preliminary traffic and revenue results, based on a sketch level analysis. The results in this tech memo will not include analysis that takes into consideration the truck interview surveys, the updated socioeconomic analysis, the updated transportation network, nor the specific treatment of truck travel pattern.

Task 9.2—Preparation of Draft Report for the Traffic and Revenue Study: A Draft Report will be prepared to document assumptions, inputs, findings, and results. A proposed report layout would include: (i) a description of the proposed toll facility; (ii) a summary of existing travel conditions and data collection; (iii) summary of the socioeconomic evaluation and findings; (iv) details of the development of travel demand model; (v) toll sensitivity analysis and (vi) the traffic and revenue forecast.

Task 9.3—Draft Report review by CCRMA: Copies of the Draft Report will be delivered to CCRMA staff for review and comments.

Task 9.4—Final Report: C&M will evaluate and respond to comments received during the review period. Accordingly, C&M will revise the draft report to address the comments received during this period.

6 SCHEDULE AND FEES

C&M is ready to start work on the project once a Notice to Proceed (NTP) is issued. The following is a summary of the milestones and deliverables anticipated for the project following the receipt of requested information pertaining to the project from CCRMA:

1. Project Control Plan: within two weeks from NTP
2. Sketch level Traffic and Revenue Projections: within four weeks from NTP
3. Draft Report: within four and half months from NTP
4. Final Report: two weeks following the receipt of comments on the draft report

A table presenting our development of the total fee, inclusive of all direct costs, cost of sub-consultants, and other expenses, is presented next. The estimated fee to perform this traffic and revenue work proposed in this scope is \$348,466. Please note that direct costs are estimates and will be pass through to the CCRMA

CCRMA - T&R Study for the Cameron County East Loop & US 281 - US 77 Connector

Task Description	Preliminary Level								TOTAL
	Principal	QA/QC	Project Manager	Sr. Modeler	Traffic Engineer	Graduate Engineer Sr.	Graduate Engineer Jr.	Project Administrator	
Task 1	Project Management	4	40	8				4	56
Task 2	Existing Information		40		24	40	40		144
Task 3	Survey and Data Collection	8	24	64	16	40	60	24	244
Task 4	Socio-Economic Analysis	16		40	16		80	40	192
Task 5	Model Development		8	80	32		120	80	320
Task 6	Opening Year Traffic		8	40	16		40	20	124
Task 7	Future Year Forecast			32	16		40	20	108
Task 8	Sensitivity Analysis		8	32	16		40	40	136
Task 9	Traffic and Revenue Forecast	16	24	60	32	8	110	55	305
Task 10	Documentation	24	8	140	24	16	120	120	460
TOTAL HOURS		68	80	568	176	88	660	439	2,089
TOTAL LABOR									
Estimated Direct Expenses*									\$ 301,155
* Direct Expense are estimates and will be billed at actual cost									
Traffic Counts/Travel Time Runs and Surveys									\$ 40,000
Travel									\$ 5,000
Reproduction/Computer Media									\$ 50
Printing, Telephone, Fax									\$ 150
Postage and Express									\$ 50
Materials, Supplies									\$ 50
Total Estimated Direct Expenses									\$348,455

7 REFERENCES**Georgia Department of Transportation**

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8 RESUMES

Kawkeb Said

Education

Ph.D., Transportation Engineering, University of Illinois.

Master of Science, Traffic and Highway Engineering, University of Strathclyde, U.K.

Bachelor of Science, Civil Engineering, University of Baghdad.

Professional Registrations

State of Connecticut – Professional Engineer

State of Utah – Professional Engineer, Pending

Dr. Kawkeb Said has over 20 years of academic and private consulting engineering practice in the fields of Traffic and Revenue Analysis for Toll Roads and other complex projects, such as Managed Lanes; Project Management; Transportation Systems Modeling; Traffic Simulation; Transportation Engineering and Planning; Geometric Design of Transportation Facilities, and Traffic Engineering.

Professional Experience

Toll Facility Traffic and Revenue and Operations

- *I-20 Express Managed Lanes (ML) Intermediate traffic and revenue study, Atlanta, Georgia (2007)- Dr. Said is currently the project manager for this study in support of the Georgia Department of Transportation Public-Private Initiatives program. The project entails variable pricing for the various time of the day, depending on level of congestion, selecting best toll rate values, while maintaining good Level of Service in the ML. The project involves the development of a complex ML methodology and implements it in the travel demand model. Micro-simulation is utilized to insure good traffic operations in ML.*
- *South Padre Island Second Causeway Intermediate traffic and revenue study, South padre Island, Texas. (2007)- Dr. Said was the project manager for study on behalf of the Texas Turnpike Authority Division of TxDOT. This project involved unconventional tourist area of study, employing innovative modeling approach and implementation.*
- *SH161 Traffic and Revenue Review, Dallas, Texas (2006)- Dr. Said served as project manager in the review of the T&R projections developed for TxDOT and provided to the bidders of this concession project during the prequalification phase. Dr. Said developed new T&R projections that served as the basis for the successful prequalification of our client.*
- *Traffic and Revenue On the East-West Expressway (SR 836), Miami-Dade Expressway Authority – This project involves Variable Pricing Lanes (VPL) analysis along SR 836 using a developed model, which takes into consideration the level of congestion on the general purpose lanes and the pricing on the VPL in order to determine the share of the VPL traffic.*
- *Operational and Traffic Benefits of E-ZPass Deployment to the New Jersey Turnpike–This study identified benefits related to traffic operations, delay reduction, savings in terms of drivers time, direct and indirect cost, as well as air quality improvements as a result of E-ZPass deployment on the New Jersey Turnpike.*
- *E-ZPass Impact On Local Roadway Study, New Jersey Turnpike Authority – The objectives of the study are to assess the degree of the impact of the deployment of E-ZPass on the local roadway system and to recommend mitigation measures to ease that impact.. Traffic simulation model was used for traffic operation analyses beyond the toll plaza exits and at intersections with local roadways.*
- *Evaluation of Toll Plaza Capacity for Various E-ZPass Penetration Scenarios – New Jersey Turnpike. This project investigates the capacity and operation conditions at toll plazas of the NJTP under various E-ZPass penetration scenarios. The study identifies potential operation problems at E-ZPass lanes*

and/or manual lanes of the toll plazas involved.

- *Newark Bay Hudson County Extension Capacity Study, New Jersey Turnpike Authority – The study involves evaluating the existing capacity of the Turnpike for future growth in the area and the need to widen the Hudson County Extension. Simulation model was developed for evaluating the existing condition. Alternative improvements to the extension are to be developed for various growth scenarios.*
- *Interchange 12/Truck Only 12A Feasibility Study, New Jersey Turnpike Authority – The objective of this study was evaluate proposed 12A interchange from operational, environmental and economic standpoints. A traffic simulation model VISSIM was developed for evaluating the existing condition and operations related to the proposed Interchange 12A.*
- *Minimum Toll Collector Staffing Plan, New Jersey Turnpike Authority.*

Transportation Planning and Engineering

- *Environmental Impact Assessment (Nashua, NH);*
- *Transportation Planning and Modeling: Travel forecasting and evaluation of network performance as part of transportation improvement projects (TelecomCity, Rt. 6 Cape Cod, Rt. 3 north of Boston, MA);*
- *Designed and conducted a study to assess motorists' attitudes toward safe-driving practices.*
- *Design and Coordination of Signals within Closed Loop Communication Systems (Rt. 10, Southington, CT)*
- *Geometric Design of Highways and Intersections (Rt.10, Southington, CT);*
- *Traffic Simulation for the Evaluation of Traffic Network Operation Performance (Central Artery, Boston, MA);*
- *Highway Signage Evaluation and Upgrade to the Metric System (I-291 Chicopee-Holyoke, MA);*
- *Light rail system simulation to evaluate service for downtown Chicago Monitored an environmental impact study of noise abatement devices in the Chicago subway system. Transportation Engineering Division, Department of public works, Chicago, Illinois.*

Professional Memberships

- *Chairman of the Membership Committee 1999-2000 and a member of the Board of Directors, Intelligent Transportation Society (ITS) – Connecticut Chapter.*
- *Member of the Institute of Transportation Engineers; President of University of Illinois at Chicago student chapter, 1990.*
- *Member of the Urban Area Bicycle Advisory Board, Alachua County, Florida, 1985.*
- *Affiliate of Transportation Research Board, U.S.A.*

Honors and Awards

- *Winner of the Milton Pikarsky/Charlie Wootan Award for the best Ph.D. dissertation; by the Council of University Transportation Centers.*
- *Winner of the Helen Overly Scholarship for distinguished achievements at the national as well as the state of Illinois; by Women's Transportation Seminar Society.*
- *Scholarship to participate in the Supercomputer workshop, by IBM Corporation.*
- *Referee for the Transportation Science*
- *Award form the Overseas Student Fund, University of Strathclyde.*

- *South Padre Island Second Causeway Intermediate traffic and Revenue Study, South padre Island, Texas.* (2007)- Mr. Nogueron is currently performing the QA/QC for this intermediate level traffic and revenue study on behalf of the Texas Turnpike Authority Division of TxDOT.
- *I-495 HOT lanes Traffic and Revenue Review.* Mr. Nogueron performed the QA/Qc for the review of the Traffic and Revenue Projections provided by the private developer for the managed lanes project in the Virginia portion of the Washington D.C. beltway. Client Virginia Department of Transportation
- *In Latin America, Mr. Noguerón has lead the following investment grade Traffic and Revenue Studies for toll roads and tunnels:*
 - *FARAC North East Package of existing toll roads and greenfield projects connecting the Northeastern Mexican States with Texas.*
 - *Package of 4 toll roads leased by FARAC (Maravatio- Guadalajara, Guadalajara Aguascalientes, etc.), Mexico, study on behalf of Nafinsa to serve as the basis for the lease of this \$2 Billion package*
 - *Circuito Exterior Mexiquense, OHL, study served as the basis for the successful bid in this \$800 M project financed by Santander*
 - *System of nine highways in the State of Chihuahua, Chihuahua State Government, Road System, S&P, Fitch, MXAA, AAA(mex), \$250M USD*
 - *Fresnillo y la Calera Loop's, Interacciones Banca Múltiple , Road System, S&P, Fitch, MXAA, AA(mex), \$42M USD*
 - *Mexico-Queretaro, Banco Santander, Stand Alone Road, Loan by Banco Nacional de Obras Públicas (Banobras), \$2,500M USD*
 - *Mexico-Puebla, Banco Santander, Stand Alone Road, ,*
 - *Queretaro-Irapuato, Banco Santander, Stand Alone Road, ,*
 - *San Luis Potosi Eastern Loop, META , Stand Alone Road, S&P, MXAA+, \$13M USD*
 - *Tijuana-Tecate, ATM, Stand Alone Road, S&P, Fitch, MXAA, \$60M USD*
 - *Chamapa - La Venta y Ramal Interlomas, Grupo Tribasa, Stand Alone Road, , ,*
 - *Chamapa- Lecheria, Grupo Tribasa, Stand Alone Road, Fitch, AA(mex), \$120M USD*
 - *Ecatepec - Pirámides, Grupo Tribasa, Stand Alone Road, S&P, Fitch, MBIA insurance, AAA, AAA(mex); AAA, AAA(mex), \$200M USD*
 - *Armería - Manzanillo, Grupo Tribasa, Stand Alone Road, S&P, Fitch, MBIA insurance, AAA, AAA(mex); AAA, AAA(mex),*
 - *México-Toluca. , Grupo Tribasa, Stand Alone Road, Fitch, MBIA Insurance, AAA (mex), \$360M USD*
 - *Kantunil - Cancún, Multivalores, Stand Alone Road, Fitch, Moodys, Serie "A" AA(mex) Serie "B" A(mex) Serie "S" B(mex), \$25M USD*
 - *Cardel- Veracruz, BBVA-Bancomer, Stand Alone Road, S&P, Fitch, AA+(mex), \$70M USD*
 - *Acapulco Tunnel, Tuneles Concesionados de Acapulco S.A. de C.V. (TUCA), Stand Alone Road, S&P, Fitch, MXAA, AA(mex), \$18M USD*
 - *Palín-Escuintla, in the Republic of Guatemala , Grupo Marhnos, Stand Alone Road, Pending*
 - *Monterrey-Cadereyta, Autopistas de Nuevo León, Stand Alone Road, S&P, Fitch, Moody's, MBIA Insurance, mxAAA, AAA, Aaa.mx, \$220M USD*
 - *Puebla- Atlixco, Carreteras de Cuota Puebla, Stand Alone Road, S&P, Fitch, mxAAA, AAA, \$50M USD*
 - *Sistema Carretero del Oriente, Mexico City, Consecionaria Mexiquense-OHL, Stand Alone Road, Syndicated loan led by BBVA, \$200M USD*

Mr. Noguerón has lead the following toll road and tunnel feasibility studies:

- *Zacatecas North-eastern Loop , Interacciones Banca Múltiple , Road System*
- *San Luis Potosí, , Road System*
- *Tenango-Ixtapan de la sal, Grupo Tribasa, Stand Alone Road*
- *Pátzcuaro-Uruapan,, Ministry of Public Works of the State of Michoacan, Stand Alone Road*
- *Ecuandureo-Abasolo, La Nacional Compañía Constructora, S.A. de C.V. , Stand Alone Road*

- San Luis Potosí- Saltillo, La Nacional Compañía Constructora, S.A. de C.V. , Stand Alone Road
- Peñón - Texcoco, Grupo Tribasa, Stand Alone Road
- Beltway and viaduct in Acapulco, Grupo Mexicano de Desarrollo, Stand Alone Road
- Chamapa-Lecheria-La Venta, Grupo Tribasa, Stand Alone Road
- México - Guadalajara, section Toluca - Morelia, Grupo Mexicano de Desarrollo, Stand Alone Road
- San Martín Texmelucan - Tlaxcala - El Molinito, Autopista Concesionadas del Altiplano, S.A. de C.V., Stand Alone Road
- Celaya-San Miguel de Allende-San Luis de la Paz, Huartym, S.A. de C.V., Stand Alone Road
- Monclova - Paredón - El Tanque, Government of the State of Coahuila, Stand Alone Road
- Venta de Carpio-Textcoco-Chalco-Amecameca-Nepantla., Desarrollo de Infraestructura, S.A. de C.V. (DINFRA), Stand Alone Road
- Roadway Panamá-Colón and the corridor North of the city of Panama. , PYCSA Panamá, S.A. , Stand Alone Road
- Irapuato - León., Concesiones de carreteras S.A de C.V., Stand Alone Road
- Corridor South of Panama., PYCSA Panamá, S.A. , Stand Alone Road
- Mozimba-Pie de la Cuesta, Acapulco, Gro., Grupo mexicano de Desarrollo, Stand Alone Road
- Cuernavaca-Acapulco, Grupo Autopista del Sol, S.A. de C.V., Stand Alone Road
- Work certification of the corridor North of Panama(Parsons), IBD - De Leuw Cather International, Stand Alone Road
- San Luis Potosi Western Loop , Mexicana de Técnicos en Autopistas, Stand Alone Road
- Atizapán - Venta de Carpio., Concesionaria Mexicana de Vías Terrestres, S.A. de C.V. (CONCEMEX), Stand Alone Road
- Atlixco- Cuautla, Grupo Tribasa, Stand Alone Road
- Río Verde - Cerritos - intersection - federal highway No. 57 San Luis Potosí, Consultoria y Construcciones Internacionales S.A de C.V., Stand Alone Road
- Matamoros – Puerto Brownsville., Prospectiva Económica y Social, S.C., Stand Alone Road
- San Luis Potosí – Villa de Arriaga., Council of state roads of the State of San Luis, Stand Alone Road
- Esperanza - Ciudad Mendoza, Bancomer/PYASA, Stand Alone Road
- Road access to San Pedro Sula city in Honduras., PYASA, Stand Alone Road
- Benito Juárez and San Miguel bridge, Ministry of the Treasury, Sate of Guanajuato, Stand Alone Road
- La Venta-La Marquesa, Grupo Tribasa, Stand Alone Road
- Atizapan - Atlacomulco, Banca Serfin S.A. Institución de Banca Multiple, Stand Alone Road
- Colegio Militar - La Venta., Grupo Tribasa, Stand Alone Road
- Mexico City North loop, Federal Ministry of Transport and Communications (SCT), Stand Alone Road
- Matehuala loop, Junta Estatal de Caminos de SLP., Stand Alone Road
- Tlaxco-Huachinango, Puebla, Sistema Estatal Operador de Carreteras de Cuota, Stand Alone Road
- Puebla-Valsequillo, Puebla, Sistema Estatal Operador de Carreteras de Cuota, Stand Alone Road
- Tunne and bridge in Coatzacoalcos Ver., Grupo BM, Stand Alone Road
- Plan del Río loop Phase 1, OHL, Stand Alone Road
- Cd. Valle-Tampico section Ebano-Tamuín, Council of state roads of the State of San Luis, Stand Alone Road
- Punta Diamante Viaduct in Acapulco, Guerrero, Interacciones, Stand Alone Road

Carlos M. Contreras, MBA

Education

- **Master in Business Administration, Harvard University, Boston, MA, 1994**
- **Bachelor of Science, Industrial Engineering, Universidad Panamericana, Mexico, 1991**

Continuing Education

- **Activity and Tour Based Modeling, Federal Highway Administration, Washington DC, 2004**
- **Model Validation and Reasonableness Checking, Federal Highway Administration, Washington DC, 2004**

Overview

Mr. Contreras has been involved with the transportation industry in the United States and Latin America since 1994. He has promoted transportation infrastructure projects in the United States, Mexico and Peru. He has lead consortia of international players in the pursuit of transportation projects. Since 1999 Mr. Contreras has resided in the USA where he has led Professional Services and Software firms in the US and International Markets with extraordinary service results. As President of C&M Associates, Inc., Mr. Contreras is currently responsible for overall business strategy, execution and project quality. Since the founding of the firm, Mr. Contreras has overseen contracts with the Departments of Transportation of Texas, Virginia, Georgia, South Carolina, Maryland and Washington State as well as leading European and Australian Toll Road Concessionaires for the development of Travel Demand Feasibility and Traffic and Revenue Studies in the U.S. Market.

Professional Experience

Traffic and Revenue Studies for Toll Facilities

- *Hidalgo County Loop Traffic and Revenue Study (2008)*. Principal in Charge for the development of forecasts to support the development of the Hidalgo County Loop around the cities of McAllen, Mission, Pharr and others in the Texas-Mexico border.
- *Traffic and Revenue Study for the Pennsylvania Turnpike Lease (2008)*. Principal in charge for the development of traffic and revenue estimates supporting the bid of a major consortium of toll road operators and investors.
- *North Tarrant Express Managed Lanes Traffic and Revenue Study (2008)*. Principal in charge for the development of forecasts to support the concession bid of a major European concessionaire.
- *US-460 Sketch Traffic and Revenue Study for the Virginia Department of Transportation (2007-2008)*. Principal in charge in the development of traffic and revenue estimates used in the Public-Private Initiatives process. The study served as the basis of the assessment of the financial feasibility of the project.
- *I-64 Sketch Traffic and Revenue Study for the Virginia Department of Transportation.(2007-2008)* Principal in charge for the study of the potential conversion of portions of I-64 in Virginia to toll facilities including congestion pricing.
- *I-20 Managed Lanes Traffic and Revenue Study, Atlanta, Georgia (2007)*—Principal in charge in the development of sketch level traffic and revenue projections to assess the feasibility of adding Managed Lanes to this corridor.

- *I-75 HOT Lanes Feasibility Study, Florida (2008)*- Mr. Contreras acted as Principal in Charge for the development of a feasibility study to support an unsolicited proposal of a major European concessionaire.
- *South Padre Island Second Causeway Intermediate traffic and Revenue Study, South padre Island, Texas. (2007)*- Mr. Contreras acted as principal in charge for this intermediate level traffic and revenue study on behalf of the Texas Turnpike Authority Division of TxDOT. The study will serve to assess the preliminary financial feasibility of the project and to screen different alignment alternatives.
- *SH 121 Traffic and Revenue Study, Denton and Collin Counties, Texas(2006-2007)* – This Greenfield project is located in the Dallas- Fort Worth metropolitan area. Mr. Contreras acted as principal in charge in the development of the forecasts that served as the basis of Skanska's ID bid receiving a preliminary investment grade rating from Moody's. Based on C&M's work Skanska ID received loan commitments from RBS and ING and presented a bid for the project to the Texas Department of Transportation.
- *SH161 Traffic and Revenue Review, Dallas, Texas (2006)*- Mr. Contreras acted as principal in charge and conducted QA/QC in the review of the T&R projections developed for TxDOT and provided to the bidders of this concession project during the prequalification phase. C&M developed new T&R projections that served as the basis for the successful prequalification of our client.
- *SL 480 Sketch Traffic and Revenue Study* - Principal in charge in the development of sketch level traffic forecasts and revenue estimates for this road in light of influences from Mexico and traffic crossing the Eagle Pass–Piedras Negras International Bridge.
- *West Loop Project for the TxDOT Pharr District, Brownsville, Texas* – Principal in charge for the development of sketch toll feasibility study. The objective of the study is to refine and evaluate the most promising strategies, tolling concepts and toll collection methods for the West Loop project considering production, financial and revenue constraints and to evaluate the economic value of the project and its bonding capacity.
- *Poinciana Parkway Traffic and revenue Review.* Mr. Contreras served as principal in charge and provided QA/QC for the review and adjustment of the traffic and revenue projections provided by the project owners to firms bidding for the purchase of the Poinciana Parkway in the community of Poinciana, Florida on behalf of Cintra Infrastructure Developments L.L.C.
- *I-495 HOT lanes Traffic and Revenue Peer Review.* Principal in Charge for the review of the Traffic and Revenue Projections provided by the private developer for the managed lanes project in the Virginia portion of the Washington D.C. beltway. Client Virginia Department of Transportation.

Professional Memberships

- *Affiliate of the Transportation Research Board Managed Lanes Committee*
- *Affiliate of the Transportation Research Board Congestion Pricing Committee.*

Academic Experience

- **INSTITUTO TECNOLÓGICO AUTÓNOMO DE MÉXICO (ITAM), MEXICO CITY, MEXICO**
Professor of Finance at the Graduate School of Business (1997-1999).
- **UNIVERSIDAD PANAMERICANA, MEXICO CITY, MEXICO**
Professor of Project Evaluation and Finance at the School of Engineering (1995-1997).

Herbert E. Vargas

Education

Bachelor of Science; B.S. Civil Engineering – California State Polytechnic University, 1981

Professional Registrations

State of Florida – Professional Engineer, 1994

State of Texas – Professional Engineer, 2005

State of California – Professional Civil Engineer, 1986

Overview

Mr. Herbert E. Vargas has over 23 years of public sector and private consulting engineering practice in the fields of project management, traffic and revenue, transportation planning, project financing, toll systems, ITS, traffic engineering, highway engineering, construction management, transit, drainage, environmental studies, planned communities, land development and growth management.

Professional Experience

Traffic and Revenue and Project Financing

- *North Tarrant Express Managed Lanes Traffic and Revenue Study (2008). Review of the operations of the managed lanes for the development of forecasts to support the concession bid of a major European concessionaire.*
- *I-75 HOT Lanes Feasibility Study, Florida (2008)- Project Manager for the development of a feasibility study to support an unsolicited proposal of a major European concessionaire.*
- *Poinciana Parkway Traffic and Revenue Study, Florida. Project Manager for the review of existing Traffic and Revenue projections and elaboration of an alternative forecast to support a major international developer in its bid for the project.*
- *I-495 HOT Lanes Traffic and Revenue Peer Review (2006)- Project Manager for the review on behalf of the Virginia Department of Transportation. Revision of private developer's traffic projections to assist in the negotiations of this Public Private Partnership.*
- *SL 480 (Eagle Pass Outer Loop) in the Laredo District, Eagle Pass, Texas (2005) - As Chief Specialty Engineer, Mr. Vargas used conceptual fatal flaw analysis models or techniques for the toll feasibility analysis. The objective of the study is to review the traffic forecasts and revenue estimates in light of influences from Mexico and traffic crossing the Eagle Pass-Piedras Negras International Bridge.*
- *West Loop Project for the TxDOT Pharr District, Brownsville, Texas (2005)- As Chief Specialty Engineer, Mr. Vargas used conceptual fatal flaw analysis models or techniques for the toll feasibility analysis. The objective of the study is to refine and evaluate the most promising strategies for the West Loop project.*
- *Miami-Dade Expressway Authority Investment Grade Study (2003). Assisting in field data collection, review of socio-economic data, highway and transit network for the preparation of an investment grade study to forecast revenues for the Miami-Dade Expressway Authority System.*
- *Miami-Dade Expressway Authority Project Financing Plans. (1998 -2004). Assisting the Authority in the amendment of the FY 2004 – FY 2008 Work Program and the development of the FY 2005- FY 2009 Work Program in preparation for presentations to the financial markets. Mr. Vargas coordinated the legal, financial, general engineering and traffic and revenue consultant teams through the process under the direction of the Executive Director. In addition, Mr. Vargas assisted and supported MDX Chief Financial Officer and financial advisors in the establishment of the financing plans, funds drawdown*

forecasts and determination of expenditures and project costs. Coordinated, assisted and supported Traffic and Revenue Consultants in the forecast of toll revenues. Assisted in the development of grant applications from the ITS federal program, the Toll Revolving Trust Fund and the State Infrastructure Bank. Assisted in the development of general budgets for maintenance and operations of the Authority's facilities. Assisted and supported MDX legal counsel in the preparation of construction contracts, transfer agreements, joint powers agreements, agency negotiations and issuance of bond revenues. Assisted MDX Board and staff in development of its business plan, including development of conceptual layouts and cost for potential MDX projects and assisting in the forecast of potential revenues. Managed and coordinated the development of the initial MDX Work Program and Long Range Plan. Developed the initial Renewal/ Replacement Program for MDX's highways, and updates.

- *Presentations to Bond Rating Agencies – MDX (2000)*. Coordinated the preparation of the Consulting Engineers Report for bond issuance by the Authority. In addition, assisted in the review of financing documents and participated in presentation meetings with bond rating agencies.
- *San Joaquin Hills Transportation Corridor (1986)*. Development of fee programs for the financing of a portion of the San Joaquin Hills Transportation Corridor based on estimated traffic contributions from future developments and estimated project expenditures. Project was financed by development fees and toll revenue bonds by the Transportation Corridor Agencies.

Toll Facilities and Systems

- *Implementation of Electronic Toll Collection – MDX System. (2000)*. As Deputy Program Director for Dade Transportation Consultants, provided oversight in the planning, design and implementation of electronic toll collection at the MDX mainline toll plazas.
- *Electronic Toll Collection – Florida's Turnpike System (1999)*. Project manager for the preparation of operation manual to close electronic toll collection lanes for maintenance operations.

Project Management

- *Miami-Dade Expressway Authority (1997-2001)*. Provided oversight of the planning, design, right-of-way acquisition, toll operations and construction programs during the initial stages of the MDX program. During this time, supervised, assisted, directed and reviewed work completed by DTC project managers and task managers. Provided oversight during the preliminary design of the SR 836 toll plaza improvements. Participated in the selection process of the design engineers, and coordinated the transition from the preliminary engineering to the final design of the project. Assisted in the coordination of the electronic toll collection and toll plaza design.
- *East-West Multimodal Corridor Study. (1994-1998)*. As consultant to Florida Department of Transportation, managed traffic operational analysis utilizing CORSIM, traffic data collection, construction cost estimates, and preparation of conceptual plans for highway improvements.
- *City of Buena Park – City Traffic Engineer and Manager of Traffic and Transportation Services*. Supervised the preparation of the circulation element for the City's Comprehensive Plan. Developed a Transportation Improvements Fee Program and seven-year capital improvement program as components of the City's Growth Management Plan. Reviewed and coordinated CalTrans plans for improvements to the I-5 and SR-91 corridors. Supervised the development of a travel forecast model for the City. Managed and reviewed the preparation of traffic signal, signing and striping plans. Provided construction oversight for traffic signal improvements.

Professional Memberships

- Institute of Transportation Engineers.
- American Society of Civil Engineers.
- South Broward Board of Realtors.

Committees and Civic Involvement

- Member of the Pembroke Pines Economic Development Board.
- Member of the Government Affairs Committee for the Miramar-Pembroke Pines Chamber of Commerce.
- Member of the Kiwanis Club – Greater Pembroke Pines Chapter.
- Former alternate to the Miami-Dade County ITS Committee.
- Former alternate to the Miami Intermodal Center Technical Working Committee.
- Former alternate to the Miami-Dade MPO Technical Working Committee for LRTP and TIP.
- Former Secretary of the Airport West Chamber of Commerce.
- Former Chairman of the Southern California City Traffic Engineers Association.
- Former member of the Orange County Transportation Agency Technical Advisory Committee.
- Former member of the Orange County Congestion Management Program T.A.C.
- Former member of the Orange County Intelligent Vehicle Highway Systems T.A.C.

Shahram "Sam" Bohluli, Ph.D., P.E.

Education

- **Ph.D.**, Transportation Engineering, University of Texas.
- **Master of Science**, Transportation Engineering, University of Texas
- **Bachelor of Science**, Civil Engineering, Tehran Polytechnics University.

Professional Registrations

State of Texas – Registered Professional Engineer

Overview

Mr. Bohluli has over 14 years of public and private consulting engineering practice in the fields of Traffic and Revenue Analysis for Toll Roads, Transportation Systems Modeling, Transportation Planning and Geometric Design of Transportation Facilities.

Professional Experience

Traffic and Toll Revenue

- Hidalgo County Loop Traffic and Revenue Study (2008). Chief Modeler for the development of forecasts to support the development of the Hidalgo County Loop around the cities of McAllen, Mission, Pharr and others in the Texas-Mexico border.
- North Tarrant Express Managed Lanes Traffic and Revenue Study (2008). Chief Modeler for the development of forecasts to support the concession bid of a major European concessionaire.
- Toll Feasibility Study for the Pennsylvania Turnpike Lease. Chief Modeler for the development of traffic and revenue estimates supporting the bid of a major consortium of toll road operators and investors.
- US-460 Sketch Traffic and Revenue Study for the Virginia Department of Transportation. Chief modeler in the development of traffic and revenue estimates used in the Public-Private Initiatives process. The study served as the basis of the assessment of the financial feasibility of the project.
- I-64 Sketch Traffic and Revenue Study for the Virginia Department of Transportation. Chief modeler for the study of the potential conversion of portions of I-64 in Virginia to toll facilities including congestion pricing.
- South Padre Island Toll Feasibility study for the Texas Department of Transportation. Chief modeler for the development of intermediate level traffic and revenue projections for the Texas Department of Transportation. The study will serve to assess the preliminary financial feasibility of the project and screen alignment alternatives. The study involved the development of a project specific model extracted from the Statewide Analysis Model (SAM) and the Local MPO models.
- Toll feasibility study for I-20 Managed Lanes in Atlanta, Georgia. Oversight of the modeling aspects of the project utilizing the Voyager/TP+ platform. Projections will be utilized to assess the potential of the project to become a Public-Private Partnership project.
- Investment grade Traffic and Revenue study for SH121- concession Denton and Collin counties, Texas (2007). Chief Modeler for the development of Traffic and Revenue

- projections to support the financial bid of a major proposer.
- Investment grade study of Lake Lewisville Toll Bridge. Project manager for this study and left the company at the end of calibration process. The tasks that was completed up to then consist of Data collection, SP Survey, traffic and delay runs and model development and data preparation of the NCTCOG model to be transferred to TranPLAN platform. The data preparation included rezoning and validating and calibrating the current model.
- North Texas Toll Authority Partnership, Feasibility study of different alternatives for future projects of NTTA system in Dallas Fort Worth area.
- Preliminary study for SH 121 South-west parkway, including comprehensive traffic and revenue estimation. The purpose of this study was to develop traffic and toll revenue forecasts for the proposed SH 121 Southwest Parkway project extending from IH 30 in Fort Worth to US 67 in Cleburne.
- Traffic and Revenue Estimation for the Proposed Eastern Extension of the President George Bush Turnpike EIS, Dallas, Texas. The scope of the work was to develop traffic volumes and revenue estimates for the proposed PGBT Extension. Traffic and revenues were estimated for the 2007 opening-year (toll free and tolled) conditions as well as for the 2025 future year (toll free and tolled) conditions.
- North West Corridor EIS, Denver Regional Council of Governments (DRCOG), Denver, Colorado. I coordinated to convert the new coded project from TranPLAN to the TransCAD highway network, modifying transit network to match the new project and running the four step model to develop new trip tables.
- Sketch level toll feasibility study in:
 - US 280 / Loop 1604, San Antonio, Texas.
 - IH 30 Managed Lane Corridor, TxDOT - Fort Worth, Texas.
 - SH 121 South-west Parkway, Tarrant and Johnson County, Texas.
 - US 31 Bypass, Corsicana, Texas.
 - IH 30/US 80, Dallas, Texas.
 - SH 190 Extension, Dallas County, Texas.
 - US 190 Express Lane Concept, Copperas Cove, Texas. Loop 49, Tyler, Texas
 - US 281 Falfurrias Relief Route, Falfurrias, Texas.

Transportation Planning and Engineering

- Development of the Mexican Federal Strategic Highway Model in TransCAD (PEC). Commissioned by the Mexican Federal Government, this study had as an objective the integration of the PEC with the Texas Statewide Analysis Model (SAM) to facilitate the study of cross border traffic and its influence nationwide.
- Developing and implementing a new Travel Demand model for Dallas/Fort Worth area in TransCAD platform; including database management, writing more than 100 GISDK applications incorporated in the new model.
- Developing MOBIL6 input generator from TransCAD model's outputs for North Central Texas Council of Governments.
- Developing SUMMIT program in GISDK platform to compare different transit alternative projects.
- Developing a special trip distribution procedure for external stations and air port trips.
- Developing a procedure of needs based mobility plan and presenting various workshops

- about the new model in NCTCOG and the University of Texas at Arlington
- Analyzing the 1996 Household travel survey to develop trip attraction and production models in TransCAD environment using GISDK programming language.
- Responsible for updating and running mainframe and TRANPLAN travel demand models for Thoroughfare Planning projects and Major Investment Studies in Dallas, Collin, Tarrant and Denton County in Dallas/Fort Worth area.
- Analyzing the model outputs in different alternatives for comparison and submission of the best plans.
- Preparing GIS maps, demographic information tables and job setups for technical assistance requests
- The research for Personalized Public Transit Operational Test, A federal funded project with in corporation with The Dallas Area Rapid Transit (DART).
- The research for Traffic Impact Analysis for City of Carrollton, Texas in corporation with the UT Austin
- Comprehensive Transportation Plan for the City of Mashhad (Second largest city in Iran with more than 1,000,000 population). Tasks included:
 - Projection of Population and Employment.
 - Improving performance of the roadway network by optimizing intersection geometry.
 - Developing systematic approach to determine roadway directions (two-way, one way).
 - Development of Trip Generation, Distribution, Mode Split and Assignment Models.
 - Development of special purpose software and databases using FoxPro and Access, customized for use by management.
 - Development of Volume Delay Functions for traffic assignment model.
- Origin-Destination survey: Coordinating the team of data collection for the OD survey and direct travel counts.
- Database development: Developing the base database and customizing the data to be used in the modeling procedure.
- Analytical modeling: Development of the four step travel demand model including Trip Generation, Trip Distribution, Mode Choice and Trip Assignment in EMME2 platform.
- Traffic assignment for both private and transit systems: Coordinating the project of evaluating different transit alternative for the city.
- Data analysis with report writing: Analyzing the outputs of the model and writing the comprehensive reports.
- Participating in technical management meetings for the goal-setting and methodology
- Development and presenting the results to the city managers and government officials.

Professional Memberships

- *Member of the Institute of Transportation Engineers;*
- *Member of the American Society of Civil Engineers*

Publication and Presentation

- Bohluli, Shahram; *Developing a volume delay function for DFW area*; The North American Regional Science Council, Philadelphia, Pennsylvania; November 2003.
- Bohluli, Shahram, B. Pashaei and S. Ardekani, *Arlington Rapid Transit, Demand Estimation*, TexITE, Summer Meeting, Corpus Christi, Texas, 1999.
- Bohluli, Shahram and N. Tabatabaee, *Study of laboratory Characteristics of CRM*, The Fourth International Civil Eng. Conference, Tehran, Iran, 1997.

Carlos L. Miranda

Education

Bachelor of Science, Civil Engineering, Manhattan College, Riverdale, NY, 1997

Continuing Education

- Synchro Advanced Course, NYC Training Center, 2002 – Trafficware

Overview

Mr. Miranda has extensive experience in the field of traffic and revenue studies, major investment studies, and technological applications to toll road operations. His responsibilities have included the design of static toll revenue models, traffic projection and reduction, toll facility feasibility studies and bridge's viability, field system testing, system evaluation, and implementation strategies on several Intelligent Transportation System projects.

Mr. Miranda also has extensive experience in many types of analyses for transportation planning and traffic engineering projects, including EIS report production, traffic microsimulations, capacity analyses, traffic surveys and data collection. Mr. Miranda experience on traffic simulation includes the evaluation of alternatives, level-of-service/capacity analyses, and alternatives for construction phases, and future traffic operations.

Professional Experience

Toll Facility Feasibility Studies

- **Toll feasibility study for I-20 Managed Lanes in Atlanta, Georgia.** Project manager for the development of T&R projections utilized to assess the potential of the project to become a Public-Private Partnership project
- **South Padre Island Second Causeway Intermediate traffic and Revenue Study, South padre Island, Texas. (2007)-** Technical Lead for the static model and the development of revenue estimates of this Level 2 study on behalf of the Texas Turnpike Authority Division of TxDOT.
- **SH 121 Traffic and Revenue Study, Denton and Collin Counties, Texas (2006)** – Technical Lead for the static model and the development of revenue forecasts for the Traffic and Revenue Study for this project on behalf of a private developer pursuing the SH121 Comprehensive Development Agreement led by TxDOT.
- **SL 480 (Eagle Pass Outer Loop) in the Laredo District, Eagle Pass, Texas (2006)** – Technical Lead for the toll feasibility analysis, including review of cost estimates, tolling plans, refined toll traffic analysis, toll operations strategies and associated support services. The objective of the study is to review the traffic forecasts and revenue estimates in light of influences from Mexico and traffic crossing the Eagle Pass–Piedras Negras International Bridge.
- **West Loop Project for the TxDOT Pharr District, Brownsville, Texas (2005)**–Technical Lead for the toll feasibility analysis, including a Level 1 (Sketch Planning /Toll Feasibility) and Traffic and Revenue Study. The objective of the study is to refine and evaluate the most promising strategies, tolling concepts and toll collection methods for the West Loop project considering production, financial and revenue constraints and to evaluate the economic value of the project and its bonding capacity.

- **E-470 Toll Revenue Study, Denver, Colorado (2003)** – Technical Lead

for sensitivity analyses during which it was tested the limits of certain parameters to produce "worst-case scenario" revenue forecasts, such as airport trips, inflation rate, regional growth and improvements to parallel roadways. These analyses led to the successful placement of bonds needed to raise funds for the construction of Segment IV.

- **West Virginia Toll Road and Bridge Feasibility Studies, West Virginia (2003)** – Technical Lead for preparation of traffic and revenue studies to determine the viability of constructing toll facilities. These studies work included developing refined studies of traffic and revenues; estimating operating and maintenance expenses; estimating annual debt service costs with various types of bonding mechanisms; developing alternative construction phasing programs (\$1.5 billion total cost)
- **New Jersey Highway Authority Studies, NJ (2002-2004)** – Supervisor and Technical Lead of several projects involving the Garden State Parkway. Over the years assignments performed were numerous traffic and revenue studies, all aspects of toll rate review, toll plaza operations studies, and traffic engineering designs.
- **Mexico-Cuernavaca and Associated Toll Roads Study, Mexico (2002)** – Technical Lead of study traffic patterns on the country's 150-kilometer Cuernavaca Toll Road System, the oldest toll facility in Mexico operated by the government agency CAPUFE. Mr. Miranda supervised the gathering of historical information from various sources, analyzed the effects on the traffic patterns of Mexico City's population growth, the GDP and toll increases. On the basis of the analyses and the facility's past revenue record, Standard & Poor's gave the toll road's \$265 million debt offering an "A" rating, the first of its kind for an international financing. The technical analyses included verification of historical traffic patterns of passenger and commercial vehicles on each tollway section, future growth potential, certification of the physical state of the roadway and development of a maintenance program for each tollway.

Electronic Toll Collection Experience

- **New Jersey Electronic Toll Collection Installation Program, NJ (2001)** – Assistant Project Manager responsible for managing field testing of ETC installation for the New Jersey Turnpike and the Garden State Parkway. Managed day-to-day testing of ETC equipment and reported and analyzed test results including identification of equipment failures and anomalies. Assisted in evaluation of statistical data and production of final report.
- **West Virginia Turnpike, WV (2002)** - Toll System Upgrade, Assistant Project Manager responsible for evaluation of existing Turnpike toll collection system and infrastructure. Evaluated existing system's adaptability to implementation of an Electronic Toll Collection system.

Professional Memberships

- ITE
- ASCE
- Tau Beta Pi
- Chi Epsilon

Marcos Noguerón

Education

- Master of Science in Civil Engineering (Transportation), University of California at Berkeley, 1991.
- BS in Civil Engineering, Universidad Iberoamericana, México, 1990.

Overview

Mr. Noguerón has more than 16 years of Transportation Planning and Engineering experience. He has led dozens of toll road feasibility studies in four different countries including numerous investment grade studies for projects financed in US and Latin American markets. Mr. Noguerón has advised state and national governments on the structuring of toll road concessions and Public-Private partnerships. He has served as a financial liaison with underwriters, rating agencies and credit enhancers assisting in the successful financing of \$7B in bonds and loans supported by C&M's studies. Mr. Noguerón has worked with the US and Spanish financial entities to develop a statistical methodology to assess the probability of a project meeting its obligations to bondholders.

Professional Experience

Traffic and Revenue Studies

- *Hidalgo County Loop Traffic and Revenue Study (2008).* QA/QC for the travel demand model development and forecast methodology of the traffic and revenue study of the Hidalgo County Loop around the cities of McAllen, Mission, Pharr and others in the Texas-Mexico border.
- *Traffic and Revenue Study for the Pennsylvania Turnpike Lease (2008).* QA/QC for the development of traffic and revenue estimates supporting the bid of a major consortium of toll road operators and investors.
- *North Tarrant Express Managed Lanes Traffic and Revenue Study (2008).* QA/QC for the development of forecasts to support the concession bid of a major European concessionaire.
- *US-460 Sketch Traffic and Revenue Study for the Virginia Department of Transportation (2007-2008).* QA/QC in the development of traffic and revenue estimates used in the Public-Private Initiatives process. The study served as the basis of the assessment of the financial feasibility of the project.
- *I-64 Sketch Traffic and Revenue Study for the Virginia Department of Transportation.(2007-2008))* QA/QC for the study of the potential conversion of portions of I-64 in Virginia to toll facilities including congestion pricing.
- *I-20 Managed Lanes Traffic and Revenue Study, Atlanta, Georgia (2007)—*QA/QC in the development of sketch level traffic and revenue projections to assess the feasibility of adding Managed Lanes to this corridor.
- *I-75 HOT Lanes Feasibility Study, Florida (2008)-* Mr. Nogueron acted as QA/QC for the development of a feasibility study to support an unsolicited proposal of a major European concessionaire.
- *SL 480 Sketch Traffic and Revenue Study -* QA/QC in the development of sketch level traffic forecasts and revenue estimates for this road in light of influences from Mexico and traffic crossing the Eagle Pass–Piedras Negras International Bridge.
- *West Loop Project for the TxDOT Pharr District, Brownsville, Texas –* QA/QC for the development of sketch toll feasibility study. The objective of the study is to refine and evaluate the most promising strategies, tolling concepts and toll collection methods for the West Loop project considering production, financial and revenue constraints and to evaluate the economic value of the project and its bonding capacity.
- *SH121 CDA concession- Skanska ID-* This Greenfield project is located in the Dallas- Fort Worth metropolitan area. Mr. Nogueron was responsible for the QA/QC of the traffic and revenue forecasts that served as the basis of Skanska's ID bid, receiving a preliminary investment grade rating from Moody's. Based on C&M's work Skanska received loan commitments from RBS and ING.