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# Fiscal Impact Analysis Model (FIAM)

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MEMORANDUM

Date: June 30, 2003

From: Dennis G. Colie, Ph.D.  
Director and Research Economist

To: Jeff Rogo  
Government Affairs Director  
NAIOP of Florida  
6107-B Memorial Highway  
Tampa, Florida 33615

Subject: Fiscal Impact Analysis Model (FIAM)

Enclosed is a four-page “Highlights” of my examination of the FIAM and related issues as well as a more lengthy summary titled “About the FIAM ...”

The following activities contributed to my examination of the FIAM. First, I thoroughly reviewed the information about the model from the Internet site of Fishkind & Associates (<http://www.fishkind.com/>). Second, I attended the NAIOP-sponsored presentation of his model by Dr. Fishkind at The University Club on April 8, 2003. Third, I attended the First Annual FIAM Conference, which was conducted by Fishkind & Associates in Orlando on May 9, 2003. And, fourth, I obtained a FIAM for practice and testing from Dr. Fishkind. The model provided by Dr. Fishkind was the DEP Fiscal - Prototype Version 3.0 for the City of Hollywood.

In an April 24, 2003 memo and at the Orlando conference Dr. Fishkind defined three key policy issues related to the FIAM. The issues are: 1) FIAM applications, 2) ethics and disclosure and 3) training and certification. I briefly discuss these key policy issues, the theoretical approaches to fiscal impact modeling, and the importance of economic impact analysis in conjunction with fiscal impact analysis in the “Highlights.”

Among these topics, I believe that the most important issue is training and certification. Proper training and certification are essential for a fair and unbiased application of the FIAM for land-use decisions. I recommend that NAIOP take a proactive approach for the establishment of a formal certification process in Florida for FIAM analysts.

Thank you for choosing USF-CEDR for your research needs. I look forward to a continuing relationship with NAIOP for economic and fiscal impact analyses.

Sincerely,

Dennis G. Colie  
Director and Research Economist

Enclosures

## Highlights

The purpose of this research is to analyze the strengths and weaknesses of the Fiscal Impact Analysis Model (FIAM), which is customized by Fishkind & Associates for local governments in Florida.

An impact is the consequence of a well-defined change in the structure of a regional economy. An economic impact refers to a change in production, distribution or consumption within a region. A fiscal impact refers to a change in governments' revenues and expenditures due to a change occurring within a region. The change in structure that causes the impact could be, for example, the relocation of a business into the region. The change in structure that is specially modeled by the FIAM is a change in land use.

The motivation for a fiscal impact model is a need to integrate government's costs and revenues with its land use decision making and comprehensive planning. The goal of the Governor's Growth management Study Commission is to make fiscal impact analysis a routine part of land use planning. In 2002, the State of Florida awarded a contract development of a fiscal impact model to Fishkind & Associates of Orlando. The contract provides for seven pilot communities to get the FIAM. The communities selected are the counties of Orange, Palm Beach, Sarasota, and Sumter and the cities of Orlando, Hollywood, and Panama City Beach.

Subsequently, Hillsborough County (and other communities) has arranged with Fishkind & Associates to obtain the FIAM, while the Hillsborough City / County Planning Commission has contracted the purchase of an alternative model from Tischler & Associates.

### Per capita approach versus marginal approach.

A theoretical issue for fiscal impact modeling is the underlying concept for measuring costs and revenues associated with a change in the structure of a regional economy. This issue is a weakness of fiscal impact models in general, because someone can always argue that a particular model is flawed based on its underlying concept.

The "core" FIAM is based on the modified per capita approach. This approach embraces the notion that average historical costs and revenues expressed on a per capita basis are useful guides for measuring future costs and revenues associated with development. The approach is most appropriate when average costs and revenues, in fact, apply to the project analyzed. Data used by the model are from the budgets for the community, population counts, visitor estimates, and employment. Alternatively, there is a marginal approach. The marginal approach generally uses "prototypes" or case studies to measure cost and revenue impacts from development of various types, e.g. residential, commercial, industrial, office, retail, etc. The prototypes are used as guides to estimate future cost and revenue impacts for similar types of development in a community. In principle, the marginal cost and marginal revenue of a change in the structure of a

regional economy are the relevant decision-making measures. In practice, however, obtaining marginal cost and marginal revenue measures for a specific change, e.g. land-use decision, is problematic.

The *modified* per capita approach used by Dr. Fishkind makes the FIAM more robust. The details of the modified per capita approach are contained in the body of this report. However, in my opinion the most important of these “details” is that Dr. Fishkind’s approach incorporates a community’s level of service standards for police, fire, EMS, parks, libraries, schools and roads. These services are the main drivers of government’s costs. Because they are explicit inputs to the model, they make possible “what if” scenarios using the FIAM. Furthermore, sensitivity analysis of the model’s estimates of government’s costs can be performed by altering the presumed level of services incorporated into the model. This is a definite strength of the FIAM.

#### Dr. Fishkind’s key policy issues.

In a memorandum dated April 24, 2003, Dr. Fishkind identified three key policy issues relating to the FIAM. (The memorandum is available in the body of this report.) The issues are 1) FIAM applications, 2) ethics and disclosure and 3) training and certification. Participants at the First Annual FIAM Conference in Orlando also discussed these issues on May 9, 2003.

#### FIAM applications.

Land-use decision-making in Florida occurs on many levels. At the micro-level, local planning commissions city councils and county commissions review and approve zoning changes for particular properties. At the macro-level, the State Comprehensive Plan provides basic policies and guidance. And between the micro and macro there are several other decision points such as annexation, community redevelopment, resource availability and use and environmental impacts. The issue is whether the FIAM is an appropriate and useful tool at all levels and for all types of land use decisions. Dr. Fishkind recommends that the “user community” play a leading role in settling this kind of issue. However, my observation at the Orlando FIAM Conference (see below) is that users are unsure, at this point, about FIAM applications.

#### Ethics and disclosure.

A strength of the FIAM – particular vis-a-vis other black box models such as REMI or IMPLAN – is that it is implemented in open code format, i.e. a Microsoft Excel Spreadsheet. Thus, an analyst can determine precisely how the model obtains its results, and thereby evaluate the model’s methodology. However, Dr. Fishkind believes that the open code format may also be a weakness of the FIAM, because this makes it easy for “an unscrupulous user to manipulate the results to suit some particular end.” He recommends that certified users be held to rigorous ethical standards and subject to full disclosure.

Training and certification.

A weakness of the FIAM is that it requires a certain level of know-how to make the necessary inputs to the model and to obtain reliable results. Calibration of the model is crucial and requires the input of a large amount of numerical data by hand. This data must be verified for correctness both in fact and in entry to the spreadsheet. And, having obtained FIAM results, I believe that a user needs some knowledge of accounting or financial economics in order to interpret the FIAM results. Dr. Fishkind recognizes this issue and suggests a training and certification program for analysts who would use the FIAM. He writes, “Only the analyses and testimony of certified FIAM analysts should be considered ‘competent and substantial evidence’ with regard to fiscal impacts in the context of a land-use decision-making process in Florida.”

In addition, calibration of the model is crucial and requires the input of a large amount of numerical data by hand. The data must be verified both in fact and in correctness of entry to the spreadsheet. I believe that to validate the model’s results requires two analysts who independently calibrate the model and run the simulation. If everything is done properly, both analysts should obtain the same results.

A related issue to training and certification of analysts is staff turnover. During the Orlando FIAM conference representatives from some pilot communities reported that they had already experienced turnover of trained persons, staff vacancies and lack of funding for staff training. I believe that this is part of the “know-how” issue. The best analogy I can come up with is that the FIAM is like an X-ray machine. A technician can take the X-ray picture, but it takes a physician to make the diagnosis. However, from the Orlando talks it seems that some communities expected a model that was so sophisticated that a technician can run it and provide decision-makers with self-evident answers.

Also, during the Orlando FIAM conference I had the opportunity to listen to representatives from several pilot communities. My general impression is that they are not sure how to use the model or when to use the model and they are wary of potential repercussion against themselves or their agencies for suggesting a land use for which the model predicts government costs exceed revenues.

Economic impact analysis is important too.

While fiscal impact analysis is concerned with government’s revenues and spending, economic impact analysis more broadly assesses the effects of a structural change of a regional economy. For example, we measure economic impact in terms of gain or loss of jobs, wages and sales. The first version of the FIAM did not include an economic impact assessment module. Later versions can estimate economic impacts of land use decisions. However, in the model I tested the economic impacts were not included in the Summary, but were included under a separate tab “econ.” I believe that economic impacts of a decision should be given equal if not more weight than fiscal impacts in the decision-making process. Excluding economic impacts from the model’s basic Summary tends to diminish the importance of economic impacts.

An analyst can use the FIAM to estimate the fiscal and economic impacts of implementing a particular land use as well as not implementing a proposed land use. For the latter, economic impacts in term of jobs, wages and sales foregone may be more significant than foregone net expenditures by government.