

Exploratory Analysis of How Trust Influences WTP for Beach Renourishment on Hobie Beach

The purpose of this paper was to survey beachgoers at Hobie Beach in order to assess whether local respondents' WTP for beach renourishment would be affected by the knowledge that local officials would be managing the funds. It was predicted that local respondents would have a higher average WTP for beach renourishment if they were told that Miami-Dade County would be managing the funds as opposed to the City of Miami. Thus, it was anticipated that locals would be less likely to trust the City of Miami to manage the funds for beach renourishment. Hobie Beach was selected for this study because it is co-managed by both Miami-Dade County and the City of Miami.

Introduction

Background on the Contingent Valuation Method

In recent years, the Contingent Valuation Method (CVM) has gained prominence as the chosen technique for assessing the value of environmental amenities (Kahneman and Knetsch 1992). An environmental amenity can be classified as a public good. Public goods, such as air or water, have two main characteristics in common: non-rivalry and non-exclusivity (Class notes, 9/16/99). Non-rivalry means that one user's consumption of the good does not marginally diminish another user's consumption of the good. Non-exclusivity implies that it is difficult to exclude users from the consumption of or benefit from the good in question.

Another important feature of public goods is that they do not have a market value. Thus, market failure occurs. One way of attempting to correct for market failure is to establish alternative means of assessing the value of public goods. One of these methods is contingent valuation. CVM bypasses the need to refer to market prices by asking individuals explicitly to place values upon environmental amenities (Turner, Pearce, and Bateman 1993). CVM is applied through the administration of surveys, whereby the respondent is asked their maximum willingness to pay (WTP)

for the enhancement or preservation of the good in question. Total WTP is then interpreted as the partial (or in some cases the total) value of that good.

Turner, Pearce, and Bateman (1993) noted that “an interesting advantage of the CVM approach is that it can, in theory, be used to evaluate resources, the continued existence of which people value, but which they never personally visit.” Thus, CVM measures what economists commonly refer to as passive use values or existence values.

In recent years, CVM has had important policy implications. For instance, in a 1989 U.S. Court of Appeals decision for the District of Columbia, the court supported the use of existence value in a decision concerning the natural resource damage assessment regulations established by the Department of Interior under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, or CERCLA (Rosenthal and Nelson 1992). Furthermore, under the Oil Pollution Act of 1990, which in part allows damages to be recovered from oil companies should a spill occur, a NOAA-appointed committee determined that CVM was an appropriate method for determining lost existence values (Class notes, 10/7/99).

Objectives of this Study

The purpose of this paper was to explore whether local respondents' WTP for beach renourishment would be affected by the knowledge that local officials would be managing the funds. It was predicted that local respondents would have a higher average WTP for beach renourishment if they were told that Miami-Dade County would be managing the funds as opposed to the City of Miami. Thus, it was anticipated that locals would be less likely to trust the City of Miami to manage the funds for beach renourishment.

Survey Design

In order to determine whether the knowledge that local officials would be managing the funds affected respondents' WTP for beach renourishment, a debriefing technique was used, whereby those respondents not in favor of beach renourishment were asked the following question: "Did you respond NO to the previous question because: A. You are simply not in favor of beach renourishment or B. You simply do not trust the City of Miami/Miami-Dade County to manage the funds" (Appendix A, questions 13a/b).

The original survey used in this study was designed by Dr. David Letson and Manoj Shivilani of the University of Miami Rosenstiel School's Division of Marine Affairs. While assisting with the administration of beach renourishment surveys for Dr. Letson and Manoj, I observed a number of respondents who stated that although they were in favor of beach renourishment, they were very skeptical about local government's ability to properly manage the funds for the project (they assumed that local government would manage the funds even though there is no mention of who will manage the funds in the questionnaire). Thus, a number of respondents said they would have to choose NO for the WTP question given their apparent lack of faith in the competence of local officials. Based on these observations, I thought it would be interesting to explore this "trust" issue further since it appeared to have a powerful influence over how some respondents answered the WTP question in the beach renourishment surveys.

Methodology

The sampling for this project was conducted on one weekday and one weekend day so as to give equal weight to each. Hobie Beach was selected since it is co-managed by both the City of Miami

and Miami-Dade County. It was important that the beach be co-managed in light of questions 12a/b of the questionnaire (Appendix A), which attempt to elicit WTP for beach renourishment given that either the City of Miami or Miami-Dade County is to manage the funds.

It was determined that all surveys would be conducted for a period of either two hours or walking the length of the beach, whichever came first. Moreover, all surveys were conducted between the hours of 10 a.m. and 2 p.m. since these are considered peak hours for beach attendance. Persons who were either in the water, sleeping, or sitting in their cars were avoided. Thus, the majority of those surveyed were located along the shore. Every other person was approached so as to impose a systematic randomness to the survey process.

It is also worth mentioning that there is a Spanish version of the questionnaire (Appendix B) which was administered orally in Spanish for those respondents who had difficulty understanding the English version.

The sampling technique chosen was that of a split sample, whereby half the respondents were asked question 12a (Miami-Dade County manages funds) and half were asked using 12b (City of Miami manages the funds). In accordance with the NOAA Panel on CV's survey guidelines (Arrow, Solow, Portney, Leamer, Radner, and Schuman 1993), a follow-up question was added (Appendix A, question 13a/b) for those respondents that replied "NO" to either question 12a/b. The purpose of this follow-up question was to determine specifically why respondents were not in favor of beach renourishment.

For the WTP question, a referendum format was selected, which is also recommended in the NOAA Panel's survey guidelines (Ibid 1993). In a referendum format, the respondent is presented

with a select number of choices for the WTP value, rather than having an open-ended question that allows the respondent to essentially fill in the blank. Furthermore, a bidding technique was used whereby the bid started at five dollars, which is the median value for the WTP question. If five dollars was deemed to be “too much” by the respondent, then the bid was dropped down to three dollars. On the other hand, if the respondent was willing to pay five dollars, then bid was bumped up to eight dollars.

Results

The intention was to have a sample size of at least fifty. However, due to overestimation of the number of beachgoers that would be present on both days coupled with a delayed start, the final sample size was 23, which made analysis of the data less cumbersome.

Demographics

Of the 23 respondents, 18 were locals (78%) and 5 were tourists from out of the country (22%). The average age of respondents was between 26-35 and 36-45 years (70% of respondents fell into these two age ranges), with the mode being 26-35 years of age (See Chart 1 for age distribution). More respondents owned their residences (57%) than rented (43%).

Beach Activities

For question 5 (Appendix A), 70% of respondents went to the beach in the last month to either swim or snorkel, and 74% went to the beach in the last month to sunbathe. Twenty-two percent of respondents went to the beach in the last month to participate in “other” activities. Of these “other” activities, the vast majority included bringing/walking dogs. Other activities included: exercising, bike riding, bringing kids, and barbecuing.

Average Expenditure

The average expenditure of respondents was between <\$10 and \$10-30 (39% spent <\$10 and 43% spent \$10-30), the mode and median were both \$10-30. Given that Hobie is a “free” beach, it is not surprising that average expenditure is concentrated within the lower ranges.

How Often Respondents Visited Hobie Beach

Almost half of the respondents (47%) visited Hobie Beach either 2-5 times per month or over 5 times per month. The mode was 2-5 visits per month. Thus, many of the respondents surveyed frequently return to Hobie.

Substitute Sites

Of those surveyed, 43% had visited substitute sites (either Crandon Park, Bill Baggs, or another nearby beach such as South Beach). Crandon Park was the most popular substitute sight among respondents.

Most Important Reason for Choosing Hobie Beach

Over half of the respondents (56%) said they chose Hobie either because of the availability of space (26%) or distance from home (30%). Twenty-two percent of respondents said they chose Hobie for “other” reasons. Similarly (as in the responses to question 5), the vast majority of those “other” reasons had to do with the fact that you can bring your dog to Hobie.

Cleanliness

Eighty percent of respondents rated Hobie’s cleanliness as either “fair,” “poor,” or “very poor,” with almost half (48%) choosing either a “poor” or “very poor” rating.

Width

Seventy-five percent of respondents rated Hobie's width as either "good" (40%) or "fair" (35%) with 25% describing the width as either "poor" or "very poor." Of those 75% who described the width as either "good" or "fair," 65% percent were WTP for beach renourishment. On the contrary, of those 25% who described the width as either "poor" or "very poor," only 33% were WTP for beach renourishment. Logically, one would think it would be the other way around. That is, those respondents who were not happy with the width would be more likely to pay for beach renourishment to widen the beach. However, that was not the case here.

Willingness to Pay for Beach Renourishment

For the purposes of this analysis, the researcher is only concerned with examining the responses of locals to questions 12a/b and 13a/b (Appendix A). The reason for this is because it is highly unlikely that tourists will be familiar with local government corruption, and thus their WTP for beach renourishment will most likely not be influenced by the knowledge that local government officials would manage the funds.

Local respondents comprised 78% of those surveyed. Of the locals surveyed, 50% were WTP for beach renourishment activities (Chart 2). The average WTP among locals was \$4.56. The mode was \$5. Incidentally, none of the respondents were WTP \$8 for beach renourishment (See Graph 1 for WTP distribution).

Of those locals who were WTP for beach renourishment, eight of the respondents were asked question 12a (County manages the funds) and ten of the respondents were asked question 12b (City manages the funds). The average WTP among locals that were asked question 12a was \$5. Whereas,

the average WTP among locals that were asked question 12b was \$4. This proves the initial hypothesis that local respondents would have a higher average WTP for beach renourishment if they were told that Miami-Dade County would be managing the funds, as opposed to the City of Miami.

Of the 50% of locals that were not WTP for beach renourishment activities, ALL respondents said it was because they did not trust the City of Miami or Miami-Dade County to manage the funds (Table 1). Of those not in favor of beach renourishment, 40% were opposed to Miami-Dade County managing the funds, and 60% were opposed to the City of Miami managing the funds (Chart 3).

Although this may not be statistically significant, it does imply that locals seems to be less willing to trust the City of Miami than Miami-Dade County when it comes to managing the funds for beach renourishment.

Table 1:

Date of Survey	Locals in favor of beach renourishment	Locals not in favor of beach renourishment	Locals not in favor due to city or county management of funds	Locals not WTP because they're not in favor of beach renourishment
11/6/99	5	5	5	0
11/8/99	4	4	4	0
Totals	9	9	9	0

Discussion

Starting Point Bias

A common criticism of CVM surveys that employ a bidding technique is that bidding results in a

starting point bias. In this case, the total average WTP was \$4.70 and the mode was \$5. Of those WTP for beach renourishment, 85% were WTP \$5, 15% were WTP \$3, and none of the respondents were WTP \$8. Given that the vast majority of respondents were WTP \$5, it can be assumed that starting the bid at \$5 imposed a starting point bias on the respondents in this study.

The “Warm Glow” Effect

Some critics of CVM have noted that the amount that individuals are WTP should not be mistaken for a measure of the economic value of public goods, but instead may be indicative of WTP for acquiring moral satisfaction (Kahneman and Knetsch 1992). In this sense, individuals’ responses to WTP questions serve the same function as charitable contributions, and may produce what Andreoni (1989) described as the “warm glow” effect. The NOAA Panel on CV suggested that if the above statements are true, then CV responses should not be interpreted as reliable estimates of true WTP, but instead may reflect approval for the environmental program in question (Arrow, Solow, Portney, Leamer, Radner, and Schuman 1993).

Who’s Responsible for Keeping Hobie Clean?

A number of respondents complained of how little respect others have for Hobie, and how they often pick up beer bottles and other people’s trash. In fact, one woman mentioned that she stepped on a beer bottle while playing frisbee in the water. She went on to say that long ago, she decided that the water was too “gross” to swim in (although she did add that she lets her dogs play in the water). She also mentioned that she has cleaned up the beach on many occasions, yet she has observed that most of

the county and/or city employees that patrol the beach “never get out of their cars.”

Although many respondents complained that Hobie was dirty, it continues to be a popular beach, with the majority of respondents visiting Hobie between two and five times per month. A number of respondents said they like Hobie because they can park their cars right on the beach and remain near their cars. Other reasons respondents chose Hobie are because it’s less crowded and they can bring their dogs.

Can Local Government Be Trusted?

Half of all local respondents surveyed said they could not support beach renourishment if they knew that local government officials would be managing the funds. Clearly the mood of local residents reflects a pervading distrust of local government officials. In fact, one woman said, “Trust the [local] government, that’s an oxymoron.” However, there does not seem to be a significant difference in the ability of local respondents to trust Miami-Dade County versus the City of Miami when it comes to managing the funds for beach renourishment (40% of local respondents were opposed to county management, compared to 60% that were opposed to city management).

Conclusion

Based on the findings in this study, it is clear that local respondents’ WTP for beach renourishment was influenced by the knowledge that local officials would be managing the funds. For those local respondents who were not WTP for beach renourishment, all of them said it was because they did not trust the City of Miami/Miami-Dade County to manage the funds. Local respondents do, however, seem slightly more willing to trust Miami-Dade County to manage the funds than the City of Miami (Chart 3). Moreover, average WTP was slightly higher (\$1 more) among those locals that were

asked question 12a, whereby Miami-Dade County manages the funds.

Recommendations

Who should manage the funds for beach renourishment?

In light of local respondents' apparent distrust of local government officials, it is recommended that any future funding for beach renourishment be managed by an independent agency. The stigma associated with local government affairs is unlikely to go away in the near future.

What about future surveys?

The most important thing to remember is to start all surveying early. This will allow sufficient time for data collection, entry, and analysis. It would also behoove the researcher to conduct pilot surveys to test questionnaire design. This will allow any necessary modifications to be made early on in the survey process.

Another consideration is sample size. Keep in mind that with most studies, it is better to have a sample size of at least 100. The larger the sample size, the more representative your sample will be and the more generalizable the results. Also take into consideration variable weather conditions in South Florida that may limit the number of days whereby data can be collected. Again, this is why data collection should begin early.

Follow-up surveys are also a possibility for this study. It would be interesting to see if local

respondents are just as likely to distrust their local officials a year or two from now or if the election of new politicians will change overall public sentiment.

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