



**Impact Planning, Evaluation & Audience Research**

Randi Korn & Associates, Inc.  
118 East Del Ray Avenue  
Alexandria, VA 22301

**Summative Evaluation:**  
***FLOW: Can You See the River?*** Project

*Prepared for the*  
**Indianapolis Museum of Art**  
**Indianapolis, IN**

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# SUMMARY AND DISCUSSION

## INTRODUCTION

This report presents the findings from a study conducted by Randi Korn & Associates, Inc. (RK&A) for the Indianapolis Museum of Art's (IMA) public art project *FLOW: Can You See the River?* The project was conceived by visual artist Mary Miss to engage Indianapolis residents with the White River. The project was comprised of an installation that included locations in the IMA's 100 Acres and throughout downtown Indianapolis as well as programs and technologies for further engagement with the project. This study explores the effects of the project on Indianapolis residents. The following summary and discussion highlights key findings from the study, identifies aspects of the *FLOW* project that were most and least successful, and discusses the merits and challenges of public art projects.

**Selected highlights of the study are included in this summary.  
Please consult the body of the report for a detailed account of the findings.**

## METHODOLOGY

RK&A employed two methodologies: standardized questionnaires and in-depth interviews. A total of 284 questionnaires were completed by residents of the Indianapolis metro area prior to the *FLOW* project (baseline study). The same questionnaire with a few additional questions was completed by 180 residents of the Indianapolis metro area after the *FLOW* project was installed (outcome study).<sup>1</sup> Statistical analyses were used to measure the effects of the installation.

Interviews were conducted with attendees to *FLOW* project events to compliment and humanize the questionnaire data. Phone numbers were collected at *FLOW* events, and attendees were interviewed via telephone two to eight months after the program at which their contact information was collected. A total of 40 interviews were conducted.

## KEY FINDINGS FROM THE STUDY

Below, we have organized the findings around the six areas explored in the study. Keep in mind that achievement in some of these areas are building blocks to achievement in other areas (e.g., general awareness of the White River is a step towards larger awareness of how the White River affects their lives and how they affect the White River), so there is some overlap in the findings and ensuing discussion.

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<sup>1</sup> Please note that the baseline sample and outcome sample did not necessarily include the same individuals. That is, some individuals may have completed a baseline *and* outcome survey, but the sample was not intended to include the same individuals.

## I. AWARENESS OF THE WHITE RIVER

The *FLOW* project was conceptualized around the idea that the White River is underappreciated and even ignored by Indianapolis residents who do not fully understand the importance of the White River to the City. Our study findings indicate that this is indeed the case. While about three-quarters of respondents each said that they exercise along or drive by the White River regularly, many interviewees said that they do not actively think about the White River. For this reason, some interviewees described the project as “eye-opening.” For instance, one interviewee described:

So [Mary Miss]’ comment about how hidden [the White River] was really struck me, and it made me think about all the ways I interact with the river because I cross the river at least twice each day, before and after work, and I cross the point where you can’t see the River because of how they constructed the highway and the bridges. And so it really caused me to reflect on when I do or don’t get to see the River. And I was like yeah, she’s right. It’s hidden in a lot of ways.

Therefore, the *FLOW* project seemed to be quite effective in raising awareness of the White River among those who experienced the *FLOW* project. However, it was beyond the scope of this study to determine just how many Indianapolis residents engaged with the *FLOW* project. The significant drop in neighborhood respondents between the baseline and outcome study despite similar recruitment strategies suggests that the audience for the *FLOW* project may be limited, although further evidence is needed to make any definitive claims.

## 2. PERCEPTIONS OF THE WHITE RIVER

As anticipated by the IMA and the artist, Indianapolis residents’ perceptions of the White River are fairly negative. For instance, respondents tended to agree with the statement, “The White River is polluted,” and tended to disagree with the statement, “The White River is clean and healthy.” However, there are some seemingly opposing perceptions, such as respondents tending to agree with the statement, “The White River positively affects my health and well-being,” and only slightly disagreeing with the statement, “The White River is unattractive and unappealing.” Possibly, these seemingly conflicting responses are the result of courtesy bias resulting from the conflict between how respondents actually perceive the White River and the potential they see in the White River. This hypothesis is supported by the fact that respondents most strongly agreed with the statement, “The White River is important to the City of Indianapolis despite some negative and conflicting perceptions of the River.

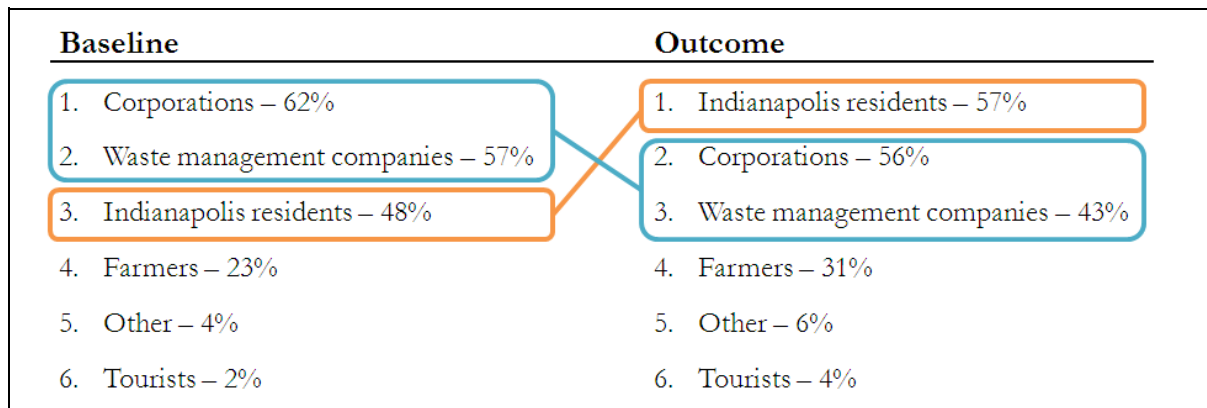
Also noteworthy is that perceptions of the White River did not seem to change as a result of the project. On the questionnaire, for instance, many ratings were nearly identical in the baseline and outcome study, such as for the statements, “The White River is polluted” (baseline mean = 5.0; outcome mean = 4.9), and “The White River positively affects my health and well-being” (baseline mean = 4.6; outcome mean = 4.7). Having time to reflect upon the project and findings, we wonder whether the goal to change residents’ perceptions of the White River is an appropriate goal for the *FLOW* project. Several findings from the study prompted us to consider this. First, residents’ perceptions of the White River seem to be in keeping with the actual health of the White River, which does have some pollution issues and may be somewhat unattractive and unappealing. Given that the perceptions are negative but on point, it does not seem that the project should change the perceptions. Secondly, findings show that, despite their negative perceptions of the White River, residents believed that the White River is important to the City. This is interesting because it makes us wonder to what end we should be concerned about perceptions if they aren’t related to residents’ beliefs or values. Perhaps, this is just a case of semantics and perceptions are more closely related to the next goal: awareness of how the White River affects their lives and how they affect the White River.

### 3. AWARENESS OF HOW THE WHITE RIVER AFFECTS THEIR LIVES AND HOW THEY AFFECT THE WHITE RIVER

The project proved highly successful in raising awareness of how the White River affects residents and how residents affect it. In particular, interviewees often cited learning things that they did not know before, such as the history of the hundred year flood, the USGS’ monitoring of the White River, and that the canal provides drinking water to the area.

Additionally, findings from the questionnaires corroborate interview findings. For instance, respondents were asked who might negatively affect the White River and to select their top-two choices from a list of six, which included the option to write in a response not listed. There was a statistically significant difference between baseline and outcome respondents on the response “waste management companies.” Baseline respondents were more likely than outcome respondents to say that waste management companies might negatively affect the health of the White River. Moreover, Figure i shows the popularity of the responses by baseline and outcome.

**FIGURE i**  
**WHO MIGHT NEGATIVELY AFFECT THE HEALTH OF THE WHITE RIVER**



As you see above, companies or corporations were the most popular responses in the baseline, where as Indianapolis residents was the most popular response in the outcome study. This is a positive finding because it appears that baseline respondents were more inclined to pick stereotypical responses and/or pass the blame to companies. By contrast, outcome respondents selected Indianapolis residents, suggesting they had a greater understanding of their personal relationship to the White River.

### 4. UNDERSTANDING OF ISSUES THAT IMPACT THE HEALTH OF THE WHITE RIVER

A considerable emphasis of the project was focused on helping residents understand the impact of the health of the White River. This is evident through the content presented at the mirrors and markers, on the Web site, through the Raindrop app, and in the many events. And in fact, the *FLOW* project seemed highly successful in teaching visitors about issues that impact the health of the White River. On the questionnaire, for example, respondents were asked what might negatively affect the White River and were asked to select their top two choices from a list of six, which included the option to write in a response not listed. Outcome respondents were more likely than baseline respondents to say that “fertilizers” might negatively affect the health of the White River—a statistically significant difference. This difference shows a more sophisticated understanding of issues affecting the White River. Additionally, in looking at the popularity of responses by baseline and outcome respondents, you will

notice that outcome respondents' choices are more widely distributed across the answers, also suggesting that the majority of respondents did not choose a stereotypical response.

**FIGURE ii**

**WHAT MIGHT NEGATIVELY AFFECT THE HEALTH OF THE WHITE RIVER**

Baseline	Outcome
1. Sewage – 64%	1. Sewage – 53%
2. Dumped Chemicals – 57%	2. Fertilizers – 49%
3. Litter – 30%	3. Dumped chemicals – 48%
4. Fertilizers – 30%	4. Litter – 29%
5. Land development – 18%	5. Land development – 20%
6. Other – < 1%	6. Other – 1%

**5. AWARENESS OF ACTIONS THAT CAN HELP IMPROVE THE HEALTH OF THE WHITE RIVER**

Both baseline and outcome responses suggest that Indianapolis residents' awareness of actions to protect or prevent damage to the White River is relatively low. About one-quarter said that they currently do not take any actions to improve the health of the White River or prevent damage. While the percentage of respondents who said they take no actions dropped from 27 percent in the baseline study to 21 percent in the outcome study, the difference is not statistically significant and is likely owing to a courtesy bias (e.g., respondents who engaged with the project are more sensitized to say that they took some action since that is the “right” thing to do). Moreover, there is little evidence from the questionnaires or interviews that the project enhanced residents' awareness of such actions. For instance, when interviewees described what ideas they took away from the project, only a few identified actions that they could take, and it seemed that all of the interviewees named actions they were familiar with before engaging with the project.

In reflecting back on the installation, RK&A wonders whether the goal is to raise awareness of *individual* actions or *any* actions at all. The *FLOW* project's emphasis seemed to approach actions at a macro level versus a micro level. For instance, content often describes what large institutions, organizations, and collaborations are doing (versus individuals), saying things like: “Projects like the Central Canal Bank Stabilization are making improvements to the canal's design”; or, “The City of Indianapolis Department of Public Works is currently building a Deep Rock Tunnel as part of Indianapolis' federally mandated plan to curb the overflow of raw sewage into our rivers and streams.” While there were some references to specific actions individuals could take, such as the suggestion on the interactive map to use rain gardens, few individual actions were described in comparison to the actions of institutions. If the project goal is about actions that individuals can take, then examples of individual actions should be more pervasive in all facets of the *FLOW* project.

**6. FEELINGS OF OWNERSHIP REGARDING THE WHITE RIVER**

Ownership of the White River was only moderately achieved through the *FLOW* project. As has been cited before, while residents agreed that the River is important to the City, their relationship to the White River was not strongly personal. Most revealing were the interviews that indicated that there are many barriers to feeling ownership of the White River. First and foremost, some residents clearly

articulate that Indianapolis is not a “river town.” For instance, one interviewee said, “I’ve lived here my entire life, and we don’t think of ourselves as a river town or identify the White River as being a substantial natural asset.” Until residents truly think of the White River as part of their community and identity, it will be difficult for them to gain ownership.

Ownership is not a feeling that one can tell people to have; rather, incremental steps lead to ownership; Indeed, the *FLOW* projects’ success in raising residents’ awareness of the White River and the role it plays in residents’ lives is a paramount step towards residents’ feeling ownership of the White River. Additionally, talks like Mary Miss’ talk on the City as Living Laboratory (September 22, 2011 at the IMA) and Maude Barlow’s talk Planet Indy: Maude Barlow on the Right to Clean Water (September 29, 2011 at the IMA) seemed to impress upon some residents the importance of ownership through helping them realize that others feel strongly about the White River and take ownership of it. The *FLOW* project may have further supported feelings of ownership by raising residents’ awareness of actions that individuals can take to protect the White River or helping them connect to the White River in personal ways.

## CHALLENGES OF PUBLIC ART PROJECTS

Understanding the effects of public art can be challenging. Not surprisingly, there is little formal evaluation or research that speaks to the merits and challenges of public art projects. While the previous section speaks to potential merits of public art projects, this section speaks to the challenges through the results of the *FLOW* evaluation.

Timing as well as maintenance and upkeep are two logistical challenges of public art installations. These issues are not unique to public art, as many museum exhibitions face these same challenges, although these issues do seem to bare greater gravity for public art. For instance, the *FLOW* installation is an outdoor installation that opened in Indianapolis in the late September 2011. Interest in the project was generated through marketing and programming in September and October, leaving only a few nice-weather-months to enjoy the installation before winter. While the installation remained intact throughout the year and is currently still in place to be enjoyed, some of the momentum of the project seemed to have been lost. Along with that, maintenance and vandalism was noted by one interviewee just a month after the installation opened, which is a particular to challenge for anything out in a public space.

Additionally, it is noteworthy that Indianapolis residents who participated in programming along with the installation seemed to have enriching experiences that enhanced their encounters with the project. Potentially, this is because these residents had a greater interest in the project in general, or because they had greater context for the project as a whole. In exhibitions, we often talk about the importance of an introductory experience to set a conceptual framework for the exhibition versus seeing a bunch of disparate objects. In fact, one interviewee in this study alluded to this exact challenge with *FLOW*:

We saw a mirror up by a bridge right before we went to the water *FLOW* project. We saw a couple of red balls. It didn’t make enough of an impression on me; we didn’t really understand what that was exactly because we had not seen enough of them around.

In the case of the *FLOW* project, the serendipitous nature in which many people happen upon an installation was problematic because it was out of context. The context required to engage with an installation is an important consideration since this study showed that more than one-half of



questionnaire respondents said they first became aware of the *FLOW* installation by happening upon the installation at the IMA while several others happened upon it in other parts of the City.

Lastly, audience poses another consideration for public art projects. As implied in name, public art is displayed in the public realm, although it does not necessitate that the public engages with the installation. As noted earlier, determining how many residents actually engaged with the *FLOW* project was beyond the scope of this study, although it is an important question to answer when considering the success of the project. For instance, one interviewee questioned whether the *FLOW* project reached the audience that could most benefit from the installation, saying: “I don’t think it’s necessarily reaching the people who need to hear it.” Further exploration into this topic would be beneficial to the field.

# INTRODUCTION

The Indianapolis Museum of Art (IMA) contracted Randi Korn & Associates, Inc. (RK&A) to study *FLOW: Can You See the River?* The study, funded by the National Endowment for the Arts (NEA), was designed to determine the effects of the *FLOW* project on Indianapolis residents.

## FLOW PROJECT OVERVIEW

*FLOW* is a public art project in Indianapolis about the White River and how citizens' actions can affect the health of the river. As noted on the project's Web site (<http://flowcanyouseetheriver.org/>), *FLOW: Can You See the River?*:

The intention of *FLOW* is to engage the citizens of Indianapolis with the important and unique elements of the White River water system—its history, ecology, origins, and potential. Using mirrors and markers throughout the Indianapolis Museum of Art's campus and along a six-mile stretch of the river and canal, the project finds innovative ways to integrate visitors with the surrounding landscape, inspiring them to experience how water affects their everyday lives. A series of activities and accessible technologies allow people of all ages and backgrounds to explore and interact with their environment.

The project was conceived by visual artist Mary Miss and commissioned by the IMA; the installation opened in September 2011, and concurrent activities were facilitated mostly between September and October 2011. This project is supported in part by an award from the National Endowment for the Arts and the National Oceanic and Atmospheric Administration.

## STUDY DESIGN

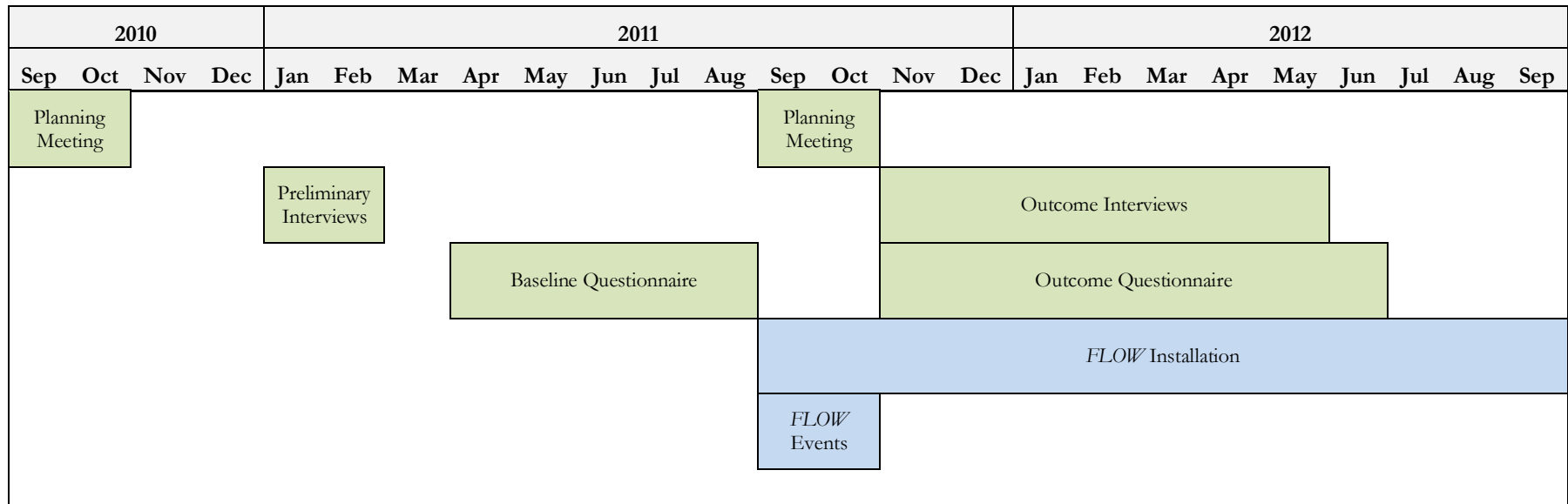
After several conversations with IMA staff, RK&A and the IMA determined that the objectives of this study are to determine whether the *FLOW* installation affects IMA visitors' and Indianapolis residents':

- ◆ Awareness of the White River;
- ◆ Perceptions of the White River;
- ◆ Awareness of how the White River affects their lives and how they affect the White River;
- ◆ Understanding of issues that impact the health of the White River;
- ◆ Awareness of actions that can help improve the health of the White River; and
- ◆ Feelings of ownership regarding the White River.

RK&A proposed a baseline and outcome study to explore these objectives. See Figure 1 for an overview of the evaluation timeline.

**FIGURE I**

**EVALUATION TIMELINE**



## SAMPLE

The target audience for this study is adult Indianapolis residents. Study participants were recruited at the IMA (IMA visitors) as well as through neighborhood associations (i.e., Butler Tarkington, Meridian Kessler Terrace, Ravenswood-White River, Riverside Civic League, and Rocky Ripple Community Association) and nearby Marian University.

## METHODOLOGY

RK&A employed two methodologies: standardized questionnaires and in-depth interviews. Each method is described in detail below.

### QUESTIONNAIRES

Standardized questionnaires were selected for this study so we could collect information from a large sample of people and use statistical analyses to identify differences between the baseline results (data from questionnaires administered before the installation) and outcome results (data from questionnaires administered after the installation). The questions were specifically designed to collect demographics and background information about Indianapolis residents and their perceptions of the White River and knowledge of river-related issues.

To inform the questionnaire development, IMA staff and interns conducted 21 interviews with Indianapolis residents to gauge their perceptions of the White River and knowledge of river-related issues (see Appendix A for the interview guide for questionnaire development). In particular, the interviews informed the language and content of the questions. A four-page standardized questionnaire with a variety of question formats was eventually designed and pre-tested with IMA interns via a telephone conversation (see Appendix B); the baseline and outcome questionnaires are mostly identical, but the outcome survey includes a few additional questions about the *FLOW* project specifically.

RK&A determined that administering a mail-back questionnaire would best capture the responses of the various audiences (Indianapolis residents recruited at the IMA or through a neighborhood association). The table below describes the initial sampling plan for the baseline and outcome studies. Please note that the baseline sample and outcome sample did not necessarily include the same individuals. That is, some individuals may have completed a baseline *and* outcome survey, but the sample was not intended to include the same individuals.

<b>Initial Sampling Plan</b>
<b>Baseline Study – Collect 400 Questionnaires from 4/15/11 to 7/30/11</b>
<u>Collect 200 questionnaires from IMA visitors</u> Mailback questionnaires will be administered by IMA staff and volunteers at IMA programs (questionnaires are pre-stamped and addressed to RK&A); we will administer 500 questionnaires to receive 200 completed questionnaires.
<u>Collect 200 questionnaires completed by community members</u> Community members include Marian University students and residents of Butler Tarkington, Meridian Kessler Terrace, Ravenswood-White River, Riverside Civic League, and Rocky Ripple Community Association. Questionnaires with a link to a SurveyMonkey® survey will be e-mailed by the IMA. We will email 1,500 community members to receive 200 completed questionnaires.
<b>Outcome Study – Collect 400 questionnaires from 10/30/11 to 2/28/12</b>
*The sampling plan is identical to the baseline with a screening question for those who saw the installation.

The actual sampling plan remained close to the original plan, but there are some notable variations to acknowledge. The actual sampling plan is described below and differences are italicized.

<b>Actual Sampling Plan</b>
<p><b>Baseline Study – Collect 400 Questionnaires <i>from 4/15/11 to 8/31/11</i></b></p> <p><u>Collect 200 questionnaires from IMA visitors</u>            IMA staff and volunteers administered 500 mailback questionnaires (paper) at IMA programs <i>and to walk-in visitors at the IMA</i> (questionnaires are administered in a pre-stamped envelope addressed to RK&amp;A).<sup>2</sup></p> <p><u>Collect 200 questionnaires completed by community members</u>            Community members include Marian University students and residents of Butler Tarkington, Meridian Kessler Terrace, Ravenswood-White River, Riverside Civic League, and Rocky Ripple Community Association and were recruited in various ways (depending on perceived access to email and the opportunities provided by the neighborhood associations). <i>Marian students were recruited through a newsletter email blast from the University that provided a link to the SurveyMonkey® survey. Butler Tarkington residents were recruited through a mailed newsletter that provided a link to the SurveyMonkey® survey. Rocky Ripple residents were recruited through a link on their neighborhood Web site and Facebook page; additionally, the neighborhood association was provided paper surveys for any residents who did not want to complete the survey online. The Riverside neighborhood association administered paper surveys to residents and emailed the SurveyMonkey® link to residents for whom they had email addresses. The Ravenswood White-River neighborhood president delivered paper surveys to neighborhood residents.</i></p>
<p><b>Outcome Study – Collect 400 questionnaires <i>from 12/15/11 to 7/31/12</i></b></p> <p><u>Collect 200 questionnaires from IMA visitors</u>  <i>Hired data collectors</i> administered 600 mailback questionnaires (paper) at IMA programs <i>and to walk-in visitors at the IMA who had seen the installation</i> (questionnaires are administered in a pre-stamped envelope addressed to RK&amp;A).<sup>3</sup></p> <p><u>Collect 200 questionnaires completed by community members</u>            Community members include residents of Butler Tarkington, Ravenswood, and Riverside neighborhoods and were recruited in various ways (depending on perceived access to email and the opportunities provided by the neighborhood associations). <i>Butler Tarkington residents who saw the installation were recruited through a mailed newsletter that provided the URL to the SurveyMonkey® survey. The Riverside and Ravenswood neighborhood associations administered paper surveys to residents who saw the installation.</i></p>

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<sup>2</sup> For surveys administered to IMA visitors, data collectors followed a systematic sampling method to invite visitors to participate in the study. In accordance with this method, data collectors intercepted adult visitors (18 years old or older) in the IMA (walk-in visitors) or before or after attending a program at the IMA (depending on the program) and invited them to participate in the study. If the visitor agreed, he or she was given a stamped and addressed envelope with a blank questionnaire inside and asked to complete and return the questionnaire to RK&A at their leisure. Participating visitors also self-addressed two thank-you/reminder postcards that were mailed one and two weeks after the initial invitation as a reminder. The postcard method, one proposed by Don Dillman in *Mail and Internet Surveys: The Tailored Design Method* and modified for the purposes of this study, was later abandoned because it proved ineffective.

<sup>3</sup> Data collectors followed the same systematic sampling method described in the above footnote. However, they also intercepted visitors in the 100 Acres when the weather was amenable.

As a token of appreciation, the IMA offered all interested respondents an opportunity to win a \$50 Amazon gift card. A total of eight gift cards were awarded: four to participants in the baseline data collection and four to participants in the outcome data collection.

### **IN-DEPTH INTERVIEWS**

In-depth interviews encourage and motivate people to describe their experiences, express their opinions and feelings, and share with the interviewer the meaning they construct from an experience. In-depth interviews produce data rich in information because interviewees talk about personal experiences, and they complement and further contextualize quantitative data collected in the questionnaire.

RK&A conducted in-depth interviews with Indianapolis residents who participated in at least one of the concurrent *FLOW* programs. Data collectors recruited participants at the following programs: Mary Miss' talk on City as Living Laboratory at the IMA on September 22, 2011, *FLOW: Can You See the River?* Family Day at the IMA on September 24, 2011, Super Cities: Don't Wreck Their Watery World talk at Marian University on September 27, 2011, Maude Barlow's talk Planet Indy: Maude Barlow on the Right to Clean Water at the IMA on September 29, 2011, and the USGS Water Mapping Demonstration at the canal behind the Indiana State Museum on October 1, 2011. Data collectors intercepted program attendees entering or exiting the programs following a systematic selection procedure and asked program attendees to participate in a telephone interview. Willing participants provided their name, email address, and phone number.

All interviews were conducted via telephone, using an interview guide (see Appendix C). About two-thirds of interviews were conducted one to two months after their program experience, while one-third were interviewed six to eight months after their program experiences. Interviews were audio recorded with interviewees' consent and transcribed to facilitate analysis.

## **DATA ANALYSIS**

### **QUESTIONNAIRES**

Questionnaire data are quantitative and were analyzed using SPSS 20 for Windows, a statistical package for personal computers. The objectives of the study as well as our professional experience were used to inform the analyses, which include descriptive and inferential methods. Appendix D contains a list of all statistical analyses.

Frequency distributions were calculated for all categorical variables (e.g., gender and IMA membership). Summary statistics, including the median (50<sup>th</sup> percentile), mean (average) and standard deviation (spread of scores: "±" in tables), were calculated for variables measured at an interval level or higher (e.g., age and ratings).

Inferential statistics were used to examine differences by baseline and outcome group. A 0.01 level of significance was employed to preclude findings of little practical significance.<sup>4</sup> To examine the relationship between two categorical variables, cross-tabulation tables were computed to show the joint frequency distribution of the variables, and the chi-square statistic ( $X^2$ ) was used to test the significance of the relationship. For example, White River experiences were compared by baseline and outcome group to determine if the *FLOW* project affected respondents' relationship to the White River. To test for differences in the means of two or more groups, an analysis of variance (ANOVA) was performed

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<sup>4</sup> When the level of significance is set to  $p = 0.01$ , any finding that exists at a probability ( $p$ -value)  $\leq 0.01$  is "significant." When a finding (such as a relationship between two variables) has a  $p$ -value of 0.01, there is a 99 percent probability that the finding exists; that is, in 99 out of 100 cases, the finding is correct. Conversely, there is a 1 percent probability that the finding would not exist; in other words, in 1 out of 100 cases, the finding appears by chance.

and the F-statistic was used to test the significance of the difference. For example, ratings of statements about the White River were compared by baseline and outcome group. Additionally, inferential statistics were used to examine differences by other variables like gender and age; these findings are reported in Appendix F.

### **IN-DEPTH INTERVIEWS**

The data are qualitative, meaning that results are descriptive. In analyzing the data, the evaluator studied the transcripts for meaningful patterns and, as patterns and trends emerged, grouped similar responses. The objectives of the study as well as our professional experience with art museum visitors informed the analysis.

## **REPORTING METHOD**

Findings from each methodology are presented in separate sections. Sections are organized by themes, and trends in each are presented from most- to least-frequently occurring. Quantitative data are reported in tables with explanatory text; percentages within tables may not always equal 100 owing to rounding. Only statistically significant findings that also have practical significance are presented in the body of the report (see Appendix D for a complete list of statistical analyses). Qualitative data are reported in narrative, with exemplary quotations, and with interviewers' questions or comments presented in parentheses. The gender and age of interviewees are identified in brackets following the quotations.

### **SECTIONS OF THE REPORT:**

1. Standardized Questionnaires
2. In-depth Interviews

# STANDARDIZED QUESTIONNAIRES

## INTRODUCTION

RK&A designed a baseline and outcome questionnaire to determine the effect of the *FLOW* project on Indianapolis residents. Baseline questionnaires were administered between April 15 and August 31, 2011 (before the installation) and outcome questionnaires were administered between December 15, 2011 and August 15, 2012. A total of 464 questionnaires were collected—284 baseline and 180 outcome.<sup>5</sup> All findings are presented by baseline and outcome groups.

Questionnaire respondents were recruited at the IMA and through neighborhood associations and a nearby university. However, more neighborhood visitors comprise the baseline sample than the outcome sample; the difference is statistically significant (see Table 1).

**TABLE 1**  
**RECRUITMENT LOCATION BY GROUP**

RECRUITMENT LOCATION ( <i>n</i> = 464)	GROUP		TOTAL
	BASELINE	OUTCOME	
	%	%	%
IMA	66	98	78
Neighborhood	35	2	22

<sup>1</sup> $\chi^2 = 66.957; p = .009$

Given the difference in representation of respondents recruited through neighborhood associations in the baseline and outcome sample, RK&A ran statistical analyses both with respondents recruited from the neighborhood and without them. Statistical findings were the same, and so we decided not to remove respondents recruited through the neighborhood from the sample.

## DEMOGRAPHICS

### GENERAL DEMOGRAPHICS

Table 2 (next page) presents respondents' general demographic characteristics. Two-thirds of respondents are female, and one-third are male (66 percent versus 35 percent). The median age of respondents is 43 years. There are no statistical differences in gender and age by baseline and outcome respondents.

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<sup>5</sup> Please note that the baseline sample and outcome sample did not necessarily include the same individuals. That is, some individuals may have completed a baseline *and* outcome survey, but the sample was not intended to include the same individuals.



**TABLE 2****DEMOGRAPHICS BY GROUP**

	GROUP		
	BASELINE	OUTCOME	TOTAL
<b>GENDER (n = 452)</b>	%	%	%
Female	70	59	66
Male	30	41	35
<b>AGE<sup>1</sup> (n = 442)</b>	%	%	%
17 – 24	10	8	9
25 – 34	25	27	25
35 – 44	16	19	17
45 – 54	21	20	21
55 – 64	19	16	18
65+	9	10	10

<sup>1</sup>Total age: range = 17-89; median = 43; mean = 44.0 (± 15.43)

**ETHNICITY**

Respondents were asked to select the group or groups with which they most identify. Most respondents identified as Caucasian/white (87 percent) (see Table 3). Several identified as African American/black (7 percent).

There is a statistically significant difference between baseline and outcome respondents who identified as African American/black. Baseline respondents are more likely than outcome respondents to identify as African American/black (11 percent versus 2 percent).

**TABLE 3****ETHNICITY BY GROUP**

	GROUP		
	BASELINE	OUTCOME	TOTAL
<b>ETHNICITY (n = 430)</b>	%	%	%
Caucasian/white	85	91	87
African American/black <sup>1</sup>	11	2	7
Hispanic/Latino	3	4	4
Asian/Pacific Islander	3	3	3
American Indian/Alaskan Native	2	2	2
Other	2	1	1

<sup>1</sup> $\chi^2 = 9.786; p = .002$

## EDUCATION

Respondents were asked to identify the highest level of education they had completed. More than three-quarters of respondents are college graduates or have further education (80 percent) (see Table 4). There is no statistical difference in education (college graduate versus non-college graduate) by baseline and outcome respondents.

**TABLE 4**  
**EDUCATION BY GROUP**

EDUCATION ( <i>n</i> = 450)	GROUP		
	BASELINE	OUTCOME	TOTAL
	%	%	%
Some high school	1	1	1
High school graduate	18	13	16
Technical school	3	2	3
College graduate/ Bachelor's degree	34	32	33
Some graduate work	11	10	10
Graduate/ professional degree	34	42	37

## RESIDENCE

Respondents were asked to identify their Zip code (see Appendix E for a complete list of the Zip codes and residence analyses). More than three-quarters of respondents reside in Indianapolis (79 percent), primarily in the central and north areas of the city, while almost one-quarter of residents live in another city in Indianapolis metro area (see Table 5, next page).

There is a statistically significant difference between baseline and outcome respondents by residence. Baseline respondents are more likely than outcome respondents to reside in Indianapolis proper (83 percent versus 72 percent).

**TABLE 5****RESIDENCE BY GROUP**

<b>RESIDENCE<sup>1</sup> (n = 447)</b>	<b>GROUP</b>		
	<b>BASELINE</b>	<b>OUTCOME</b>	<b>TOTAL</b>
	<b>%</b>	<b>%</b>	<b>%</b>
Indianapolis	83	72	79
Central Indianapolis	34	18	28
North Indianapolis	29	21	26
Northwest Indianapolis	5	11	8
Northeast Indianapolis	4	9	6
South Indianapolis	5	3	4
East Indianapolis	3	3	3
West Indianapolis	2	2	2
Southwest Indianapolis	1	3	2
Southeast Indianapolis	< 1	2	1
Another city in Indianapolis metro area	17	28	22

<sup>1</sup> $\chi^2 = 7.257; p = .007$ ; crosstab run on baseline or outcome versus Indianapolis or another city in the Indianapolis metro area.

## IMA HISTORY

### VISITATION AND PROGRAM PARTICIPATION

Most respondents are repeat visitors to the IMA (91 percent) (see Table 6, next page). Of repeat visitors, respondents had visited the IMA a median of three times in the last 12 months and a median of one IMA program in the last 12 months.

There is a statistically significant difference between baseline and outcome respondents by IMA visitation. Baseline respondents are more likely than outcome respondents to be a repeat visitor to the IMA (95 percent versus 87 percent).

**TABLE 6****IMA VISITATION BY GROUP**

	GROUP		
	BASELINE	OUTCOME	TOTAL
<b>IMA VISITOR<sup>1</sup> (n = 455)</b>	%	%	%
Repeat visitor	95	87	91
First-time visitor	4	13	8
Never been before	1	1	1
<b>NUMBER OF IMA VISITS IN THE LAST 12 MONTHS<sup>2</sup> (n = 400)</b>	%	%	%
None	3	6	5
Once	13	12	13
2 – 3 times	37	28	34
4 – 5 times	20	17	19
6+ times	27	37	31
<b>NUMBER OF IMA PROGRAMS ATTENDED IN THE LAST 12 MONTHS<sup>3</sup> (n = 385)</b>	%	%	%
None	29	30	29
Once	22	22	22
2 – 3 times	29	24	27
4 – 5 times	12	13	13
6+ times	9	11	9

<sup>1</sup> $\chi^2 = 12.995; p = .002$

<sup>2</sup>Total number of IMA visits: range = 0 – 50; median = 3; mean = 5.3 ( $\pm$  6.18)

<sup>3</sup>Total number of IMA programs attended : range = 0 – 15; median = 1; mean = 2.2 ( $\pm$  2.60)

**MEMBERSHIP**

Nearly two-thirds of respondents are IMA members (64 percent) (see Table 7). There is no statistical difference in IMA membership by baseline and outcome respondents.

**TABLE 7****IMA MEMBERSHIP BY GROUP**

	GROUP		
	BASELINE	OUTCOME	TOTAL
<b>IMA MEMBER (n = 413)</b>	%	%	%
Yes	67	59	64
No	33	41	36

## WHITE RIVER EXPERIENCES

### TYPES OF ENGAGEMENT WITH THE WHITE RIVER

Respondents were asked about their engagement with the White River in the last 12 months. The most popular engagement with the River is walking, running, or exercising along the River (76 percent), closely followed by driving by or over the River (72 percent) (see Table 8).

There is one statistically significant difference between baseline and outcome respondents by IMA visitation. Baseline respondents are more likely than outcome respondents to picnic or attend community gatherings along the River (25 percent versus 13 percent).

**TABLE 8**  
**TYPES OF ENGAGEMENT WITH THE WHITE RIVER BY GROUP**

ENGAGEMENT WITH THE WHITE RIVER IN THE LAST 12 MONTHS ( <i>n</i> = 441)	GROUP		
	BASELINE	OUTCOME	TOTAL
	%	%	%
I have walked, run, or exercised along the White River.	77	74	76
I drive by or over the River regularly.	75	68	72
I picnic or attend community gatherings along the River. <sup>1</sup>	25	13	20
I kayak, boat, or participate in other water-related recreational activities on the River.	11	11	11
I live on the River.	10	5	8
I fish in or along the River.	4	3	4
Other: I frequently visit a place along the River (e.g., restaurant, friend's house)	3	2	3
Other: Miscellaneous	2	2	2
Other: Birding and Wildlife watching	2	0	1

<sup>1</sup> $\chi^2 = 9.782; p = .002$

### PARTS OF THE WHITE RIVER AND CENTRAL CANAL TOWPATH USED/VISITED

Respondents were asked about their engagement with the White River in the last 12 months. The most used/visited parts of the River and Central Canal Towpath are near the Indianapolis Museum of Art/Butler University/Marian University (78 percent) and Downtown Canal Walk (74 percent) (see Table 9, next page). There is no statistical difference in parts of the River used/visited by baseline and outcome respondents.

**TABLE 9****PARTS OF THE WHITE RIVER AND CENTRAL CANAL TOWPATH USED/ VISITED BY GROUP**

<b>PARTS OF THE WHITE RIVER USED/ VISITED IN THE LAST 12 MONTHS (n = 452)</b>	<b>GROUP</b>		
	<b>BASELINE</b>	<b>OUTCOME</b>	<b>TOTAL</b>
	<b>%</b>	<b>%</b>	<b>%</b>
Near the Indianapolis Museum of Art/Butler University/Marian University	78	79	78
Downtown Canal Walk	73	76	74
White River State Park	55	57	56
Near Holliday Park	38	35	37
Riverside Park	20	13	18
Other: miscellaneous	4	6	5
Other: Broad Ripple	5	3	4
Other: Ravenswood	3	1	2
Other: Rocky Ripple	2	1	2
Other: Meridian-Kessler	1	0	1

**WHAT MIGHT NEGATIVELY AFFECT THE HEALTH OF THE WHITE RIVER**

Respondents were asked about what might negatively affect the health of the White River; respondents were presented five options and were asked to pick two—also having the ability to write-in other responses. The most selected option was sewage (59 percent), closely followed by dumped chemicals (53 percent) (see Table 10).

There is one statistically significant difference between baseline and outcome respondents. Outcome respondents are more likely than baseline respondents to say that fertilizers might negatively affect the health of the White River (49 percent versus 30 percent).

**TABLE 10****WHAT MIGHT NEGATIVELY AFFECT THE HEALTH OF THE WHITE RIVER BY GROUP**

<b>WHAT MIGHT NEGATIVELY AFFECT THE HEALTH OF THE WHITE RIVER (n = 422)</b>	<b>GROUP</b>		
	<b>BASELINE</b>	<b>OUTCOME</b>	<b>TOTAL</b>
	<b>%</b>	<b>%</b>	<b>%</b>
Sewage	64	53	59
Dumped chemicals	57	48	53
Fertilizers <sup>1</sup>	30	49	37
Litter	30	29	30
Land development	18	20	19
Other	< 1	1	1

<sup>1</sup> $\chi^2 = 16.099; p = .000$

## WHO MIGHT NEGATIVELY AFFECT THE HEALTH OF THE WHITE RIVER

Respondents were asked about who might negatively affect the health of the White River; respondents were presented five options and were asked to pick two—also having the ability to write-in other responses. The most selected option was corporations (60 percent). Indianapolis residents (52 percent) and waste management companies (51 percent) were also frequently selected (see Table 11).

There is one statistically significant difference between baseline and outcome respondents. Baseline respondents are more likely than outcome respondents to say that waste management companies negatively affect the health of the White River (57 percent versus 43 percent).

**TABLE 11**  
**WHO MIGHT NEGATIVELY AFFECT THE HEALTH OF THE WHITE RIVER BY GROUP**

WHO MIGHT NEGATIVELY AFFECT THE HEALTH OF THE WHITE RIVER (n = 434)	GROUP		
	BASELINE	OUTCOME	TOTAL
	%	%	%
Corporations	62	56	60
Indianapolis residents	48	57	52
Waste management companies <sup>1</sup>	57	43	51
Farmers	23	31	26
Other	4	6	4
Tourists	2	4	3

<sup>1</sup> $\chi^2 = 9.113; p = .003$

## ATTITUDES ABOUT AND UNDERSTANDING OF THE WHITE RIVER

Respondents were asked to rate 11 statements on a scale from 1, “Strongly disagree,” to 7, “Strongly agree.” In looking at the rating scales, note that it is useful to interpret mean ratings relative to each other, versus individually, as relative ratings indicate what is most important versus least important to respondents.

Respondents most strongly agreed with the statement, “The White River is important to the City of Indianapolis” (mean = 6.4) (see Table 12, next page). Respondents most strongly disagreed with the statement, “The White River is destructive to surrounding neighborhoods” (mean = 2.4). There is no statistical difference by baseline and outcome respondents.

Note that respondents simultaneously held both positive and negative views about the White River. While respondents agreed that the White River is important to the City (mean = 6.4) and a place for communities to gather (mean = 5.5), respondents also said the River is polluted (mean = 5.0) and had neutral feelings about the unattractiveness of the River (mean = 3.5). Through this line of questioning, respondents expressed that they acknowledge the value of the White River while stating that there are negative aspects of the River.

**TABLE 12****ATTITUDES ABOUT AND UNDERSTANDING OF THE WHITE RIVER BY GROUP**

STATEMENT	GROUP			
	<i>n</i>	BASELINE	OUTCOME	TOTAL
		MEAN	MEAN	MEAN
The White River is important to the City of Indianapolis.	457	6.3	6.4	6.4
The White River is a place for communities to gather.	455	5.5	5.6	5.5
The White River is polluted.	452	5.0	4.9	5.0
The White River is important to Indianapolis tourism.	453	5.0	4.7	4.9
The White River positively affects my health and well-being.	452	4.6	4.7	4.7
The White River provides drinking water to Indianapolis residents.	434	4.4	4.3	4.4
The White River is one of the reasons I am proud to live in the Indianapolis area.	446	3.9	3.8	3.8
The White River looks unattractive and unappealing.	455	3.6	3.4	3.5
The White River is clean and healthy.	451	3.1	3.3	3.2
The White River is dangerous.	455	3.3	3.0	3.2
The White River is destructive to surrounding neighborhoods.	454	2.4	2.3	2.4

**ACTIONS TAKEN TO PROTECT OR PREVENT DAMAGE TO THE RIVER**

Respondents were asked to describe actions they currently take to protect or prevent damage the White River. Responses were open-ended and thus coded for statistical analysis. A number of actions were identified. The greatest number of respondents said they don't litter (28 percent), while another one-quarter said they do nothing to protect or prevent damage to the River (25 percent) (see Table 13, next page). There are no statistical differences by baseline and outcome responses.



**TABLE 13****ACTIONS TAKEN TO PROTECT OR PREVENT DAMAGE TO THE WHITE RIVER BY GROUP**

<b>ACTIONS (n = 346)</b>	<b>GROUP</b>		
	<b>BASELINE</b>	<b>OUTCOME</b>	<b>TOTAL</b>
	<b>%</b>	<b>%</b>	<b>%</b>
Don't litter	26	29	28
Nothing	27	21	25
Pick up litter and trash	15	18	16
Don't use lawn chemicals/ use eco-friendly lawn chemicals	12	18	14
Vague response (e.g., be green/ act in eco-friendly way)	13	9	11
Don't dump in River/don't dump chemicals	10	10	10
Other	6	16	10
Recycle	7	6	7
Organized river cleanup	4	5	5
Reduce water use	3	1	2
Rain water barrels and gardens	2	1	1

**FLOW EXPERIENCES****AWARENESS**

When asked how they first became aware of the *FLOW* project, the majority said they happened upon the installation while visiting the IMA (59 percent) (see Table 14). Some became aware of the project through the IMA newsletter, advertisement, or Web site (19 percent).

**TABLE 14****FLOW AWARENESS**

<b>HOW VISITORS BECAME AWARE OF FLOW (n = 284)</b>	<b>OUTCOME</b>
	<b>%</b>
Happened upon the installation while visiting the IMA	59
IMA newsletter, advertisement, or Web site	19
Happened upon the installation while along another part of the White River	11
Other: miscellaneous	6
Not aware of the installation	5
Other: word of mouth	3

## ENGAGEMENT

There were various ways that respondents may have engaged with the *FLOW* project. Most respondents engaged with the project by visiting the oversized red map markers and mirrors (82 percent) (see Table 15). Nearly one-half visited the introduction to the project at the IMA’s Efroymsen Pavilion (48 percent).

**TABLE 15**  
**FLOW ENGAGEMENT**

WAYS TO ENGAGE WITH <i>FLOW</i>	OUTCOME	
	<i>n</i>	%
I visited the oversized red map markers and mirrors <sup>1</sup>	175	82
I visited the introduction to the project at IMA’s Efroymsen Pavilion <sup>2</sup>	172	48
Attended a <i>FLOW</i> program	179	18
I dialed the guide-by-cell service to hear a description for each of the water elements at the markers <sup>3</sup>	170	10
I used the Track a Raindrop app <sup>4</sup>	167	9
Other	180	3

<sup>1</sup> Number of engagements: range = 1 – 20; median = 1; mean = 2.4 (± 2.56)

<sup>2</sup> Number of engagements: range = 1 – 5; median = 1; mean = 1.8 (± 1.10)

<sup>3</sup> Number of engagements: range = 1 – 10; median = 1; mean = 1.9 (± 2.31)

<sup>4</sup> Number of engagements: range = 1 – 4; median = 1; mean = 1.4 (± .90)

## MARKER LOCATIONS

Respondents who visited the markers often did so near the IMA/ Butler University/ Marian University (77 percent) (see Table 16). Less than one-quarter of respondents visited the markers at other locations.

**TABLE 16**  
**WHERE RESPONDENTS VISITED *FLOW* MARKERS**

LOCATIONS ( <i>n</i> = 145)	OUTCOME
	%
Near the IMA/ Butler University/ Marian University	77
Downtown Canal Walk (near North West Street)	22
White River State Park (near Washington Street)	15
Holliday Park (near Spring Mill Road & West 64 <sup>th</sup> Street)	8
Riverside Park (near West 30 <sup>th</sup> Street & East Riverside Drive)	7
Not sure	6
Other	1

**PROGRAM ATTENDANCE**

Of the 32 respondents who went to a program, the greatest number attended Mary Miss’ talk (15 respondents) (see Table 17). The next greatest number of respondents attended the *FLOW: Can You See the River?* Family Day (11 respondents).

**TABLE 17**  
**FLOWPROGRAM ATTENDANCE**

<b>FLOW PROGRAMS (n = 32)</b>	<b>OUTCOME</b>
	<i>n</i>
Artist Mary Miss talk on <i>FLOW: Can You See the River?</i>	15
<i>FLOW: Can You See the River?</i> Family Day	11
Super Cities Don’t Wreck Their Watery World	6
Planet Indy: Maude Barlow on the Right to Clean Water	4
Other program	3
Fall Water: Evening in 100 Acres	1

# IN-DEPTH INTERVIEWS

## INTRODUCTION

RK&A conducted in-depth interviews with visitors who had engaged with the *FLOW* project in some capacity. Phone numbers were collected at programs concurrent to the installation, and program attendees were interviewed via telephone two to eight months after the program at which their contact information was collected. RK&A conducted 40 interviews.

## DEMOGRAPHICS

Interviewees' demographic characteristics are as follows:

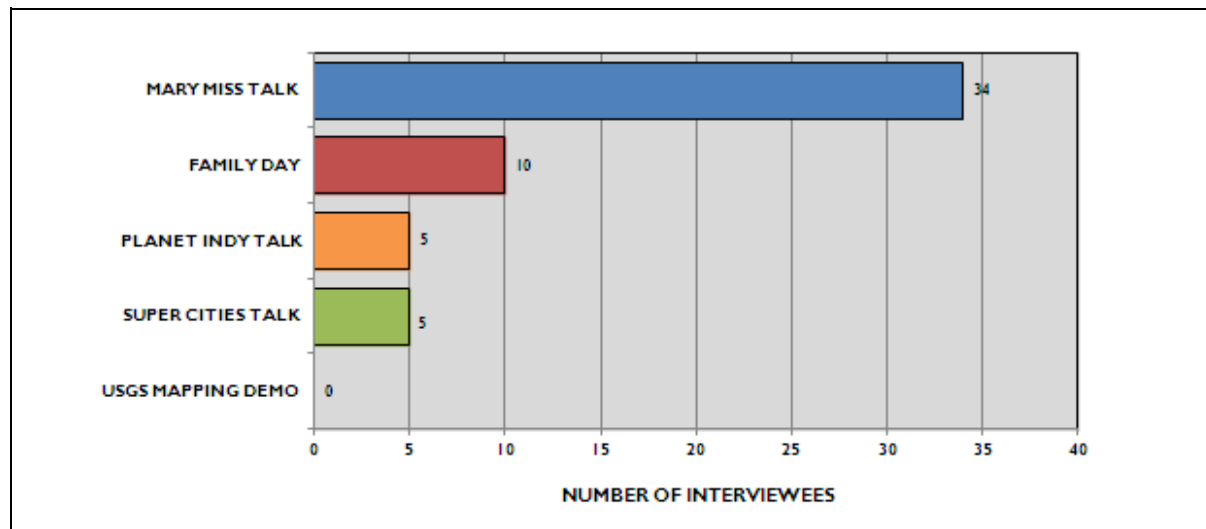
- ◆ One-half female, and one-half male;
- ◆ Range in age from 17 to 79 years; the median age of 49;
- ◆ Have lived in Indianapolis between less than a year to 52 years; of interviewees, the median number of years residing in Indianapolis is 17;
- ◆ Nearly two-thirds said they have visited the IMA 10 times or more in the last two years;
- ◆ One-half are IMA members;
- ◆ Almost all interviewees reside in an Indianapolis Zip code; a couple reside in Carmel, a couple in Fishers, and one in Kokomo (see Appendix E for all Zip codes).

Note that about one-quarter of interviewees self-reported strong affiliations to either the Indianapolis Museum of Art and/or the Mary Miss installation and *FLOW* project. For instance, one interviewee used to work at the Indianapolis Museum of Art, and another helped with Family Day events in the past. Further, one interviewee said her husband's company was involved in etching components of the installation, and another helped organize and facilitate programs related to the installation through Marian University.

## FLOW PROJECT EXPERIENCES

Again, all interviewees were recruited at one of five *FLOW*-related programs: 1) Mary Miss talk at the IMA; 2) *FLOW: Can You See the River?* Family Day at the IMA; 3) Super Cities: Don't Wreck Their Watery World talk at Marian University; 4) Planet Indy talk by Maude Barlow at the IMA; and 5) the USGS Water Mapping Demonstration at the canal behind the Indiana State Museum. More than three-quarters of interviewees attended just one of the *FLOW* programs, but a few attended more than one. Most interviewees attended the Mary Miss talk; no interviewees attended the USGS Mapping Demonstration although potential interviewees were recruited there (see Figure 2 for the number of interviewees who attended each program).

**FIGURE 2**  
**PROGRAM ATTENDANCE**



Since interviews were conducted one to eight months after their program experience, RK&A asked interviewees to describe their experience in the program and engagement with the *FLOW* installation itself.

### FLOW INSTALLATION

At the time of their interview, nearly all interviewees said they had engaged with the installation in some way.<sup>6</sup> Most described seeing the red balls, pins, or markers, and about one-half also mentioned the mirrors. About one-quarter recalled engaging with the map inside the IMA, and one-half calling the guide-by-cell. Several recalled the red bands on the trees, and one used the Raindrop app. The remaining section will first describe interviewees’ overall experience with the installation followed by their engagement with specific components of the installation.

#### OVERALL EXPERIENCE

In thinking about their experience with the installation as a whole, more than one-half of interviewees described the installation as being very “striking” or intriguing looking. For instance, one interviewee described the contrast of the red markers and bands against the fall landscape (see the first quotation below). The majority of interviewees described how the aesthetics of the installation drew them in to engage with the installation (see the second quotation).

I remember the red bands on the trees and the red balls; Well, I just thought they were a very striking image in the grounds of the 100 Acres, especially the red bands and the leaves were starting to fall. You could see them better and you could see them across the lake. [female 49]

I recall walking past and it just kind of caught—actually, I remember my daughter, it caught her eye and she asked, ‘What’s that?’ We went up and checked out the mirror and read about it and then saw the red balls and such. But, it just kind of stuck out as. . . . We literally stumbled across it. [male 40]

<sup>6</sup> Of those who had not engaged with the installation, all but one of the interviewees were interviewed in the first two months after the installation’s opening (e.g., late Fall/early Winter).

About one-quarter of interviewees described highly positive engagement with the installation as a result of their curiosity. For instance, one interviewee described listening to the guide-by-cell for one marker and feeling compelled to listen to other markers (see the quotation below). Another interviewee described initial challenge in figuring out how to engage with the markers, but expressed appreciation for the unique design (see the second quotation).

I remember seeing one of the elements and walking up to it and sort of realizing what it was. I had my cell phone with me, and it had a cell number provided with it, so I called it and followed that link and that caused me to walk to a couple of the other spots. There were a few other elements that I could see from where I was standing, so it was sort of nice to let this piece unfold. . . . You're curious about what they are. So I was really surprised that I sort of encountered these things before I went to the [Mary Miss] talk because I didn't expect them. I just saw them on the way in and didn't realize. [male 48]

I thought it was really interesting that there were mirrors as well as the red globe-type objects to bring attention to natural features. I thought that was very creative and unique. I'd never seen that application prior; I've been back probably three or four times checking it out. I guess, [at] first, it took me a minute to figure out how I would make it work. Then I figured it out. [male 27]

By contrast, another one-quarter described lackluster experiences with the installation—not necessarily negative but not strongly positive either. Most of these experiences seemed to result from confusion with how to experience the installation. For instance, one interviewee said she had not seen enough of the installations to make sense of the individual markers (see the first quotation below). Another interviewee described trying to make sense of how to engage with the markers (see the second quotation).

We saw a mirror up by a bridge right before we went to the water *FLOW* project. We saw a couple of red balls. It didn't make enough of an impression on me; we didn't really understand what that was exactly because we had not seen enough of them around. [female 40]

We saw a group of other people kind of watching them [the red balls in 100 Acres], trying to figure out what the purpose was. So, we kind of walked over there and saw that there were like mirrors on them and, from my recollection, there was a red dot and then behind it—so if you were standing in between this red dot and there was a mirror, then you could see yourself or somehow the red dot lined with the mirror. Something like that. So we kind of figured that out and then looked to see if there were maps and there weren't any. [female 17]

A few described their interest in the content of the installation. For instance, one interviewee liked that the installation connected art with environmental issues (see the first quotation below). Another interviewee liked that it called attention to important water issues (see the second quotation).

I know one of the installations you actually look at a mirror to look down at a drainage site, and I love that it's going to be combining environment with art because as a science teacher it's really neat for my kids to have that connection and see that those things flow together. [female 55]

Being able to use your cell phone to call and find out more about a particular location was one of the things that I found both interesting and engaging about the project. . . . It's just sort of designed so it can be like 'Hey, this is something important.' If you want to know more, then you call, and I did that on various occasions. Most of the times I liked the mirror structures—

representation of you in the landscape and with maybe the point that might be some kind of environmental impact on the River. I found those pretty engaging. Sometimes I found them a little bit visually disorienting because of the complexity [of what] they're trying to make happen, but I appreciated them. . . . I liked that it would kind of push me in the direction of the installation more than you know, 'Here's a landmark and call to find out more.' [male 34]

### EXPERIENCES WITH SPECIFIC COMPONENTS

*Markers and Mirrors*—As noted above, the markers and mirrors were intriguing, but confusing to some. Several interviewees were not sure how to engage with the markers or what they were supposed to show visitors, while a few simply were not sure how to locate the markers (see the quotation below).

We went over to the park area, the 100 Acres. We saw a little bit there, but it seems like it was hard to find those things. I tried to look up stuff online, but I had trouble using that as well. [female of unreported age]

*Map in the IMA's Efroymsen Pavilion*—All interviewees who talked about the map said they enjoyed it, although a few seemed particularly interested in locating their home or other locations on the map versus thinking about the River. Additionally, a couple referred to themselves as “map people” (see the quotation below). Additionally, a few interviewees said they had *only* engaged with the installation through the map and materials in the lobby of the IMA.<sup>7</sup>

Absolutely loved the map. Thought it was very educational and interesting that was put out there with the whole. . . . Personally, I'm all about maps. I've always loved maps, so I walked in and saw a map, and I had to look at it. I had to look and see and get oriented to where north was. I grew up in Indiana. I grew up coming to Indianapolis. All my family lives here, so I had to look and see where everything was. I just thought that was real interesting. I love the fact that the balls were there and you could sit and look at them, but I was walking around on it and getting a feel for where the water was. I hadn't really looked at that map in terms of the water before. It was very compelling. [female 50]

*Guide-by-cell*—Of those who said they used the guide-by-cell, a couple described the challenge of listening to the guide-by-cell as a group (see the quotation below).

One of my sons had a cell phone, so he tried to use that both in the 100 Acres plus the other place. He tried to enter in the numbers and listen to the recording, but it was hard for us to all share that. [female of unreported age]

*Red Bands on the Trees*—Even though the red balls were part of the overall installation, they were recalled by interviewees as distinct from the markers and mirrors, and thus, were described separately. Interviewees who spoke about the bands described them as eye-catching, seemingly even more so than the other markers.

### MARY MISS TALK

The 34 interviewees who attended the Mary Miss talk were asked to describe their experience. About one-half of the responses were mostly vague, saying that the artist explained her installation and talked about other similar projects. Interviewees may have had trouble remembering details from the talk as the majority of the interviews were conducted well after the Mary Miss talk.

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<sup>7</sup> All of these interviewees were interviewed in the first two months after the installation's opening (e.g., late fall/early winter).

However, another one-half of interviewees gave explicit descriptions of their experiences. One-quarter spoke specifically about the goal of the installation being to draw viewers' attention to the White River and water-related issues, and for some, described how the talk made them think more deeply about the White River and water-related issues. For instance, one interviewee described how the talk made her reflect on her relationship to the White River (see the first quotation below). Another interviewee described how Mary Miss' interest in the White River made her more interested in understanding the Indianapolis water supply (see the second quotation). Some interviewees recalled other things about the talk, including learning about other similar projects that Mary Miss is working on and being impressed by her ability to coordinate such a large project (see the third quotation).

And then I attended the opening lecture that Mary Miss did. And I would say even though I wasn't right next to one of the pushpins at that moment, hearing her talk about it was a way that I got into the installation. . . . I think one of the things she said that really had an impact on me was that, when she came to Indianapolis or had been to Indianapolis on a few other occasions, she was struck by how hidden the White River is, so she wanted to make people more aware of it and connect them to the River. Then she tied that into the mirrors and different ways of looking at the River and our connection with the River. So that comment about how hidden it was really struck me, and it made me think about all the ways I interact with the River because I cross the River at least twice each day, before and after work, and I cross the point where you can't see the River because of how they constructed the highway and the bridges. And so it really caused me to reflect on when I do or don't get to see the River. And I was like yeah, she's right. It's hidden in a lot of ways. [female 42]

I think that after hearing Mary Miss speak about her work it became much more interesting. I thought that they were beautifully done, well thought out, but not knowing where her work was coming from and her interest, it seems as though she took much more of an interest in Indianapolis water supplies than most people do, including myself. So I think the thing that most interested me was pretty much, after she gave her back history, it became a lot more interesting and it really compelled me to look more into the Indianapolis water supply. [female 34]

I was impressed with how she was able to coordinate so many different organizations into a single vision. So that was an impressive thing I thought is this woman knows how to coordinate and organize a pretty large undertaking. So it was interesting how she had a theory, and idea of what she wanted to do and how she managed to contact so many different organizations to participate in it. [male 58]

## FAMILY DAY

The 10 interviewees who attended the *FLOW: Can You See the River?* Family Day were asked to describe their experiences. Most interviewees had a clear recollection of what they did at Family Day, which often included participating in a variety of activities. One-half of interviewees recalled watching the dance performance (see the first quotation below). Almost one-half said they talked with USGS representatives and/or participated in the River monitoring (see the second quotation below). Others mentioned the Biobus, skeleton activity, walking the trails in 100 Acres, and seeing the *FLOW* installation. Additionally, the majority understood that the Family Day was focused on nature and the environment—not necessarily the *FLOW* installation.

I liked that each group that we saw were different, but did something according to the nature, like the flow of the River. I like that type of dance—it was very nature inspiring, shall I say. We really enjoyed that. And the grandkids, of course, their aunt participated, so they really loved it.



And they even tried to mock them. They are 2 ½ [years old] and they tried to mock all the moves. It was very inspiring, and you could tell they were telling a story with their dancing. [female 53]

We walked past and noticed that they had [sensors] across the River. There were guys there with a little truck, and they explained to us that what they were doing was monitoring the flow of water to the River and they were very slowly dragging the sensor all the way across the River. And just very nice guys. They talked about why this information is important. They let the kids have a chance to go ahead and do exactly what it was they were doing. [male 40]

### PLANET INDY TALK

The five interviewees who attended the Planet Indy talk were asked to describe their experiences. All interviewees spoke in-depth about their experiences. Nearly all interviewees seemed compelled by the topic and felt that the talk was valuable (see the first quotation below). For this reason though, a couple noted that it was disappointing that the talk was not better attended (see the second quotation).

I'd never heard anyone give so many items of real information at just the drop of a hat. Any question that was given to her, she knew all about it and I was really impressed, especially since I didn't really know that much about the water. So I felt that it was an extremely valuable thing to have heard that, and it's actually changed my life now. I keep talking about water to people until they're kind of tired of it I think. But to me, it's really kind of a frightening thing to think that nobody really cares about what's happening to the water and that we have just a finite amount on the planet. And when it's gone, what will we do? [female 75]

I was just disappointed that there were so few people there, and I realize that was a large auditorium. There were more people there than I realized, but even so, it was such a vital piece of information that we all should know. [female 75]

### SUPER CITIES TALK

The five interviewees who attended the Super Cities talk were asked to describe their experiences. All but one interviewee clearly recalled their experience at the talk. As with the Planet Indy talk, most interviewees found the topic important and the talk valuable (see the quotation below).

It was a really good presentation and a lot of good ideas. It was very thought provoking and that was very worthwhile; basically he was presenting ideas that were from the book that the reason we ought to be concerned about climate change is for moral reasons. That was what the book was about—was that different people wrote short little essays, contributions, and they were all towards the theme of the moral issue. And so it's our moral responsibility to do something about environmental degradation. [female 57]

### TAKE-AWAY MESSAGES FROM *FLOW*

When asked about what they took away from the *FLOW* installation and events, interviewees named a variety of things. Responses were analyzed through the lens of the objectives:

- ♦ General awareness of the White River;
- ♦ Perceptions of the White River;
- ♦ Awareness of how the White River affects their lives and how they affect the White River;

- ◆ Understanding of issues that impact the health of the White River;
- ◆ Awareness of actions that can help improve the health of the White River; and
- ◆ Feelings of ownership regarding the White River.

About one-third of interviewees expressed an awareness of how the White River affects their lives and how people affect the White River. The majority of these interviewees described how the project made the issues personal and relevant for them (see the first quotation below). Additionally, the majority described something new that they learned about, such as that the USGS controls flooding, the canal provides drinking water, and runoff enters the River in various places (see the second quotation).

Before participating in the project, I had no idea that there was a hundred year flood, so I definitely was educated about the history of Indianapolis. Because for me, and it is for a lot of people, [it was] putting things in perspective about how it affects you personally, if that makes sense. So seeing the red markers and the red balls and the mirrors and everything was a harsh personal context for me. And, what I know about education and learning is that the way to really make it hit home is making it relevant for you. [male 24]

Certainly I had an enhanced appreciation for the canal. I really hadn't thought of it as being a water source, a drinking water source that is. [male 58]

About one-third expressed an understanding of water-related issues. However, some of these interviewees talked about the issues broadly—only tangentially mentioning how these issues affect the White River specifically (see the quotation below).

Tons of information about water and the lack, basically, of fresh water. The lack of fresh water that will occur as time goes on and the fact that we just use it so glibly. We need to be more aware and we need to start implementing procedures to be more [careful]. We shouldn't just be using water like it's never going to end because it is. It's not a resource that is—it's kind of like oil. It's not a resource that will always be there. We think that it will be and in a way it will be, but it won't be in a way that can be used and it won't be in a way that can be used in a specific place. [female 50]

Almost one-quarter described how the project improved awareness of the White River. These interviewees described how the River is currently hidden or out-of-mind, but that it could/should play a larger role in Indianapolis residents' thoughts about the City (see the quotation below).

It made me think about really where the role of the River is in our community, and again, how hidden it is in places. It's caused me to lament the fact that when I cross the bridges that I cross day to day, I lament the fact that I can't see the River. And, it happens to be a very beautiful stretch of the River, but you can't see it. So I think about in terms of an identity, a natural identity for Indianapolis. It would be great if we could make the River more of our identity because we really do lack a lot of natural features that give other cities a common identity. [female 42]

A few interviewees described actions that s/he can take to improve the health of the White River. Notably, it seemed that all of the interviewees were familiar with or had engaged in these actions prior to the *FLOW* project (see the quotation below).

Thinking about all those connections [between us and the White River] and also just keeping it clean. I work with our Honor Society group at school, and we did a project where we actually did a river cleanup on the White River. So just seeing different ways that we can be engaged and how it's all connected; it helps how we're using it. [female 55]

A few interviewees described a feeling of ownership regarding the White River beyond simply having a relationship with the River. These interviewees seemed to take this feeling away from the talks by Mary Miss and Maude Barlow rather than the installation (see the quotation below).

I think that we have impact on our environment, and everything is interconnected in terms of the water and the River whether we live in Indianapolis. Somehow we are affected by water and how we use water. And, I think we need to be better stewards of our environment, and I think that was the big thing that I took away from it. . . . Where I really got that feeling was in the lecture, not from the installation itself, but the lecture and the writings about the installation. Even though we might not live on the River, we are greatly impacted by the River, and I think what we put into it, it affects us whether it's our water systems or whatever. [female 49]

No one expressed changes in perception of the White River. Rather, several interviewees noted that the project confirmed their perceptions of the River, but made them hope that the River could be better cared for and utilized (see the quotation below).

It made me appreciate it more. I mean I like the White River. I think it's very interesting. I don't believe it's used enough. I think that there's a lot more potential for the River, so I guess maybe I had a bit of an eye-opener there. I mean, I was already aware of it, but it further cemented my views that the River should be utilized much more. [male 27]

## ATTITUDES ABOUT THE WHITE RIVER

Interviewees were asked to rate three statements about the White River on a scale from 1, "Strongly disagree," to 7, "Strongly agree," and explain why they rated each statement the way they did.<sup>8</sup> In this section, findings are reported starting with the highest ratings to the lowest ratings.

### STATEMENT 1: THE WHITE RIVER IS IMPORTANT TO THE CITY OF INDIANAPOLIS

Most interviewees rated the statement "The White River is important to the City of Indianapolis," a 6 or 7, meaning they strongly agreed with the statement. All of these interviewees talked about the importance of a body of water to any city (see the first quotation below). Several also noted that the River may be polluted, not utilized as it could be, or also sometimes detrimental to the City in the case of flooding, but that it is still important to the City (see the second quotation).

Because I believe rivers are important to any community. They always have been in the past, and they always will be. They're just used differently now. [male 47]

I remember about a year ago or more, I went on a trip on the Danube, and we went to Vienna as part of it. I was reading the guidebook and they talked about how here's the Danube that flows right through Vienna and they tend to ignore it, and that's exactly what is happening [here]. At least I know in Indianapolis, it's ignored a lot, if not actively polluted. So I think it's

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<sup>8</sup> These statements were copied verbatim from the questionnaire.

something that [the River] is in peril that we ignore it because it's a shame to waste such a wonderful resource and I think it really could be an asset for the City if they were able to use it more. And it could be something we were proud of, instead of ashamed of. [female 57]

A few rated the statement a 4 or 5 explaining that it is not as important as it used to be, or is not as clean and utilized as it could be.

#### **STATEMENT 2: THE WHITE RIVER IS IMPORTANT TO INDIANAPOLIS RESIDENTS**

About two-thirds of interviewees rated the statement "The White River is important to Indianapolis residents," a 6 or 7, meaning that they strongly agreed with the statement. Most of these interviewees rated the statement this way for the same reasons they rated the previous statement, "The White River is important to the City of Indianapolis." That is, they talked generally about the many reasons a river is important to any city, including Indianapolis (see the quotation below).

Well, because it's such an integral part of the City. It's a water source, a source of entertainment or relaxation, leisure, and it's given to flooding and so it's going to affect our lives in ways that we don't want it to affect us. And if it's polluted, it's even worse if it becomes flooded, but it's something that we need to respect. [female 51]

Several others rated the statement a 3, 4, or 5. These interviewees tended to say that residents do not care for the River or do not consider it a large part of the City's identity (see the quotations below).

Well, I think a lot of people just ignore it and there are people who fish on it and maybe enjoy it down near where the canal is and where the gondola goes on it, so I guess maybe that's more important for tourists than residents, but I think it's pretty low on their priority list for most residents because it doesn't seem to affect them unless it were to flood or something like that. Then it would be a definite something that they might worry about more. [female 57]

Again, I've lived here my entire life, and we don't think of ourselves as a river town or identify the White River as being a substantial natural asset. [female 49]

#### **STATEMENT 3: THE WHITE RIVER IS ONE OF THE REASONS I AM PROUD TO LIVE IN THE INDIANAPOLIS AREA**

Ratings varied greatly for the statement, "The White River is one of the reasons I am proud to live in the Indianapolis area." A few interviewees rated the statement a 6 and 7. All of these interviewees noted that some areas of the River are quite beautiful (see the quotation below).

Because it [the White River] provides a natural sense of beauty for Indianapolis. There's no greater beauty than that that nature can create. That's definitely a really artsy-fartsy response, but there's a natural beauty to Indianapolis because of the White River. [male 24]

About two-thirds rated the statement a 3, 4, or 5. These interviewees indicated a desire to be proud of the River, but described the pollution, under-utilization, and general unattractiveness of the River (see the quotations below).

I rated it that way because I know that it could be greatly improved. There are pollution problems with it. It's just underutilized as far as for either recreation, and that's important because of the pollution thing, or just having enough places where you can go down and really see it. I mean, the only place I've ever had interaction with it is initially when I came to

Indianapolis was in Holliday Park because you want walk all the way down to the shores there. But I know there are other parks where you can do that. I just haven't done it. [female 75]

I think when you think of the White River it's got a mud bottom; it's not super attractive when we—I grew up in the Pacific Northwest and I was used to these clear streams where we had sand bottoms and the water's just gorgeous and there's lots of falls and lots of cascades and stuff. And a brown river just doesn't seem to be as aesthetically pleasing to most of us I don't think. [female 55]

Several interviewees rated the statement a 1 or 2, and their explanations were similar to those who rated it a 3, 4, or 5 (see the first quotation below). Additionally, a few of these interviewees said that the White River is far removed from their mind and not part of the City's identity (see the second and third quotation).

After I said to you the White River needs lots of love, I guess I'd have to say I'm not really proud of the way the White River has been taken care of. I guess I'd have to say a [rating of] 1 because of the pollution, because we still don't have overflow. We don't insist that rainwater be separated from the sewage water so that when there's lots of rain the sewage runs over into cities, into the River. [female 67]

I didn't move here for the White River. [male 46]

I'd have to [go] with like a two. It's not a value assessment on the River. It's just not part of our cultural backdrop, to think of it that way. [female 37]

## ART AS A VEHICLE TO RAISE AWARENESS ABOUT ENVIRONMENTAL ISSUES

At the end of the interview, interviewees were asked what they thought about using art to raise awareness of environmental issues.<sup>9</sup> About three-quarters of interviewees responded positively to using art in such a way. The majority of interviewees said that art can provide a unique way to approach environmental awareness. For instance, one interviewee said that art offers a more attractive way to engage people in an issue (see the quotation below). Another interviewee harkened on the fact that there are many ways to teach and learn, and art is one of those ways (see the second quotation). Several others said that any way to educate the public about the environment is positive. Additionally, unprompted, a few interviewees provided examples of how the *FLOW* installation helped raise their awareness about water and environmental issues (see the third quotation).

I think that's a great idea because it steps outside the rhetoric of environmentalism, which I think a lot of people just can turn off. So if you can bring people's attention to the River through a medium like art, that's attractive in its own right. I think that's wonderful. [female 51]

I'm a musician and I'm an artist myself. I think any number of different ways that you can learn about something, be it via sound, be it via visual impact, be it via smell for that matter—the number of ways that you can learn about something, it will reinforce it and make it more important and more real. . . . So I think art is a very effective means of communicating just

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<sup>9</sup> In framing this question, RK&A was concerned that not everyone may identify the *FLOW* installation as art. However, interviews showed that only one interviewee did not agree that the installation was an art installation.

about anything. And in the case of environmental issues, I think it's a wonderful vehicle. [male 40]

(What are your thoughts about using art to raise awareness of environmental issues?) I think before I saw *FLOW* I would have said, 'Oh, come on. Give me a break.' And upon interacting with that particular installation—I mean, I guess I'm someone who pays attention to the water beforehand. But, I think that the art installation raised my awareness even that much more and the opportunities it presented in terms of talking to NOAA guys or talking to local farmers at the *FLOW* installation at the Biobus and just sort of the red balls as an icon around the City for the River, I think is a really neat thing. I'm really positive about it. [male 46]

Several other interviewees had mixed feelings about using art as a vehicle to raise awareness of environmental issues. The majority of these interviewees said that art does not reach a broad enough audience, or the audience that could most benefit from the message (see the first quotation below). A couple others thought that the installation would need to be done properly to raise awareness. For instance, one interviewee said it should not be "preachy," and another said the artist would need to work with environmentalists to ensure that the content was not "oversimplified."

I have a bit of mixed feelings. I think sometimes it's preaching to the choir; the people who would come to a 100 Acres would already be more inclined to be environmentally aware and concerned. I don't think it's necessarily reaching the people who need to hear it; the people who might be abusing the River in any way. So I have mixed feelings about that. . . . I mean, I already felt that way about the River before seeing the performance. I think the installation reinforced some of my thoughts, but I don't think it changed my thoughts, changed my mind. And, I don't know if an art installation could really do that, especially when it's on museum grounds and things like that. I know parts of it are throughout the City, and I haven't have seen those parts. Unless it really went out and made an effort to reach people who would not already be on the River and around the River, I don't think it's really going to change anybody's mind. [female 49]

Only a couple interviewees definitively said that art is not a good way to raise awareness of environmental issues. One interviewee said that art is "very good at creating controversy" and thus did not feel that it was good for raising awareness of an issue. Another interviewee, speaking about the *FLOW* installation specifically, said it was not engaging enough to raise awareness (see the quotation below).

(What are your thoughts about using art in this way?) This is odd since I am an art major, and I do a lot of public artwork, but I just don't think it's very effective. I have definitely been disheartened to hear about how much vandalism has been going on at the project, which that's maybe information that not everybody has, but I know there's been a lot of pieces that have been destroyed and damaged. I've taken people there with no art background; they read one or two signs maybe and then just totally lose interest. And unfortunately, as interesting as a whole as I think the project is, I read one or two signs; I called the number; but it didn't engage me. The app on the phone, the website were much more interesting. . . . The actual art project, the physical things that are on the grounds of the museum and throughout the City, they are just ineffective, I guess. [female 33]

# APPENDICES

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## **APPENDIX A: INTERVIEW GUIDE FOR QUESTIONNAIRE DEVELOPMENT**

Removed for proprietary purposes

## **APPENDIX B: BASELINE AND OUTCOME QUESTIONNAIRES**

Removed for proprietary purposes

## **APPENDIX C: INTERVIEW GUIDE**

Removed for proprietary purposes

## APPENDIX D: QUESTIONNAIRE STATISTICS

### DESCRIPTIVE STATISTICS

#### FREQUENCY DISTRIBUTION

Gender  
 Age  
 Ethnicity  
 Education  
 Residence  
 Number of years living in Indianapolis metro area  
 IMA visitor  
 IMA membership (yes, no)  
 Number of IMA visits in the last 12 months  
 Number of IMA programs attended in the last 12 months  
 Engagement with the White River in the last 12 months  
 Parts of the White River used/visited in the last 12 months  
 What might negatively affect the health of the White River  
 Who might negatively affect the health of the White River  
 Actions to protect or prevent damage to the White River  
 FLOW Awareness  
 FLOW engagement  
 FLOW program attendance  
 Where respondents visited FLOW markers

### SUMMARY STATISTICS

#### RANGE, MEDIAN, MEAN, AND STANDARD DEVIATION

Age  
 Number of years living in Indianapolis metro area  
 Number of IMA visits in the last 12 months  
 Number of IMA programs attended in the last 12 months  
 Attitudes about and understanding of the White River

### INFERENTIAL STATISTICS

#### CROSSTABS

Gender (male, female)	
Age (17-34, 35-54, 55+)	
Ethnicity	
Education (college graduate: yes/no)	
Residence	
Number of years living in Indianapolis metro area	Baseline or Outcome
IMA visitor (yes, no)	Gender (male, female)
IMA membership (yes, no)	Age (17-34/ 35-54/55+)
Number of IMA visits in the last 12 mo.	Ethnicity
Number of IMA programs attended in the last 12 mo.	Education (college graduate: yes/no)
Engagement with the White River in the last 12 mo.	Residence (Indianapolis/other part of metro area)
Parts of the White River used/visited in the last 12 mo.	IMA visitor (yes, no)
What might negatively affect the health of the White R.	IMA membership (yes, no)
Who might negatively affect the health of the White R.	
Actions to protect or prevent damage to the White R.	
FLOW Awareness	
FLOW engagement	
FLOW program attendance	
Where respondents visited FLOW markers	



**INFERENCEAL STATISTICS**

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**ANOVAS**

Attitudes and perceptions about the White R.	by	Baseline or Outcome Gender (male, female) Age (17-34/ 35-54/55+) Ethnicity Education (college graduate: yes/no) Residence (Indianapolis/other part of metro area) IMA visitor (yes, no) IMA membership (yes, no)
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## APPENDIX E: ZIP CODES

**TABLE A**  
**QUESTIONNAIRE ZIP CODES**

ZIP CODES	<i>n</i>	ZIP CODES	<i>n</i>	ZIP CODES	<i>n</i>
46208 (Indy Central)	59	46033 (Other)	5	46259 (Indy South)	2
46220 (Indy North)	37	46037 (Other)	5	46280 (Indy North)	2
46205 (Indy North)	30	46250 (Indy North)	5	47802 (Other)	2
46202 (Indy Central)	29	46278 (Indy North)	5	46051 (Other)	1
46240 (Indy North)	22	46060 (Other)	4	46074 (Other)	1
46260 (Indy North)	19	46163 (Other)	4	46106 (Other)	1
46222 (Indy Central)	16	46203 (Indy Central)	4	46107 (Indy South)	1
46228 (Indy North)	12	46241 (Indy South)	4	46140 (Other)	1
46038 (Other)	11	46075 (Other)	3	46151 (Other)	1
46256 (Indy North)	10	46122 (Other)	3	46173 (Other)	1
46077 (Other)	9	46123 (Other)	3	46186 (Other)	1
46219 (Indy East)	9	46168 (Other)	3	46216 (Indy North)	1
46237 (Indy South)	9	46224 (Indy West)	3	46221 (Indy South)	1
46254 (Indy North)	9	46229 (Indy East)	3	46282 (Indy Central)	1
46236 (Indy North)	8	46052 (Other)	2	46295 (Other)	1
46032 (Other)	7	46055 (Other)	2	46302 (Other)	1
46112 (Other)	7	46062 (Other)	2	47401 (Other)	1
46201 (Indy Central)	7	46131 (Other)	2	47404 (Other)	1
46234 (Indy West)	7	46142 (Other)	2	47408 (Other)	1
46268 (Indy North)	7	46218 (Indy Central)	2	47905 (Other)	1
46143 (Other)	6	46227 (Indy South)	2		
46204 (Indy Central)	6	46231 (Indy South)	2		
46217 (Indy South)	6	46235 (Indy North)	2		
46226 (Indy North)	6	46239 (Indy South)	2		

**TABLE B**  
**INTERVIEW ZIP CODES**

<b>ZIP CODES</b>	<b><i>n</i></b>
46205 (Indianapolis)	7
46202 (Indianapolis)	5
46228 (Indianapolis)	4
46208 (Indianapolis)	3
46220 (Indianapolis)	2
46236 (Indianapolis)	2
46268 (Indianapolis)	2
46032 (Carmel)	1
46033 (Carmel)	1
46037 (Fishers)	1
46038 (Fishers)	1
46219 (Indianapolis)	1
46222 (Indianapolis)	1
46229 (Indianapolis)	1
46240 (Indianapolis)	1
46250 (Indianapolis)	1
46254 (Indianapolis)	1
46256 (Indianapolis)	1
46260 (Indianapolis)	1
46278 (Indianapolis)	1
46902 (Kokomo)	1

## APPENDIX F: OTHER STATISTICALLY SIGNIFICANT FINDINGS

In the questionnaire section of the report, RK&A describes statistically significant findings that arose when variables were tested by gender, age, ethnicity, education, IMA visitation, and IMA membership. Tables for these findings, which were omitted in the body of the report, are presented here for reference.

### DEMOGRAPHICS

#### RESIDENCE

Respondents' residence was tested by gender, age, ethnicity, and education. There is one statistically significant finding:

- ♦ Residents of Indianapolis proper are more likely than residents in other parts of the metro area to identify as African American/black.

**TABLE C**

#### ETHNICITY BY RESIDENCE

ETHNICITY ( <i>n</i> = 423)	RESIDENCE		
	INDIANAPOLIS	INDIANAPOLIS METRO	TOTAL
	%	%	%
African American/black	9	1	8

$\chi^2 = 6.932; p = .008$

#### MEMBERSHIP

Respondents' residence was tested by gender, age, ethnicity, education, IMA visitation, and IMA membership. There are a couple statistically significant findings:

- ♦ Older adults (55 + years) are more likely than young adults (17 - 34 years) to be a member of the IMA.
- ♦ College graduates are more likely than non-college graduates to be a member of the IMA.

**TABLE D**

#### IMA MEMBERSHIP BY AGE

IMA MEMBER ( <i>n</i> = 401)	AGE			TOTAL
	17 - 34	35 - 54	55+	
	%	%	%	%
Yes	25	38	50	37
No	75	62	50	63

$\chi^2 = 18.014; p = .000$

**TABLE E****IMA MEMBERSHIP BY COLLEGE EDUCATION**

	COLLEGE GRADUATE		TOTAL
	YES	NO	
<b>IMA MEMBER (n = 408)</b>	%	%	%
Yes	42	12	37
No	58	88	64

<sup>1</sup> $\chi^2 = 23.831; p = .000$

## WHITE RIVER EXPERIENCES

### TYPES OF ENGAGEMENT WITH THE WHITE RIVER

Respondents' residence was tested by gender, age, ethnicity, education, IMA visitation, and IMA membership. There are several statistically significant findings:

- ◆ Males are more likely than females to kayak, boat, or participate in other water-related recreational activities on the River.
- ◆ College graduates are more likely than non-college graduates to have walked, run, or exercised along the White River.
- ◆ Residents of Indianapolis proper are more likely than residents in other parts of the metro area to: (1) drive by or over the River regularly; and (2) walk, run, or exercise along the White River.

**TABLE F****TYPES OF ENGAGEMENT WITH THE WHITE RIVER BY GENDER**

	GROUP		TOTAL
	MALE	FEMALE	
<b>ENGAGEMENT WITH THE WHITE RIVER IN THE LAST 12 MONTHS (n = 432)</b>	%	%	%
I kayak, boat, or participate in other water-related recreational activities on the River. <sup>1</sup>	18	6	10

<sup>1</sup> $\chi^2 = 14.778; p = .000$

**TABLE G****TYPES OF ENGAGEMENT WITH THE WHITE RIVER BY COLLEGE EDUCATION**

	COLLEGE GRADUATE		TOTAL
	YES	NO	
<b>ENGAGEMENT WITH THE WHITE RIVER IN THE LAST 12 MONTHS (n = 430)</b>	%	%	%
I have walked, run, or exercised along the White River.	80	59	77

<sup>1</sup> $\chi^2 = 16.307; p = .000$

**TABLE H****TYPES OF ENGAGEMENT WITH THE WHITE RIVER BY RESIDENCE**

ENGAGEMENT WITH THE WHITE RIVER IN THE LAST 12 MONTHS ( <i>n</i> = 428)	RESIDENCE		
	INDIANAPOLIS	INDIANAPOLIS METRO	TOTAL
	%	%	%
I have walked, run, or exercised along the White River. <sup>1</sup>	79	65	76
I drive by or over the River regularly. <sup>2</sup>	76	54	72

<sup>1</sup> $\chi^2 = 7.677; p = .006$ <sup>2</sup> $\chi^2 = 16.222; p = .000$ **PARTS OF THE WHITE RIVER USED/VISITED**

Respondents' residence was tested by gender, age, ethnicity, education, IMA visitation, and IMA membership. There are a couple statistically significant findings:

- ◆ Young adults (17 – 34 years) are more likely than older adults (55 + years) to use or visit parts of the White River near the IMA, Butler University, and Marian University.
- ◆ Residents of Indianapolis proper are more likely than residents in other parts of the metro area to use or visit parts of the White River near Riverside Park and Holliday Park.

**TABLE I****PARTS OF THE WHITE RIVER USED/ VISITED BY AGE**

PARTS OF THE WHITE RIVER USED/ VISITED IN THE LAST 12 MONTHS ( <i>n</i> = 433)	AGE			TOTAL
	17 - 34	35 - 54	55+	
	%	%	%	
Near the Indianapolis Museum of Art/ Butler University/Marian University	83	81	67	78

<sup>1</sup> $\chi^2 = 10.877; p = .004$ **TABLE J****PARTS OF THE WHITE RIVER USED/ VISITED BY RESIDENCE**

PARTS OF THE WHITE RIVER USED/ VISITED IN THE LAST 12 MONTHS ( <i>n</i> = 440)	RESIDENCE		
	INDIANAPOLIS	INDIANAPOLIS METRO	TOTAL
	%	%	%
Near Holliday Park	41	20	37

<sup>1</sup> $\chi^2 = 13.615; p = .000$ **WHAT MIGHT NEGATIVELY AFFECT THE HEALTH OF THE WHITE RIVER**

Respondents' residence was tested by gender, age, ethnicity, education, IMA visitation, and IMA membership. There are several statistically significant findings:

- ◆ Older adults (55 + years) are more likely than young adults (17 - 34 years) to say sewage might negatively affect the health of the White River.
- ◆ Young adults (17 – 34 years) are more likely than older adults (55 + years) to say that litter might negatively affect the health of the White River.
- ◆ College graduates are more likely than non-college graduates to say fertilizers might negatively affect the health of the White River.

**TABLE L**

**WHAT MIGHT NEGATIVELY AFFECT THE HEALTH OF THE WHITE RIVER BY AGE**

<b>WHAT MIGHT NEGATIVELY AFFECT THE HEALTH OF THE WHITE RIVER (n = 409)</b>	<b>AGE</b>			<b>TOTAL</b>
	<b>17 - 34</b>	<b>35 - 54</b>	<b>55+</b>	
	<b>%</b>	<b>%</b>	<b>%</b>	
Sewage <sup>1</sup>	51	60	71	60
Litter <sup>2</sup>	41	29	17	30

<sup>1</sup> $\chi^2 = 10.382; p = .006$

<sup>2</sup> $\chi^2 = 17.690; p = .000$

**TABLE M**

**WHAT MIGHT NEGATIVELY AFFECT THE HEALTH OF THE WHITE RIVER BY COLLEGE EDUCATION**

<b>WHAT MIGHT NEGATIVELY AFFECT THE HEALTH OF THE WHITE RIVER (n = 416)</b>	<b>COLLEGE GRADUATE</b>		<b>TOTAL</b>
	<b>YES</b>	<b>NO</b>	
	<b>%</b>	<b>%</b>	
Fertilizers <sup>1</sup>	41	23	38

<sup>1</sup> $\chi^2 = 8.785; p = .003$

**WHO MIGHT NEGATIVELY AFFECT THE HEALTH OF THE WHITE RIVER**

Respondents' residence was tested by gender, age, ethnicity, education, IMA visitation, and IMA membership. There are a couple statistically significant findings:

- ◆ Young adults (17 – 34 years) are more likely than older adults (55 + years) to say that waste management companies might negatively affect the health of the White River.
- ◆ Older adults (55 + years) are more likely than young adults (17 - 34 years) to say farmers might negatively affect the health of the White River.

**TABLE N****WHO MIGHT NEGATIVELY AFFECT THE HEALTH OF THE WHITE RIVER BY AGE**

WHO MIGHT NEGATIVELY AFFECT THE HEALTH OF THE WHITE RIVER (n = 422)	AGE			TOTAL
	17 - 34	35 - 54	55+	
	%	%	%	%
Waste management companies <sup>1</sup>	62	46	46	51
Farmers <sup>2</sup>	14	30	36	26

<sup>1</sup> $\chi^2 = 9.682; p = .008$ <sup>2</sup> $\chi^2 = 19.504; p = .000$ **ATTITUDES ABOUT AND UNDERSTANDING OF THE WHITE RIVER**

Respondents' residence was tested by gender, age, ethnicity, education, IMA visitation, and IMA membership. There are a couple statistically significant findings:

- ◆ Older adults (55 + years) are more likely than young adults (17 – 34 years) to agree with the statement, “The White River provides drinking water to Indianapolis residents.”
- ◆ Residents of Indianapolis proper are more likely than residents of other parts of the metro area to agree with the statements “The White River is polluted” and “The White River positively affects my health and well-being.”

**TABLE O****ATTITUDES ABOUT AND UNDERSTANDING OF THE WHITE RIVER BY AGE**

SCALE: 1 = STRONGLY DISAGREE / 7 = STRONGLY AGREE	AGE			
	17 - 34	35 - 54	55+	TOTAL
	MEAN	MEAN	MEAN	MEAN
STATEMENT (n = 419)				
The White River provides drinking water to Indianapolis residents. <sup>1</sup>	4.0	4.3	5.0	4.4

<sup>1</sup> $\chi^2 = 10.669; p = .000$ **TABLE P****ATTITUDES ABOUT AND UNDERSTANDING OF THE WHITE RIVER BY RESIDENCE**

SCALE: 1 = STRONGLY DISAGREE / 7 = STRONGLY AGREE	RESIDENCE			
	STATEMENT	INDIANAPOLIS	INDIANAPOLIS METRO	TOTAL
		n	MEAN	MEAN
The White River is polluted. <sup>1</sup>	440	5.1	4.6	5.0
The White River positively affects my health and well-being. <sup>2</sup>	440	4.8	4.2	4.7

<sup>1</sup> $\chi^2 = 9.672; p = .002$ <sup>2</sup> $\chi^2 = 8.746; p = .003$



**ACTIONS TAKEN TO PROTECT OR PREVENT DAMAGE TO THE RIVER**

Respondents’ residence was tested by gender, age, ethnicity, education, IMA visitation, and IMA membership. There are several statistically significant findings:

- ◆ Young adults (17 – 34 years) are more likely than older adults (55 + years) to say that they don’t litter to protect and prevent damage to the White River.
- ◆ Non-college graduates are more likely than college graduates to say that they do nothing to protect and prevent damage to the White River.
- ◆ College graduates are more likely than non-college graduates to say that they protect and prevent damage to the White River by not using lawn chemicals or using eco-friendly lawn chemicals.

**TABLE Q**

**ACTIONS TAKEN TO PROTECT OR PREVENT DAMAGE TO THE WHITE RIVER BY AGE**

ACTIONS (n = 334)	AGE			TOTAL
	17 - 34	35 - 54	55+	
	%	%	%	%
Don’t litter <sup>1</sup>	36	31	12	28

<sup>1</sup> $\chi^2 = 15.704; p = .000$

**TABLE R**

**ACTIONS TAKEN TO PROTECT OR PREVENT DAMAGE TO THE WHITE RIVER BY COLLEGE EDUCATION**

ACTIONS (n = 341)	COLLEGE GRADUATE		TOTAL
	YES	NO	
	%	%	%
Nothing <sup>1</sup>	21	41	25
Don’t use lawn chemicals/ use eco-friendly lawn chemicals <sup>2</sup>	17	3	14

<sup>1</sup> $\chi^2 = 11.030; p = .001$

<sup>2</sup> $\chi^2 = 7.871; p = .005$