	Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130	State of West Virginia Centralized Expression of Interest 02 - Architect/Engr
---	---	--

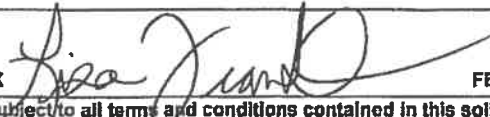
Proc Folder: 549033 Doc Description: ECONOMIC IMPACT STUDY OF WV 24 NPIAS AIRPORTS Proc Type: Central Contract - Fixed Amt			
Date Issued	Solicitation Closes	Solicitation No	Version
2019-02-27	2019-03-27 13:30:00	CEOI 0807 SAC1900000001	1

BID RECEIVING LOCATION	
BID CLERK DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION 2019 WASHINGTON ST E CHARLESTON WV 25305 US	

VENDOR
Vendor Name, Address and Telephone Number: Cleveland State University 261 Euclid Avenue Cleveland, OH 44115-2214 (216) 687-3630

RECEIVED
 2019 MAR 26 PM 3:52
 WV PURCHASING
 DIVISION

FOR INFORMATION CONTACT THE BUYER Jessica S Chambers (304) 558-0246 jessica.s.chambers@wv.gov

Signature X 	FEIN # 34-0966056	DATE 3-27-2019
---	-------------------	----------------

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION:

The Acquisitions and Contract Administration Section of the Purchasing Division ("Purchasing Division") is soliciting Expression(s) of Interest ("EOI" or "Bids") for West Virginia Aeronautics Commission ("Agency"), from qualified firms to provide consulting services ("Vendors") as defined herein.

*****Please note: Online responses have been prohibited. You must submit your proposal via mail or fax. The fax number is: (304)558-3970.

INVOICE TO:		SHIP TO:	
ADMINISTRATOR		EXECUTIVE SECRETARY	
WEST VIRGINIA AERONAUTICS COMMISSION		WEST VIRGINIA AERONAUTICS COMMISSION	
BLDG 5 RM 129		BLDG 5 RM 129	
1900 KANAWHA BLVD E		1900 KANAWHA BLVD E	
CHARLESTON	WV25305	CHARLESTON	WV 25305
US		US	

Line	Comm Ln Desc	Qty	Unit Issue
1	Professional Engineering Services for Economic Impact Study		

Comm Code	Manufacturer	Specification	Model #
81000000			

Extended Description :
Professional Engineering Services for Economic Impact Study

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

(Name, Title)
Jack Kraszewski, Director, Tech Transfer

(Printed Name and Title)
2121 Euclid Avenue, PH214

(Address)
216-687-5108 - 216-687-9382

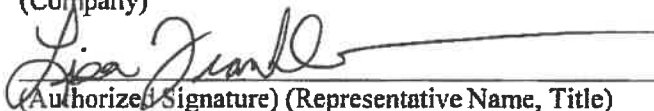
(Phone Number) / (Fax Number)
j.kraszewski@csuohio.edu

(email address)

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

Cleveland State University

(Company)



(Authorized Signature) (Representative Name, Title)

Lisa Franklin, Assistant Director

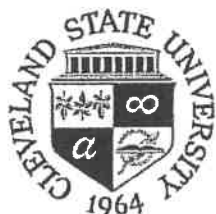
(Printed Name and Title of Authorized Representative)

03/27/2019

(Date)

216-687-3607 - 216-687-9382

(Phone Number) (Fax Number)



Levin.

The Maxine Goodman Levin
College of Urban Affairs

STATEMENT OF INTEREST

WEST VIRGINIA AIRPORT ECONOMIC IMPACT STUDY

SOLICITATION No.:
CEOI 0807 SAC1900000001

Prepared for:

State of West Virginia
Department of Administration, Purchasing Division
2019 Washington Street, East
Post Office Box 50130
Charleston, WV 25305-0130

Contractors:

Center for Economic Development
Maxine Goodman Levin College of Urban Affairs
Cleveland State University

2121 Euclid Avenue, UR 355
Cleveland, OH 44115
Tel: 216.875.9967

Principal Investigator:
Iryna V. Lendel, Ph.D.
i.lendel@csuohio.edu

March 27, 2019

TABLE OF CONTENTS

1. Background 2

2. Project and Goals 2

3. Qualifications, Experience, Past Performance 9

 Key Staff of the Research Team (Staffing Plan): 9

Past Performance 11

 Other Transportation Studies 17



PROJECT SPECIFICATIONS

1. Background

The Center for Economic Development (the Center) at Cleveland State University submits this proposal to the state of West Virginia to show its Expression of Interest (EOI) to conduct the economic impact study of West Virginia's 24 National Plan of Integrated Airport System (NPIAS) on the state of West Virginia and its regional economies. The primary goal of this project is to assist state of West Virginia with its planning and resource allocation of state funds for the airport system. In the following sections, this EOI will illustrate the goals of the proposed study, methodology, and data for researching the economic impact of the overall system, each airport individually, and the evaluation of each airport for planning and resource allocation documenting strengths, weaknesses, and prospective needs of each airport.

The section 2 will discuss the *Project and Goals* of this proposal including methodologies, proposed data and analyses to evaluate each of 24 airports and their cumulative impact on the state economy and corresponding to each airport regional economies.

Section 3 will outline the Center's *Qualifications, Experience, and Past Performance* in our capability and expertise to conduct this study through illustrating past performance in similar projects, detailing expertise of key research staff, and addressing qualifications of collaborating partners.

2. Project and Goals

The goal of the proposed project is to conduct an economic impact study of the State's 24 NPIAS airports that can guide the planning and resource allocation of State funds to ensure successful functioning of the state airport system and economic development projects related to the system. To achieve the goal of the project, the following objectives are addressed in the proposed research agenda:

1. Creating an economic overview of the state economy and 24 NPIAS airports' regional economies
2. Analyze trends and projections of population and economic activity in the state and regional economies
3. Provide data and analysis of the overall impact of 24 NPIAS airports on the economy of the State
4. Provide data and analysis of each of the 24 NPIAS airport's impact on respective regional and local economies
5. Evaluate the strength and weaknesses of each of the 24 NPIAS airports using consistent criteria
6. Estimate revenues and airport supported tax revenues for each of the 24 NPIAS airports
7. Provide a summary report with the analysis of economic impact of the State's 24 NPIA System on the state economy and the analysis of economic impact of each airport on the respective regional and local economies together with the analyses of strength, weaknesses and financial health of each airport.

To achieve the overall project goal and each objective, the following concepts, methodologies, and data will be used:



Objective 1. Create an economic overview of the state economy and 24 NPIAS airports' regional economies

Concepts: Regional economies are growing because of *growth of economic activity* in companies and organizations, purchasing supplies for the economic growth within the region of study, and spending of its citizens (whether the region is defined as a state, a region, a county or a city). To understand the economic impact of the system of airports and each airport separately on the state and regional economies, the study should define *what comprises the regional economy*. The regional economy will be described with the analyses of industries and companies, how the industries grew in the past and will be grow in the future, identifying the supply chain of the industries, acertaining the inter-industrial relationships between industries and companies within the region of study, the dynamics of the population where companies gather their workforce, and detecting the changes of personal income due to people bringing their salaries leading to spending money locally to boost the economic activity.

Methodology: *Regional analyses techniques* will be used in Objective 1; this will include a descriptive analysis of industrial growth based on 3-digit North American Industrial Classification System (NAICS) definition, identifying economic base industries with location quotients of employment and regional gross product (GRP) – an equivalent of national gross product (GDP) on a regional level, and an analysis of fast-growing industries based on economic projections.

Approach: This objective will be achieved with a *quantitative approach* to the analysis. The research team will use Moody's Economy.com data to analyze the 5-year history of industrial growth of the state and regional economies and Moody's projections for ten years forward. The study will identify industries that are driving economic growth of each region (economic base industries) and fast-growing industries, specifically related to oil and gas shale development and other areas of the potential fast economic growth.

Special attention will be given to the *oil and gas shale development* across all three segments of the industrial specialization: upstream activities (drilling, production, and on-site processing), midstream activities (oil and gas processing and pipeline transportation), downstream activities (petrochemical processing/refining and chemical & petrochemical manufacturing). The future development of the oil and gas shale industry will be analyzed regarding the increased demand for commercial air transportation, services to businesses, and increased demand for flights serving general population due to increased personal income.

Objective 2. Analyze trends and projections of population and economic activity in the state and regional economies

Concepts: taking into consideration the results of economic overview created under Objective 1, this objective aims to create *projections for air-related activities* because of growing demand due to industrial growth, income growth, and population growth.

Special attention in this objective will be given to *aviation-dependent economic activities*, i.e., industrial and companies that are the largest users of aviation services. These industries will be identified and mapped for the state economy and each region related to the 24 NPIAS airports. These industries' location and their growth projections will be given special attention for planning purposes.



Methodology: Two methodologies will underlie these analyses: (1) the *methodology of projecting* population and economic activity using historical trends and departure of the trends regarding major economic development events, and (2) *input-output modeling*, which provides information on the significant customers of air transportation. The input-output data will be used from the Impact Analysis for Planning model typically known as IMPLAN. This model estimates relationships between industries through economic multipliers that reflect how much industries buy from each other and sell to each other, in other words, identifying supply-chain and customer chain of industries within a region of study. Practitioners and academics widely accept the IMPLAN model as a leading model of estimating multiplier-based economic impact. IMPLAN is used extensively for numerous economic impact studies conducted for individual airports and system of airports.

The research in this phase will identify the largest consumers of airport services (aviation-dependent economic activities) and calibrate the population and economic activity projections using the capacity of the input-output data to *identify the customer chain*.

Approach: This objective will be achieved with a *quantitative approach* to the analysis. The research team will use U.S. Census data, data from U.S. Bureau of Labor Statistics, and Moody's Economy.com to create projections for population growth and industrial growth in the state and regions relevant to the 24 airports. The data on *WV IMPLAN model* will be used to identify aviation-dependent economic activities and industries. The Geographic Information Software (*GIS*) will be used to map the distribution of aviation-dependent industries and population and industrial projections on the map of the state of West Virginia and the map of each region relevant to the 24 airports.

Objective 3. Provide data and analysis of the overall impact of WV Airports on the economy of the state.

Concepts: Researching estimating the overall economic impact of the WV Airport System on the State economy will utilize the following concepts:

The input-output model measures how the economy will respond to the expansion of a specific industry. For example, growing demand for air transportation may cause airports to increase operational activity, and in the process invest in expanding and creating additional infrastructure and hire more people. The first round of industry expansion is a *direct effect* of the operation and capital investment. The airports may also contract out to suppliers, such as fuel supply companies and repair service companies, and those suppliers may in turn contract to others for parts and services, such as fuel vehicles, pipelines, auto parts manufacturing, and energy. This can be thought of as an indirect result of the demand to provide more air transportation services – *indirect effect*. There is a third round of spending that must also be captured. This is the spending that comes from existing and new employees of airports and their supply companies. This is an *induced effect* in consumer service industries that is caused by the spending of the airport employees and all employees of suppliers who serve them, from hospitals and restaurants to barbers and grocery stores.



Besides an economic impact caused by *operating for management of airports and capital expenditures*, the state-wide model will account for *businesses and organizations that are airports' tenants*, general aviation *visitor spending*, and spending of *commercial services visitors*.

Methodology: The research team in this study will follow *methodologies prescribed by the Federal Aviation Administration (FAA)*, i.e. measuring economic impact quantified in terms of employment, payroll, and output. We will use a variety of data collection and analysis techniques to assess the input data for economic impact modeling. Surveys and interviews will be used to collect data for on-airport activities, airport management, airport tenants/businesses, average capital investment, spending from general aviation visitors, and spending from commercial visitors. The total of this data on the 24 NPIAS airports will create the input to a model measuring state-wide economic impact. Three measures will be used to estimate the quantitative economic impact. These measures are employment (number of jobs), labor income (payroll), and output (total value of goods and services produced in the region). Later in this EOI, we will discuss another measure produced as a result of modeling - taxes.

The Center will conduct the economic impact study using *IMPLAN Professional and IMPLAN Data Files*. Each of the components of economic impact analysis is composed of direct, indirect, and induced impacts. *Direct impact* refers to the initial value of goods and services that are purchased by West Virginia Airports. These purchases are sometimes referred to as the first-round effect. *Indirect impact* measures the value of labor, capital, and other inputs of production needed to produce the goods and services being purchased after the initial round of spending (second-round and additional-round effects). *Induced impact* measures the change in spending by local households due to increased earnings by employees in local industries who produce goods and services for the industries selling to the visitors and their suppliers.

Approach: The team will use *quantitative and qualitative* approaches to collect all the necessary data for the economic impact. Data collection will include two surveys and in-person interviews. *The survey of airport managers* will be deployed to assess on-airport activities and capital improvements. This survey will collect data on each airport's annual operational budget for airport management, capital expenditures, business tenants, other tenant organizations, airline information, cargo, and other pertinent information. Using the results of the first survey, the research team will *survey businesses and other organizations* located at the airport and surrounding the airport. Using the responses from the survey of airport managers, the research team will target business tenants at airports to determine their employment, wages, and sales; we may also use business level databases such as LexisNexis and Reference USA to collect data on employment and sales from these companies.

Additional data will be collected by the research team using in-person *survey of visitors* to West Virginia airports. The in-person survey intercepts will primarily assess data on spending by visitors from outside of the region who travel through WW airports for business or leisure. This survey will identify commercial airline visitors and general aviation visitors based on their responses to survey questions. The Center proposes to design a survey questionnaire that asks visitors about their spending locally while in the region. Examples of such questions include information about where they live, the cost of the airline, number of nights in a hotel, average spending on lodging, food, other travel expenses, and spending on attractions around the state and the region.



Data for survey non-responders will be estimated using public and private databases that the Center maintains. The research team may conduct *in-person interviews* with airport management while on-site at selected airports for additional information and clarification. Data for quantitative assessment of the economic impact of West Virginia Airports will be gathered from several sources. The research team will work with the state of West Virginia to solicit this information from each airport. In addition, the research team will secure support from the West Virginia Airport Managers Association. Data may be supplemented with publicly available data from the Federal Aviation Administration, the Department of Transportation, and the state of West Virginia.

Objective 4. Provide data and analysis of each of the 24 NPIAS airport's impact on respective regional and local economies

Concepts: the concepts in this objective are the same as in Objective 3, including *input-output* modeling using IMPLAN data and software; calculating *direct, indirect, and induced economic impact*, and collecting the *types of expenditures/data* included as an input into the modeling process. To calculate the economic impact of each airport on respective economies a few additional concepts will be engaged: *local economy, regional economy, and services area*. To identify respective to each airport local economy, regional economy, and service area, the research results of Objectives 1 & 2 will be utilized. In an airport is part of a metropolitan statistical area (MSA), the economic impact will be specified for the respective MSA and a county. If an airport is located in a rural area, an economic impact will be calculated for a respective county and a service area of that airport. The service area will be defined by geographic distribution of *aviation-dependent economic activities* and distribution of population using general aviation in that airport. In each of 24 cases, the local economy, regional economy, and service area will be defined individually during the beginning phase of the research.

Methodology: All the data collected for Objective 3 will be utilized to estimate each of the 24 NPIAS airport's individual impact on their respective regional and local economies (Objective 4). The same measures will be defined for each airport, as for the state-wide impact. The *WV IMPLAN data and software* will allow the research team to compose *custom geographic areas* that correspond to the local economy, regional economy, and service area (if all three are necessary) for each airport. As a minimum, two separate models and *two types of economic impact* will be calculated for each of the 24 airports, the economic impact on the local economy, and economic impact on the regional economy. If the service area differs, the third model will be calculated for those specific airports.

Approach: The team will use *quantitative and qualitative* approaches. The research team will collect data on-site about in-airport activities, airport management, airport tenants/businesses, average capital investment, spending from aviation visitors, and spending from commercial visitors from the surveys outlined in Objective 3. Also, the research team will interview and talk to airport employees, airport businesses, and surrounding businesses to assess critical contributions of each airport to the local economy. The qualitative contribution of the West Virginia airports to the community and businesses will be assessed using interviews and focus groups with airport management, airport tenants, and airport visitors.



Objective 5. Evaluate the strength and weaknesses of each of the 24 NPIAS airports using consistent criteria

Concepts: Using all the quantitative and qualitative data assembled in research completed for Objectives 1 through 4, the research team will examine the *economic benefit* of each airport and the airport system as a whole. The primary objective of the Analysis and Evaluation of each of the 24 individual West Virginia NPIAS Airports is to provide information to the *current status and capacity* of each airport.

Methodology: The research for this objective will utilize the *methodologies defined for Objective 4*. Also, the methodology of calculating economic impact for each segment of economic activity, including the following: *airport management, airport tenants (businesses and other organizations), capital investment averaged over the last 3-5 years), spending from general aviation visitors, and spending from commercial visitors*. Also, the *analysis of strength and weaknesses* for each airport will be conducted using the SWOT analysis technique based on research results of Objectives 1 through 4, any existing studies on the individual airport in West Virginia and state and regional WV economies, and primary data collected by the research team.

Approach: First, the research team will create an *evaluation matrix* to evaluate and “score” each airport on a variety of functions including, airport management structure, airport business tenants, capital investment, spending from visitors, the role the airport plays in emergency preparedness and first response functions, the community access they provide, and other industrial and economic indicators. It is the goal that this evaluation matrix can be used for state-level economic development planning, as well as local economic development outreach. This assessment will address the strengths and weakness of each airport, based upon the criteria established in the evaluation matrix. Supplemental information will be added based upon the competitive advantage analysis, and stakeholder interviews collected in the economic impact analysis. Using this assessment, the research team will then evaluate the potential economic impact of individual airports if they were to increase commercial service or start commercial service.

Second, the research team will *combine all data collected in Objectives 1 through 4*, airport-level data assembled from the economic impact portion of this study with regional data including population and demographic trends, employment and output trends, and employer profiles (research results for Objectives 1 through 4). To populate other parts of the matrix, the research team will rely on primary research including in-person interviews, phone interviews, literature review, and information from the popular press. Also, the research team will use the IMPLAN industrial inter-relationships, identify the industries that are the most significant consumers of airport services (aviation-dependent economic activities) and calibrate the population and economic activity projections.

As an additional focus, this part of the research will investigate the importance and impact of Mid-Atlantic Aerospace Complex on the State Airport System (MAAS) and the industry as a whole. As a possibility, the economic impact of MAAS will be added as a separate component of the state-wide economic impact part of the study.



An example of the evaluation matrix

Airport Functional Attributes	Economic Contribution	Community Support Network
<ul style="list-style-type: none"> • Commuter Enplanements • Cargo shipments (Air Carrier Enplanements) • Operations by category • FAA Terminal Area Forecasts (TAF) • NPAIS 5-year development cost estimates 	<ul style="list-style-type: none"> • IMPLAN estimated impacts <ul style="list-style-type: none"> • Operational spending • Capital spending • Visitor spending • Businesses in surrounding area • Foreign Direct Investments (FDI) in surrounding area • Population growth forecasts • Population serviced within set distance 	<ul style="list-style-type: none"> • Essential Air Service (EAS) determination by US DOT • Economically Distressed Area (EDA) determination by FAA • Emergency preparedness • Life-flight service

Objective 6. Estimate revenues and airport supported tax revenues for each of the 24 NPIAS airports

Concepts: based on the research results of Objective 5, this phase of research will systematize, visualize, and provide data to support planning and resource allocation for each of the 24 NPIAS airports. Airport revenue and airport tax revenue will be defined to inform the planning and resource allocation process.

Methodology: this phase of research will use all data collected in research Objectives 1 through 5 and will create a number of tables, tabulations, and GIS maps to illustrate strength, weaknesses, financial feasibility of each airport and the airport system as a whole. The airport revenue will be discerned from surveys and airport managers' interviews; the tax revenue will be calculated from the same sources and the results of IMPLAN modeling for each airport. IMPLAN-based tax impact calculates the impact of federal, as well as state and local taxes. This analysis will examine estimated airport revenue and taxes due to existing activities and will inform on the financial health of each airport taking into consideration the prospective increase of commercial and general population activities.

Approach: The team will use a quantitative approach. The research team will combine all data collected in Objectives 1 – 5, airport-level economic impact modeling data, results of the evaluation matrix, and tax and revenue for each airport as a result of all economic activity.



Objective 7: Provide a summary report with the analysis of economic impact of the State's 24 NPIA System on the state economy and the analysis of economic impact of each airport on the respective regional and local economies together with the analyses of strength, weaknesses and financial health of each airport.

The final report for this study will be based on all research findings received to achieve Objectives 1 through 6. The report will include analytics illustrated in charts, tables, and maps.

3. Qualifications, Experience, Past Performance

The Center for Economic Development (the Center) is an applied research center located in the Maxine Goodman Levin College of Urban Affairs at Cleveland State University. The Center's areas of expertise include economic impact, economic development strategy and policy, the performance of economic clusters and industries, regional analyses, and transportation analyses. The Center's researchers have over 20 years of experience in conducting sophisticated and thoughtful data analyses on studies in our areas of expertise. We apply academic rigor to the produced studies; moreover, the Center has earned a strong reputation for conducting unbiased research. This is evident by the variety of organizations we have worked with, the number of returning clients, and the strong recommendations from the Center's clients to their peers.

The Center has a strong competitive advantage that lies in creating solid research methodologies, its experience of working with national databases, and reputation for high quality and timely work. Our researchers work with longitudinal databases, including the U.S. Census' American Community Survey, the U.S. Bureau of Labor Statistics (BLS)' Quarterly Census of Employment and Wages (ES202 data), IMPLAN Data, Moody's Economy.com data and projections, and BLS Occupational Employment Statistics.

Key Staff of the Research Team (Staffing Plan):

Dr. Iryna V. Lendel – Principal Investigator, Economic Impact Analysis

The project will be managed by Dr. Iryna V. Lendel, Director of the Center for Economic Development and Research Associate Professor at the Maxine Goodman Levin College of Urban Affairs at Cleveland State University. She is an expert in economic impact and has been the principal investigator on 27 economic impact studies. She has been a project manager and a key researcher on a number of large economic impact, regional analyses, and industrial studies. The examples of these studies include Economic Impact of NASA Glenn Research Center (annually, 2004-2018), The Economic Impact of the Oil and Gas Shale Development in the State of Ohio (2012), The Economic Impact of the 2016 Republican National Convention (2017), and the Economic Impact of the Greater Cleveland Regional Transit Authority (2019).



Dr. Lendel is also an expert in the oil and gas industry, specifically the economics of shale oil and gas development in Ohio and the Tri-State area (OH, PA, WV). She has conducted many studies on the impact of oil and gas in the tri-state area. Her research has investigated the economic impact of shale formations in Ohio (2012), Economics of Utica Shale supply chain analysis, (2015), Economics of Utica Shale workforce analysis (2015), Mapping the opportunities for shale development in Ohio (2015), and the housing impact on shale development (2016-2018).

Dr. Lendel has a Ph.D. in Economics from the Ukrainian Academy of Science and Ph.D. in Urban Studies from the Levin College of Urban Affairs with a concentration in Economic Development.

Dr. Merissa C. Piazza – Survey Research & Regional Analysis

Dr. Merissa C. Piazza is a Program Manager at the Center and specializes in economic development, regional analysis, and survey design, methodology, and analysis. She has worked on a wide variety of regional analyses such as a Practitioner Guidebook to Measuring Entrepreneurial Ecosystems (2016), identifying growing industries in Northeast Ohio (2019), and assessing the feasibility of projects (2018). In addition, Dr. Piazza is an expert in all aspects of survey methodology and research. She is adept at questionnaire design, survey methodology, survey implementation, survey management, and survey analysis. She has taken classes at the Joint Program in Survey Methodology at the University of Maryland and holds a Ph.D. from Cleveland State University in Urban Studies and Public Affairs.

Dr. Obed Pasha - Transportation and Transit Efficiency

Dr. Obed Pasha is an Assistant Professor of Public Administration and Policy in the Maxine Goodman Levin College of Urban Affairs at Cleveland State University. He is an expert in performance management, public administration, transportation, and transportation efficiency. He was a key researcher on the economic impact of the Greater Cleveland Transit Authority (2019) where he looked at where jobs are spatially located and the mismatch of where people live compared to these jobs. Also, he has eight publications in transportation-related research investigating topics including transportation planning, public transit performance, transportation leadership, and transit efficiency. He earned his joint Ph.D. in Public Policy and Administration from Georgia Institute of Technology and Georgia State University.

Dr. Mark Salling – GIS and Population Dynamics

Dr. Mark Salling is a Senior Fellow and Research Associate in the Maxine Goodman Levin College of Urban Affairs. Dr. Salling has authored papers dealing with computer applications in planning, data dissemination, Geographic Information Systems (GIS), public participation GIS, voting rights, redistricting, poverty, residential mobility, environmental equity, and demography. He has taught courses on GIS, urban geography, statistical and computer methods, and demography. He is a certified GIS Professional (GISP) by the Geographic Information Systems Certification Institute (GISCI) and holds a B.A. and Ph.D. in Geography from Kent State University and an M.A. in Geography from the University of Cincinnati.



Each of the key research staff for this project will be leading a distinct part of research:

- Dr. Lendel will oversee the management of the project, conduct the economic impact research and analyze all information.
- Dr. Piazza will oversee the collection of data through surveys and interviews and conduct industrial analyses and projections.
- Dr. Pasha will lead the evaluation of the strength and weaknesses of each airport and establishing the matrix of evaluation.
- Dr. Salling will run projection models for population dynamics, and industry information.
- Also, the Center will use three additional staff members and 6 Graduate Research Assistants to complete the work outlined above.

Before submitting this EOI, the Center made initial contacts and created an understanding on a potential partnership with *two partners from West Virginia*, the West Virginia Chamber of Commerce and the Director of Yeager Airport Mr. Terry D. Sayre. Mr. Sayre will potentially consult on nature of airport management and advise on content and administration of surveys at the airports; he will be not involved in the evaluation of his or any other airports in the system. The West Virginia Chamber may be included in this study to assist in outreach and endorse the survey of businesses, specifically those located around airport locations.

PAST PERFORMANCE

Over the last twenty years, the Center has performed over 73 economic impact studies. A complete list of publications can be found here: https://engagedscholarship.csuohio.edu/urban_cecde/

Below are selected projects to show our past performance in economic impact, transportation, shale gas, and economic development strategy.

EDA University Center – 1985 – present

Since 1985, the Center conducts research funded by the U.S. Department of Commerce's Economic Development Administration (EDA). Funding from the EDA allows the Center to provide technical assistance and economic impact studies. The most recent example is the nationally publicized (NBC) economic impact we performed on the closure of the G.M. Assembly Plant in Lordstown, Ohio. The report can be downloaded here: https://engagedscholarship.csuohio.edu/urban_facpub/1591/

Location of Project: Cleveland, OH

Project Manager: Iryna V. Lendel, Ph.D., i.lendel@csuohio.edu

Type of Project: Regional Economic Development and Economic Impact

Project Goals and Objectives: Conduct regional economic analyses and economic impact analyses

How Goals and Objectives were met: Met goals through providing research and technical assistance to Ohio organizations, communities, and governments.

NASA Glenn Research Center Economic Impact Study – 2004 - present

The Center performs an annual economic impact study for the NASA Glenn Research Center. This study uses IMPLAN-based input-output (I-O) model to estimate the effect of NASA Glenn Research Center on the economies of Northeast Ohio (NEO) and Ohio. We examine economic impact in terms of growth in output (sales), value added (output less intermediary goods), number of jobs, labor income, and tax revenues. The latest report can be downloaded here:

https://engagedscholarship.csuohio.edu/urban_facpub/1546/



CENTER FOR ECONOMIC DEVELOPMENT

Location of Project: Cleveland, OH

Project Manager: Iryna V. Lendel, Ph.D., i.lendel@csuohio.edu

Type of Project: Economic Impact

Project Goals and Objectives: Estimate economic impact of NASA Glenn on Northeast Ohio and Ohio

How Goals and Objectives were met: The Center conducts economic impact for NASA Glenn annually

Reference:

Jim Kubera

FABSS II Program Manager

Wichita Tribal Enterprises, LLC

NASA Glenn Research Center

21000 Brookpark Road, 60-2

Cleveland, Ohio 44135

(216) 433-2483

james.kubera@nasa.gov

2016 Republican National Convention Economic Impact – 2017

In 2017, the Center was asked to conduct the economic impact of the 2016 Republican National Convention (RNC). To collect all the necessary data for the economic impact the research team relied on data from the host committee, in-person surveys, online surveys, phone interviews, and in-person interviews. This vast data collection estimated the impact as well as highlighted the unique aspects of the event in Cleveland.

The full report can be downloaded here: https://engagedscholarship.csuohio.edu/urban_facpub/1499/

Location of Project: Cleveland, OH

Project Manager: Iryna V. Lendel, Ph.D., i.lendel@csuohio.edu

Type of Project: Economic Impact

Project Goals and Objectives: Estimate the benefits generated by the RNC in Northeast Ohio

How Goals and Objectives were met: The Center conducted an economic impact for the Cleveland Host Committee

Reference:

Joe Marinucci

President & CEO

Downtown Cleveland Alliance

1010 Euclid Ave., 3rd Floor

Cleveland, Ohio 44115

(216) 736-7799

imarinucci@downtowncleveland.com



CLE to FRA Direct: Perceptions of the Business Community & Other Stakeholders – 2013

The Center was asked to evaluate if having a direct flight from Cleveland Hopkins Airport to Frankfurt, Germany would attract foreign direct investment (FDI) and strengthening the local and regional economy. After reviewing the literature on the relationship between FDI and international flights, the research team 1) surveyed German companies in Northeast Ohio to understand whether or not, and the extent to which, these firms value access to a direct flight between Frankfurt, Germany and Cleveland Hopkins Airport; 2) conducted one-on-one interviews of a dozen industry leaders regarding the direct international flight, and 3) wrote a report summarizing a review of interviews with about 45 industry leaders that occurred in early 2013 as part of the work to assess Northeast Ohio's regional economic competitiveness. Report available upon request.

Location of Project: Northeast Ohio

Project Manager: Merissa Piazza, Ph.D., m.c.piazza83@csuohio.edu

Type of Project: Regional competitiveness analysis

Project Goals and Objectives: Examine if a direct flight between Cleveland and Frankfurt, Germany would attract foreign direct investment (FDI)

How Goals and Objectives were met: Surveyed German firms located in Northeast Ohio and interviewed industry leaders

Reference:

John Luteran

Vice President, Finance

Greater Cleveland Partnership

1240 Huron Road E., Suite 400

Cleveland, OH 44115-1717

(216) 592-2200

JLuteran@gcpartnership.com

GCRTA Economic Impact and Contributions to Local Economy

The Center produced a report outlining the economic impact of the Greater Cleveland Regional Transit Authority (GCRTA) on Cuyahoga County. Based on GCRTA's local annual expenses, an input-output model was created that showed that their spending generates \$322 million for the county and nearly 3,000 jobs. The transportation services themselves were also explored for their societal and neighborhood-level effects. Our longitudinal models show that neighborhoods gaining transit access saw long-term gains in employment and property value, as well as drops in poverty. We also analyzed employment patterns, which showed that relatively quicker transit services between distressed neighborhoods and suburban job hubs help overcome spatial mismatch. The presentation can be downloaded here: https://engagedscholarship.csuohio.edu/urban_facpub/1593/

Location of Project: Cleveland, OH

Project Manager: Iryna V. Lendel, Ph.D., i.lendel@csuohio.edu

Type of Project: Economic Impact

Project Goals and Objectives: Estimate the economic and societal benefits of the GCRTA

How Goals and Objectives were met: Input-output model based on visitors' direct spending



Reference:

Joseph A. Calabrese
Senior Advisor for Special Projects and Strategic
Innovation (Former CEO)
Greater Cleveland Regional Transit Authority
1240 West 6th Street
Cleveland, Ohio 44113-1302
(216) 566-5100
jcalabrese@gcrta.org

Marybeth Feke
Director of Planning
Greater Cleveland Regional Transit Authority
1240 West 6th Street
Cleveland, Ohio 44113-1302
(216) 566-5100
mfeke@gcrta.org

Assessing the Feasibility of an Aerotropolis around Cleveland Hopkins Airport – 2010

This report provides an assessment of the feasibility of developing an aerotropolis around Cleveland Hopkins International Airport, Cleveland, Ohio. The report describes the methodology used to assess the feasibility, notes the needs and expectations of community stakeholders, profiles the challenges and successes of six emerging and potential U.S. aerotropolises, and discusses the operating experiences and challenges of 12 additional U.S. airports. Further, this report describes the demographic and economic aspects of the study cities and discusses potential target industry opportunities. The findings suggest that it is feasible to develop CLE as an aerotropolis, and that CLE may not be suited for an aerotropolis as practiced at other domestic and international airports. Rather, the concept itself may be the platform for moving forward with a defined, staged strategy for development surrounding CLE and should be viewed as an opportunity to develop the concept to specifically fit the region and its economic circumstance.

The full report can be downloaded here: https://engagedscholarship.csuohio.edu/urban_facpub/412/

Location of Project: Cleveland, OH

Project Manager: Brian Mikelbank, Ph.D., b.mikelbank@csuohio.edu

Type of Project: Feasibility Assessment

Project Goals and Objectives: Methodology used to assess feasibility, needs, and expectations of stakeholders, and profiles challenges and successes of six emerging and potential U.S. aerotropolises

How Goals and Objectives were met: Review of existing literature, stakeholder focus groups, facilitated sessions with local-based national site-selectors and members of the advisory group, spatial GIS analysis, demographic and economic data analysis, and legal and regulatory review

Reference:

Brian Mikelbank, Ph.D
Associate Professor
Cleveland State University
1717 Euclid Ave, UR 350
Cleveland, OH 44115
(216) 875-9980
b.mikelbank@csuohio.edu



Midstream Challenges and Downstream Opportunities in the Tri-State Region – 2016

To date, much of the work evaluating economic development opportunity resulting from shale has focused primarily on the upstream (exploration and production) side of the oil gas business. However, it has been apparent for some time that regional industries that transmit, process and consume natural gas would benefit greatly from a local source of cheap and abundant natural gas. Moreover, it has also become apparent that certain locations within the Marcellus and Utica shale formations produce gas rich in natural gas liquids (“NGLs”). The result has been the rapid development of midstream infrastructure in Ohio, Pennsylvania, and West Virginia. Further, NGLs, especially ethane, have applications as a feedstock for petrochemical companies. This, in turn, has led economic development experts to consider the possibility of regional growth in the downstream petrochemical industry. With these developments in mind, the Study Team was asked to investigate the likely downstream opportunities that may arise in Pennsylvania, Ohio and West Virginia as a result of the Marcellus and Utica Shale drilling and infrastructure build out.

The full report can be downloaded here: https://engagedscholarship.csuohio.edu/urban_facpub/1413/

Location of Project: Tri-State Region: Ohio, Pennsylvania, and West Virginia

Project Manager: Iryna V. Lendel, Ph.D., i.lendel@csuohio.edu

Type of Project: Economic impact and regional analysis

Project Goals and Objectives: Assess the likely downstream opportunities that may arise in Pennsylvania, Ohio and West Virginia as a result of the Marcellus, and Utica Shale drilling and infrastructure build out.

How Goals and Objectives were Met: The goals were met through regional and industry analyses

Reference:

Paul Boulier
Vice President
TeamNEO
1111 Superior Avenue, Suite 1600
Cleveland, Ohio 44114
(216) 363-5400
pboulier@teamneo.org

Matt Waldo
Senior Manager of Research
JobsOhio
41 South High Street, Suite 1500
Columbus, Ohio 43215
(614) 224-6446
Waldo@Jobs-Ohio.com

An Analysis of the Economic Potential for Shale Formations in Ohio – 2012

Cleveland State University, the Ohio State University, and Marietta College (the “Study Team”) were jointly asked by the Ohio Shale Coalition, led by the Ohio Chamber of Commerce, to investigate the nature and amount of economic activity that is likely to be spurred by this development. The Study Team undertook to evaluate the economic impact by collecting data, preparing models, and implementing the most commonly accepted software in economic development circles for studying economic impact. Since drilling and production data from the Utica shale is at the time of this publication unavailable, the Study Team relied upon a combination of interviews with industry experts and executives, the examination of prior studies in other shale plays, and interviews with government executives to build a model for likely development scenarios in Ohio. The study looks at the economic impact of shale development for the years 2011 to 2014. The full report can be downloaded here:

https://engagedscholarship.csuohio.edu/urban_facpub/453/



Location of Project: Ohio

Project Manager: Iryna V. Lendel, Ph.D., i.lendel@csuohio.edu

Type of Project: Economic Impact

Project Goals and Objectives: Examine the economic impact of shale formations in Ohio

How Goals and Objectives were Met: Using IMPLAN, the research team assessed the projected economic impact of shale development for the years 2011 to 2014.

References:

David Mustine

Senior Advisor

JobsOhio

41 South High Street, Suite 1500

Columbus, Ohio 43215

(614) 224-6446

mustine@jobs-ohio.com

Matt Waldo

Senior Manager of Research

JobsOhio

41 South High Street, Suite 1500

Columbus, Ohio 43215

(614) 224-6446

Waldo@Jobs-Ohio.com

Northeast Ohio Front Runners: Groups of Regional Industry Drivers (GRIDs) – 2018

Using statistical analyses, the Center identified groups of industries with strong regional specialization, competitive advantage, growing output, and growing productivity. These groupings are called GRIDs - Groups of Regional Industry Drivers. This is the first of a series of reports that involve identifying prospects for the regional economy and answering questions on what industry will be growth and how these industries should be supported by public policy, private investment, and public investment to further their growth.

The full report can be downloaded here: https://engagedscholarship.csuohio.edu/urban_facpub/1585/

The research brief can be downloaded here:

https://engagedscholarship.csuohio.edu/urban_facpub/1594/

Location of Project: Northeastern Ohio

Project Manager: Iryna V. Lendel, Ph.D., i.lendel@csuohio.edu

Type of Project: Regional competitiveness analysis

Project Goals and Objectives: To identify growing industries to guide policymakers

How Goals and Objectives were Met: Research team identified industries that have strong regional specialization, competitive advantage, growing output, and growing productivity

Reference:

Joel Elvery, Ph.D.

Policy Economist

Federal Reserve Bank of Cleveland

1455 E 6th St.

Cleveland, Ohio 44101

joel.elvery@clev.frb.org



Other Transportation Studies

Location of Projects: Massachusetts/ National studies on local transit systems

Project Manager: Obed Pasha, Ph.D., o.pasha@csuohio.edu

Type of Project: Academic Research

Project Goals and Objectives: Study equity issues in transportation funding

How Goals and Objectives were Met: Each paper was published in at least one top journal in the field

- 2018. Pasha, Obed. "Social Justice Implications of Municipal Transportation Apportionment in Massachusetts." *Transport Policy*, 72, 109-115.
- 2018. Pasha, Obed & Theodore H. Poister. "The Impact of Performance Management under Environmental Turbulence" *American Review of Public Administration (Online Preview)*
- 2018. Pasha, Obed, Theodore H. Poister, & Lauren Hamilton Edwards "Mutual Relationship of Strategic Stances and Formulation Methods, and their Impacts on Performance in Public Local Transit Agencies." *Administration & Society*, 50(6), 884-910.
- 2017. Pasha, Obed, Theodore H. Poister, Bradley E. Wright, & John C. Thomas. "Transformational Leadership and Mission Valence of Employees: The Varying Effects by Organizational Level." *Public Performance & Management Review*, 40(4), 722-740. Received the "Best Article Award" for 2017.
- 2017. Pasha, Obed & Theodore H. Poister. "Exploring the Change in Performance Management Practices in the Transit Industry under Turbulence." *Public Performance & Management Review*, 40(3), 504-528.
- 2016. Edwards, Lauren H., Theodore H. Poister, & Obed Pasha. "Operationalizing Organizational Strategy: An Example from the Transit Industry." *International Journal of Public Administration*, 39(5), 395-403.
- 2013. Poster, Theodore H., Obed Pasha, & Lauren Hamilton Edwards. "Does Performance Management Lead to Better Outcomes? Evidence from the US Public Transit Industry." *Public Administration Review*, 73(4), 625-635. (Top Cited Article from 2013)
- 2013. Poster, Theodore H., Lauren Hamilton Edwards, Obed Pasha, & Jason Edwards. "Strategy Formulation and Performance: Evidence from Local Public Transit Agencies." *Public Performance & Management Review*, 36(4), 5

