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**Re: Oceano Dunes District-California State Parks
Economic Impact Analysis Report 2016/17
Prepared by SMG Consulting**

Dear members of the commission,

My name is Pratish Patel; I am in charge of the real estate program at Cal Poly. I received my doctorate from the University of California at Berkeley in 2013 and am an Associate Professor at Cal Poly. My research concerns finance, urban economics and affordable housing. I have published my research in leading academic journals. For your reference, I attach my CV at the end of this letter. This letter concerns the SMG Consulting's (SMG) Economic Impact Analysis report (referred as the Report).¹

The main point of the letter is simple: the Report does not pass the "sniff test". I show that the assumptions underlying both the survey and the economic impact are dubious. I ask that you seek an independent academic to conduct a peer review of the report.

To be clear, writing an economic impact report is tough. A mathematical model underlies any economic analysis, and that model needs to be calibrated with parameters and one needs to make simplifying assumptions. SMG consulting, for example, used the model developed by IMPLAN. Because of the need for assumptions, it is critical to follow certain "best practices" and great care must be taken to interpret the impact. SMG ignored these practices. Careless Report language causes misinterpretation of the economic implications.

For clarity of exposition, my critique only spans the economic impact and not jobs as the latter depends on the former. In the Report, SMG claims that the economic impact of the Oceano Dunes District (referred as the District) to the San Luis Obispo County is \$243 million. But, the Report does not explain the method. In fact, the IMPLAN model assumptions are not highlighted anywhere in the

¹ I have neither been paid, nor do I expect to get paid for this letter. My career does not depend on the letter either. I only have one motive: I care about the Oceano residents and want them to get their fair share.

report. As a result, my discussion relies on what I believe are the two parameters that underlie the Report.

Loosely speaking, the Report uses the fact that between 2016 and 2017, attendance to the District was 2.2 million visitors.² Based on a survey, SMG found that about 15% of the visitors were local and on average a travel party comprising 11 members spent \$1,389 on a typical trip. The report relies on two parameters: number of visitors of 2.2 mm and party expenditure of \$1,389. Then, the impact is \$236 MM ($2.2 \times 10^6 \times (1-0.15) / 11 \times 1,389$). (The discrepancy between the \$236 and \$243 million is related to the multipliers used by the IMPLAN software.) I divide my critique in two parts: the first part concerns the two parameters underlying the method and the second part concerns the survey sampling.

Part 1: Critique of the methodology

- Number of visitors: The number 2.2 million visitors do not mean that these are unique visitors. Consider, for example, a typical party of 11 members spending three days in the District. If each member of the party goes to the Pismo State Beach every day, then it will be counted as 33 visits. But triple counting such visits exaggerates the economic impact.
- Day Versus Overnight visitors: The report claims that 12% of the visitors to the District were there for only one day. That is, these visitors did not stay overnight in the District. Then, it is unreasonable to think they would spend \$1,389 (which includes accommodation)
- Expenditure: SMG's survey asked about different categories of expenditures made by the visitors. These categories include: lodging, day use fees, food, transportation, retail, recreational activities, and other expenses. Consider for the moment the category of recreational activities which includes rentals. SMG assumed that all visitors rent from the District shops. This assumption is, categorically, false. Clawson Motorsports ([Newspaper article](#)), based in Fresno, purports to fill meetings pleading to keep the dunes open for vehicular access. A product specialist named Lex Henderson claims "If the dunes close, it would have a major impact on us. I would say that 75% of the recreational vehicles go there..." Clawson Motorsports presence, itself, implies that the dunes visitors do not rent from the District. A similar line of argument applies to all the categories.

² The Report carelessness is readily seen on the last page (page 46). SMG double counts visitors for the month of July. That is, the number of visitors are inflated by about 290 K because of double counting.

- Costs: SMG only reports the expenditures, it does not account for the costs. For example, SMG does not account for negative externalities like pollution that are paid by the Oceano residents. Several accidents and even deaths have taken place, and the Report remains silent on that issue.
- Interpretation: The question before the commission is to weigh the benefits and costs of allowing vehicles on the dunes. Most citizens interpret the economic impact to be the benefit but that interpretation is incorrect. The impact also includes Monarch butterflies and Pismo State Beach. A true analysis would seek to determine the net economic impact of OHV visitors to the park. The SMG analysis looks only at revenues while omitting costs. It also inflates revenues by factoring in non-OHV visitors at Pismo State Beach and the Monarch Butterfly Grove.

To summarize, SMG consulting uses an exaggerated number of visitors. SMG consulting also exaggerates the expenditure spent in the District. After accounting for daily visitors and after making reasonable assumptions about the expenditures attributed to the District, I believe that the economic impact reduces by at least half. If one restricts access to the dunes, the impact will be less. In fact, the net benefit may be positive since the Report did not include the costs related to pollution and accidents.

Part 2: Critique of the sampling

Use of a survey is fraught with caveats. This is clear from the election poll volatility for example. A survey depends on framing; it depends on “random sampling”, it assumes that participants report facts truthfully and it assumes that participants do not change their answers based on the impact of their answers. The survey in the Report suffers from critical flaws.

- Framing: To conduct the survey, SMG asked visitors to complete the survey at District entrance. Consider, for example, asking someone about to ride vehicles on the beach about “what happens if they could not ride”. Relatedly, consider asking the prior question after showing pictures of the pollution toll on Oceano residents and accidents. The answers will change. SMG, fundamentally, misjudges the framing issue.
- Random Sampling: A fair survey needs to account for selection bias. Only asking visitors about their experience at the dunes biases the survey results. This is akin to asking only republicans about their view of Trump. SMG deviates from a prior economic impact report that sampled randomly and does not give the cause of the deviation in the Report.

- Question: The main question is to weigh the benefits and costs of vehicular access on the dunes. SMG did not ask such a question. Instead, they asked:

If Oceano Dunes was not in existence (no OHV riding, no camping, no trails, etc.) when you were considering a visit to the area, would you still have visited San Luis Obispo County?

Note that the asked question differs from the intended question. Presumably, SMG asked this question because they want to understand the District impact on the county. Well, this is not the appropriate question. Anyone visiting the dunes cares about the beach and Californians love hiking. No one is suggesting to close those aspects of the dunes.

Summary

To conclude, after a careful analysis, the economic impact of \$243 million does not pass the “sniff test”. The impact ignores the permanent costs suffered by the Oceano residents. The survey is also biased and not performed in good faith: it does not ask the basic question. I ask that an independent academic peer review the Report. I also ask that SMG publicly disclose the survey data.

Sincerely,

Pratish Patel

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EDUCATION

Ph.D. Real Estate Finance
University of California at Berkeley, Berkeley, California USA **2013**

M.S. Financial Engineering
University of California at Berkeley, Berkeley, California USA **2005**

B.S. Chemical Engineering
Georgia Institute of Technology, Atlanta, Georgia USA **2002**

DISSERTATION

Essays in technology adoption and corporate finance
Chair: Willie Fuchs and Nancy Wallace **2013**

FIELDS OF INTEREST

Real estate and finance, Corporate finance, Asset Pricing, Portfolio Management and Real Options

ACADEMIC EMPLOYMENT

California Polytechnic State University., San Luis Obispo, California USA
Associate Professor (without tenure) **2017 — present**

California Polytechnic State University., San Luis Obispo, California USA
Assistant Professor (Joint Appointment in Economics and Finance) **2013 — 2017**

PUBLISHED OR FORTHCOMING PAPERS

Time Aggregation of Sharpe Ratio — A better extrapolation rule
with *Ziemowit Bednarek and Cyrus Ramezani*,
Forthcoming in the Journal of Investment Management
Journal List Ranking — C **2018**

Understanding the out performance of the minimum variance portfolio
with *Ziemowit Bednarek*, *Finance Research Letters*
Journal List Ranking — B **2017**

Rent-to-own Housing Contracts under financial constraints
with *Sanjiv Jaggia*, *Journal of Derivatives*
Journal List Ranking — A **2017**

Effect of booms or disasters on the Sharpe Ratio
with *Ziemowit Bednarek*, *Journal of Portfolio Management*
Journal List Ranking — A **2017**

A Strong Case to calculate the Treynor Ratio using log-returns
with *Ziemowit Bednarek and Alex Firsov*, *The Journal of Asset Management*
Journal List Ranking — B **2017**

Time aggregation of the Sharpe ratio
with *Ziemowit Bednarek and Cyrus Ramezani*, *The Journal of Asset Management*
Journal List Ranking — B **2016**

Moral Hazard with the (Unlikely) Possibility of Catastrophes
with *Ziemowit Bednarek*, *Economics Letters*
Journal List Ranking — A **2016**

PAPERS UNDER
REVIEW

What does bet against beta mean in a multi-factor world?
with *Ziemowit Bednarek and Brian Ayash*,
Under review at the Journal of Investment Management
Journal List Ranking — C **2018**

The Price of Tax Credits Under Policy Uncertainty: Evidence from
the Low-Income Housing Tax Credit with *Bree Lang*,
Under review at the AEJ Policy
Journal List Ranking — A **2018**

Downpayment Assistance and Mortgage Rates with *Bree Lang and Ellen Hurst*,
Under review at the Review of Financial Studies
Journal List Ranking — A **2018**

WORKING PAPERS

How smart is your smart beta portfolio with *Ziemowit Bednarek and Brian Ayash*

The Adoption of New Technologies: Location, Learning and Asset
Pricing Implications with *Ziemowit Bednarek*

Form Follows Finance with *Robert Helsley*

Stochastic Dominance and Leveraged ETF Performance with *Ziemowit Bednarek*

RESEARCH
PRESENTATIONS

Eastern Finance Association **2019**

Western Economic Association International conference **2017**

Global Finance Conference **2016**

Global Real Estate Summit, Southern Finance Association **2015**

California Polytechnic State University **2014**

California Polytechnic State University, Baruch College, University of Amsterdam,
University of Georgia, National University of Singapore **2013**

Haas School of Business **2010 — 2012**

London School of Business 2011

PROFESSIONAL
EMPLOYMENT

Optiopt INC., San Francisco, California USA
Founder 2006 — 2008

Duff & Phelps L.L.C., San Francisco, California USA
Senior Associate 2005 — 2007

Progress Energy., Raleigh, North Carolina USA
Associate 2002 — 2004

HONORS AND
AWARDS

Orfalea Grant 2014 — 2017

RSCA Grant 2014

Graduate Student Grant, Fischer Center Grant 2012 — 2013

Hope scholarship, Robert P. Dodd scholarship, Davis P & P scholarship 2000 — 2001

First Place in raquetball intramurals at Georgia Tech 2001

Gold medal in biology at Georgia state level science olympiad 1998