

# THE NEW YORK CITY WATERFALLS

## The Economic Impact of a Public Art Work



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New York City Economic Development Corporation  
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**NYC**  
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# Highlights

- *The New York City Waterfalls* was a temporary public art work conceived by the Danish/Icelandic artist Olafur Eliasson. Commissioned by Public Art Fund and presented in collaboration with New York City, the Waterfalls was on display from June 26 to October 13, 2008.
- The structures comprising *The New York City Waterfalls* were built from exposed scaffolding at four sites in the East River and New York Harbor. They ranged in height from 90 to 120 feet and together churned 35,000 gallons of East River water per minute.
- Using visitor counts and survey data as described in this report, EDC estimates the direct and indirect economic impact of the Waterfalls on New York City is \$69 million. This estimate exceeds EDC's January 2008 projection by \$14 million.
- According to counts and surveys at the seven official vantage points and on ferries and tour boats, we estimate that the Waterfalls was viewed about 3.6 million times, by nearly 1.4 million unique individuals between June 26 and October 13, 2008.
- According to surveys of viewers at the vantage points, the Waterfalls was viewed by New Yorkers, visitors from across the United States, and from at least 55 countries.
- Based on data provided by NYC DOT, we estimate that hundreds of thousands of others had an opportunity to view the Waterfalls each weekday from ferries, and from vehicles, bicycles, and subway cars on the Manhattan and Brooklyn Bridges. Still others could see the Waterfalls from additional sites, including FDR Drive and the Brooklyn Queens Expressway.
- About 95 percent of all out-of-town Waterfalls viewers participated in at least one other cultural attraction during their stay. About 43 percent of visitors attended one or more Broadway shows; 42 percent attended a visual art, photography, or design museum; 34 percent visited a history museum; and nearly 27 percent viewed a public art installation other than the Waterfalls.
- The exhibition, *Take your time: Olafur Eliasson*, at the P.S.1 Contemporary Art Center, was one of the best attended in its history, helping to increase attendance at the museum by 144 percent in 2008 over the comparable period in 2007. The final week of the exhibit in June coincided with the start of the Waterfalls. During the final weekend, lines to enter P.S.1 snaked out the front door and attendance was about 200 percent higher than during the same period in 2007.
- Of the 1.4 million Waterfalls viewers, about 79,300 were *incremental* visitors to the City – people who, were it not for the Waterfalls, would not have visited New York this year or extended their visit to the City this year.



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- Nearly 15 percent of Waterfalls viewers who reported staying in a hotel, chose a hotel in Lower Manhattan. Less than 7 percent of New York City's hotel rooms are in Lower Manhattan, suggesting that those visitors disproportionately chose Lower Manhattan hotels over others.
- At least two temporary dining establishments were created specifically to cater to Waterfalls viewers this summer: the 70-seat Waterfalls Café in the South Street Seaport, operated by Ark Restaurants; and the food kiosk at Pier 1 in Brooklyn, operated by Rice.
- Overall, 23 percent of Waterfalls viewers – more than 320,000 people – acknowledged that their trip to see the Waterfalls was their first trip to the Lower Manhattan or Brooklyn waterfront. About 44,500 New Yorkers reported it was their first time to the Lower Manhattan or Brooklyn waterfront.
- Between June 26 and October 13, more than 213,000 passengers took one of Circle Line Downtown's three tours past the Waterfalls, including its 30-minute Waterfalls tour, created specifically for the exhibit. Average weekly ridership on the Zephyr and Shark tours jumped by 123 percent after the Waterfalls began operating.
- Between June 27 and October 12, 2008, the Governors Island ferry recorded about 100,000 passengers between the Battery Maritime Building and the ferry landing on the Island's north side, adjacent to one of the Waterfalls. About 31 percent of those surveyed on the Governors Island ferry stated that their trip to Governors Island was primarily to see the Waterfalls.
- Public Art Fund's official exhibit website, [nycwaterfalls.org](http://nycwaterfalls.org), received more than 512,000 visits between January and October 2008. The website provided information about the artist and the exhibit, as well as educational activities and a nine-part podcast series with comments by Olafur Eliasson.
- Many people who attended the Waterfalls documented their experiences online, sharing their experience with those who could not see the Waterfalls in person, and encouraging some to make a trip to New York City to see the exhibit firsthand. For example:
  - Users shared more than 6,000 photographs of the Waterfalls on the photo sharing website, Flickr.com.
  - Individual and professional bloggers published at least 1,200 blog posts about the exhibition.
  - Waterfalls viewers posted more than 200 videos on YouTube, totaling more than 3 hours of footage, and earning more than 235,000 views.
  - Many of these photographs, videos, and blog posts were viewed – and commented on – by others who did not have a chance to see the Waterfalls in person.

# Introduction

As a world capital of culture, New York City is home to many of the world's leading art museums, theaters, and other performing arts venues; home to thousands of artists and designers, and to many others who appreciate and are inspired by their work; and a major destination for "cultural tourists" who visit the city from the surrounding suburbs, from elsewhere in the U.S. and from around the world.

New York's creative and cultural assets - both people and institutions - endow the city with a vibrancy that helps to attract talented people in every industry and profession. With their power to attract, engage, and inspire talented people of all sorts, the arts have long been an essential ingredient in the dynamism that defines New York - and in the City's seemingly endless ability to reinvent itself.

In addition to being a city of culture, New York is also a city that was born and grew up on the water, and that is today surrounded by nearly 580 miles of waterfront. For too long, New York neglected the waterfront; but during the past ten years, the City has rediscovered - and has begun to recover - its heritage. Through careful planning and public investment, the city is restoring public access to the waterfront as a place for recreation, transportation, commerce, entertainment, social interaction and cultural activities - a place for people.

*The New York City Waterfalls* is a reflection of these two assets.

*The New York City Waterfalls* was a temporary public art work conceived by the Danish/Icelandic artist Olafur Eliasson. Commissioned by Public Art Fund and presented in collaboration with the City, the Waterfalls was on display from June 26 to October 13, 2008. The four waterfalls comprising the exhibit were constructed in the East River and New York Harbor - one at Pier 35 in Manhattan adjacent to South Street at Rutgers Street north of the Manhattan Bridge, one under the Brooklyn Bridge on the Brooklyn anchorage, one between Piers 4 and 5 in Brooklyn (west of the Brooklyn Heights Promenade), and one on the north shore of Governors Island.

The four Waterfalls were built from exposed scaffolding and ranged in height from 90 to 120 feet. Together, they churned 35,000 gallons of East River water per minute. The water first traveled through "intake filter pools" which ensured that fish and other aquatic life were not drawn into the water pumps or harmed. The water was pumped to the top of the scaffold, where a trough collected it and spilled it back down into the river in a cascade. The Waterfalls operated on electricity generated from renewable sources.

The Waterfalls could be seen from a number of official vantage points including Battery Park, Pier 11, Pier 17, and the East River Waterfront Greenway in Manhattan, Empire-Fulton Ferry State Park, Brooklyn Heights Promenade and Pier 1 in Brooklyn; and on Governors Island.

The \$15.5 million needed to construct, present, operate, and dismantle the Waterfalls was raised by Public Art Fund, a non-profit art organization. About \$13.5 million was raised privately, and the remaining \$2 million was contributed by the Lower Manhattan Development Corporation.

During the exhibit's sixteen-week run, the Waterfalls was viewed 3.6 million times by nearly 1.4 million people from one of the seven official vantage points or from the major ferry and tour boats - New Yorkers, as well as visitors from throughout the United States and at least 55 other countries. Hundreds of thousands of others had an opportunity to view the Waterfalls from other sites or as part of their daily commute, morning run, or other routine activity.

This report assesses the impact of *The New York City Waterfalls* as a contributor to the City's cultural life, the vitality of its waterfront, and to its economy, examining how the exhibit:

- Attracted tens of thousands of visitors to the City.
- Contributed to New York City's status as a world capital of culture - and an interesting, exciting place to live, work, and visit.
- Attracted more than one million New Yorkers and visitors to the Lower Manhattan and Brooklyn waterfronts and the river itself, and offered them a new way to experience one of New York's most valuable assets.
- Contributed directly to the City's economy, through the investment in its construction, operation, and presentation, and through spending by visitors on food, lodging, shopping, and other goods and services.

## The artist and the presenter: Olafur Eliasson and Public Art Fund

Danish-Icelandic artist Olafur Eliasson is known for his installations and sculptures that are inspired by natural elements such as light, water, and wind and evoke sensory experiences. Born in Copenhagen, Denmark in 1967, Eliasson grew up both in Denmark and Iceland. From 1989 to 1995, he studied at the Royal Danish Academy of Fine Arts in Copenhagen. Currently he divides his time between his studio in Berlin and family home in Copenhagen. His work has been featured in numerous exhibitions at museums and galleries around the world, including the San Francisco Museum of Modern Art, the Museum of Modern Art in New York, and the Hara Museum of Contemporary Art in Tokyo, among others.

Public Art Fund is a non-profit art organization that was established in 1977 and has since presented temporary works of art by over 500 artists throughout New York City. Public Art Fund's programming is comprised of three main initiatives: major works of art by established artists; *In the Public Realm*, a 13-year-old program that encourages emerging artists based in New York State to develop public art; and additional outreach through publications and artist lecture series.



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# Economic Impact of the Waterfalls

During the exhibit's sixteen-week run, *The New York City Waterfalls* was viewed about 3.6 million times by nearly 1.4 million people from one of the seven official vantage points or from the major ferry and tour boats. Viewers included New Yorkers, as well as visitors from throughout the United States and at least 55 other countries. This part of the report describes the methodology used to count the Waterfalls viewers and the characteristics of the viewers; and estimates the economic impact of the exhibit's total presentation and the impact of spending by incremental out-of-town visitors who came to the City to see the Waterfalls.

## ESTIMATING THE NUMBER OF WATERFALLS VIEWERS AND INCREMENTAL VISITORS

In order to determine the number of Waterfalls viewers and the portion of net new, or incremental, visitors to New York due to the Waterfalls exhibition, Audience Research & Analysis (ARA) conducted both visitor counts and surveys at the seven official Waterfalls vantage points in Manhattan and Brooklyn and four boat operators. These included:

- Pier 17
- Pier 11
- Manhattan Waterfront Greenway
- Battery Park Esplanade
- Brooklyn Heights Promenade
- Empire-Fulton Ferry State Park
- Pier 1<sup>1</sup>
- Circle Line Downtown Official Waterfalls Partner
- New York Water Taxi
- Staten Island Ferry<sup>2</sup>
- Governors Island Ferry

<sup>1</sup> Daily visitor counts at Pier 1 were conducted by the Brooklyn Bridge Park Conservancy; surveys were conducted by ARA.

<sup>2</sup> To reduce the effect of commuters on the analysis, ARA counted and surveyed Staten Island ferry riders only during off-peak times.

The massive scale of the Waterfalls and the East River's wide open view corridors made the exhibit a truly public art work. By concentrating counts and surveys of Waterfalls viewers at the official vantage points and on ferry or tour boats, we capture only a fraction of all the people who saw the Waterfalls during the summer. Hundreds of thousands of other New Yorkers and visitors to the city saw the Waterfalls during their daily commute to work; as part of their daily walk, run, or bike ride along the waterfront; during charter boat cruises; outside the windows of their Lower Manhattan office buildings; and as part of other routine activities.

Although it is impossible to count precisely the number of incidental sightings of the Waterfalls, we can use vehicle, subway, ferry, and bicycle count data collected by the New York City Department of Transportation and New York Metropolitan Transportation Council to put these viewers in perspective.

On an average weekday, more than 265,000 people crossed the Brooklyn and Manhattan Bridges in cars, trucks, and taxis - both of which offered views of several of the Waterfalls; more than 345,000 passengers rode in subway cars that crossed the Manhattan Bridge each weekday; an average of 80,000 people rode the Staten Island Ferry each weekday during the second quarter of 2008 (some of whom we counted in our analysis); and





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Figure 1: Map of Waterfalls count and survey sites



about 3,800 bicyclists crossed the Brooklyn and Manhattan Bridges on an average weekday.<sup>3</sup> Still others could see the Waterfalls from additional sites, including FDR Drive and the Brooklyn Queens Expressway.

ARA conducted visitor counts over several weeks at each of the seven official vantage points distributed over morning, mid-day, afternoon and evening hours. The vantage point counts – during both weekdays and weekends – were projected onto the entire Waterfalls exhibition period.

The count and survey sites for this study are shown in Figure 1.

ARA obtained actual data on ferry boat ridership from the boat operators from June 26th through September 7th, and projected ridership through October 13th.

In addition to conducting counts, ARA surveyed 3,034 Waterfalls viewers – 1,503 at the vantage points, and 1,531 on boats and ferries. The interviews provided information on:

- Viewers' place of residence and demographic characteristics;
- Whether they were there specifically to view the Waterfalls – and whether they viewed the Waterfalls from multiple sites;
- Additional information about their visit to the City, including their accommodations, the number of days they stayed, and other activities in which they participated.

Based on counts, ridership data, and survey responses, ARA estimates that nearly 1.4 million people viewed *The New York City Waterfalls* from the seven official vantage points or from ferry or tour boats between June 26 and October 13.

Of these 1.4 million Waterfalls viewers, ARA estimates that 79,300 were incremental visitors to the City – people who, were it not for the Waterfalls, would not have visited New York this year or extended their visit to the City this year. This count of incremental visitors includes:

- People who work in the city and live elsewhere, but spent one or more additional days in the city than they otherwise would have specifically because of the Waterfalls;

- Tourists visiting the city for the first time whose primary motivation for coming was to see the Waterfalls; and
- Tourists who have been to New York previously, but spent one or more additional days here this year compared to a typical year because of *The New York City Waterfalls*.

It is worth noting that respondents viewed the Waterfalls from an average of 2.6 sites, either on land or on ferry or tour boats. In other words, many viewers took an opportunity to see the Waterfalls from multiple perspectives, from several waterfront (and water-based) vantage points.

Incremental visitors included 34,200 overnight visitors and 45,100 day-trippers. A profile of all incremental visitors is summarized in Table 1.

## CHARACTERISTICS OF VIEWERS OF THE WATERFALLS

Using data collected via surveys of viewers at the Waterfalls' official vantage points and on ferry and tour boats, we can summarize some demographic characteristics of Waterfalls viewers.

The Waterfalls was viewed by New Yorkers, visitors from across the United States, and from at least 55 other countries. About 53 percent of viewers lived in New York City (about 42 percent of whom lived in Brooklyn), 12 percent lived in the New York City suburbs<sup>4</sup>, another 12 percent came from elsewhere in the U.S., and 23 percent came from outside the U.S. The place of residence of the 1.4 million Waterfalls viewers is shown in Figure 2.

According to ARA's surveys, other characteristics of Waterfalls viewers include:

- About 52 percent of Waterfalls viewers were female and 48 percent were male; and
- The mean age of viewers was about 40 years and about 18 percent of Waterfalls viewers were under the age of 25.

The distribution of the Waterfalls viewers' ages is shown in Figure 3.

<sup>3</sup> Sources: Subway and vehicular data, NYMTC, *Hub Bound Travel At a Glance 2007*; Staten Island Ferry, NYC DOT, 2008; Bicyclists, NYC DOT, 2008.

<sup>4</sup> For the purpose of this analysis, the NYC suburbs include Westchester, Rockland, Putnam, Nassau, and Suffolk County in New York; Fairfield County in Connecticut, and Bergen, Essex, Hudson, Middlesex, Monmouth, Morris, Passaic, Sussex, Somerset, Union, and Warren County in New Jersey.

Table 1: Profile of incremental visitors to New York City because of the Waterfalls

VISITOR CHARACTERISTICS	NUMBER OF INCREMENTAL VISITORS
<b>DAYTRIPPERS</b>	
Domestic	40,966
International	4,126
<i>SUBTOTAL</i>	<i>45,091</i>
<b>OVERNIGHT VISITORS</b>	
Domestic, incurred lodging expenses	15,449
Domestic, did not incur lodging expenses	9,470
<i>SUBTOTAL</i>	<i>24,918</i>
International, incurred lodging expenses	5,864
International, did not incur lodging expenses	3,449
<i>SUBTOTAL</i>	<i>9,313</i>
<b>TOTAL INCREMENTAL VISITORS</b>	<b>79,322</b>

Figure 2: Residence of the Waterfalls viewers

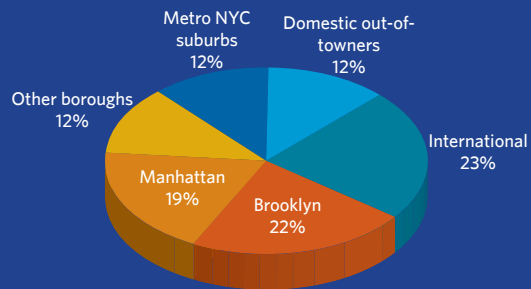
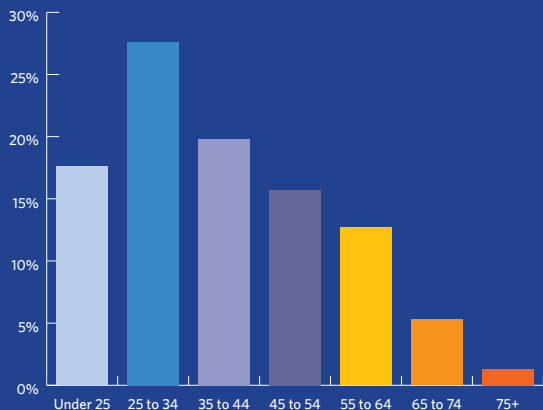


Figure 3: Distribution of Waterfalls viewers' ages



## MEASURING THE ECONOMIC IMPACT OF THE WATERFALLS

*The New York City Waterfalls* contributed directly to the City's economy in two ways: through the investment in the total presentation of the exhibit (including materials, construction, operation, education, and disassembly), and through spending by incremental visitors to the Waterfalls – out-of-town visitors who would not have visited New York this year if not for the exhibit.

In total, New York City Economic Development Corporation (EDC) estimates that the Waterfalls directly and indirectly generated about \$69 million in total economic impact in New York City from its total presentation and spending by incremental visitors to the city. This includes \$15.5 million in direct spending on total presentation, an estimated \$26.3 million in incremental visitor spending, and the indirect economic impact of these expenditures.

The total economic impact of *The New York City Waterfalls* is shown in Table 2.

## ECONOMIC IMPACT OF THE WATERFALLS CONSTRUCTION, PRESENTATION, OPERATION AND DISASSEMBLY

Public Art Fund invested about \$15.5 million in the total presentation of *The New York City Waterfalls*, a project that required a temporary workforce of about 200 construction and other workers.

As Table 2 shows, EDC estimates that the \$15.5 million in spending generated an additional \$8.1 million in economic activity in New York City, for a total impact of \$23.6 million on New York City.

In addition to generating direct economic activity from the total presentation expenditures for the exhibit, the project also generated New York City property, income, and businesses taxes. EDC estimates the Waterfalls generated about \$600,000 in New York City taxes as a result of its total presentation.

## ECONOMIC IMPACT OF VISITOR SPENDING

The second direct way *The New York City Waterfalls* contributed to the City's economy is from spending by visitors whose primary reason for coming to New York was to view the Waterfalls; or by those who extended their stay in the City because of the Waterfalls. These visitors spent money in New York on a variety of different goods and services, such as transportation, food, lodging, shopping, and entertainment.

EDC used visitor spending data published by NYC & Company and length of stay data obtained from ARA's visitor survey to estimate the total direct spending by incremental visitors on lodging, food, transportation, shopping, and entertainment, and other goods and services.<sup>5</sup> The total visitor spending by category is shown in Table 2.

As discussed in the box on page 13, this visitor spending rippled through the City's economy, generating additional economic activity through the multiplier effect. EDC estimates that incremental visitor spending of \$26.3 million directly generated another \$18.7 million in economic output through the multiplier effect. The economic impact of incremental visitor spending is shown in Table 2.

Waterfalls visitors' spending also generated taxes for New York City, including direct sales taxes and hotel occupancy taxes – and indirect income, property, and business taxes. EDC estimates that spending by incremental Waterfalls visitors directly and indirectly generated \$1.4 million in New York City taxes.

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<sup>5</sup> The most comprehensive NYC & Company visitor spending data available was from 2005. EDC adjusted the spending data to 2008 dollars.

Table 2: Total economic impact of the Waterfalls on New York City

TOTAL PRESENTATION	
Direct spending	\$15.5 m
Indirect impact	\$8.1 m
<b>SUBTOTAL</b>	<b>\$23.6 m</b>
INCREMENTAL VISITOR SPENDING	
Direct spending	\$26.3 m
Indirect impact	\$18.7 m
<b>SUBTOTAL</b>	<b>\$45.0 m</b>
<b>GRAND TOTAL</b>	<b>\$68.6 M</b>

Table 3: Direct incremental visitor spending by category

CATEGORY	SPENDING
Lodging	\$2.1 m
Food	\$6.2 m
Transportation	\$5.9 m
Shopping	\$5.0 m
Entertainment	\$5.0 m
Other	\$2.1 m
<b>TOTAL</b>	<b>\$26.3 M</b>



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## Measuring the economic impact of the Waterfalls

The impact of Public Art Fund's investment in the Waterfalls goes beyond those directly employed in the total presentation of the project - and beyond the direct spending by incremental visitors to the Waterfalls. Each dollar Public Art Fund invested - and each dollar spent by incremental visitors to the city - produces what economists sometimes call the "multiplier effect."

### *Waterfalls construction and operation and the multiplier effect*

As with any project in New York City, the contractors and vendors used some of the money they received to pay their employees, buy equipment, and other goods and services from other New York businesses. Those employed on the project similarly spent some of their earnings in their own neighborhoods on housing, groceries and other household needs.

### *Incremental visitor spending and the multiplier effect*

Using survey data collected during this study and data on visitor spending collected by NYC & Company, we can estimate direct spending by incremental visitors to New York on food, lodging, entertainment, shopping, and other goods and services. Their spending directly supports New York City hotels, restaurants, taxi drivers, tour boat operators, retail stores and other businesses. Those businesses, in turn, use that money to pay employees and purchase goods and services from other New York City businesses.

There are several economic models that can provide an approximate measure of the multiplier effect in a regional economy. The New York City Economic Development Corporation's Economic Analysis & Research Group applied multipliers from one of these models - the Regional Input-Output Modeling System (RIMS) - to estimate the total economic impact of Public Art Fund's expenditures and from the expenditures of incremental visitors to New York City.

# Lower Manhattan and Brooklyn Waterfront

In Part Two, we discussed the economic activity generated through spending by incremental visitors who came to New York City to view *The New York City Waterfalls*. The exhibition, however, was also seen as a way to bring people – both New Yorkers and visitors – to the Lower Manhattan and Brooklyn waterfronts and to the East River itself. In this part of the report, we discuss the concentrated impact on businesses near the Lower Manhattan and Brooklyn waterfronts, highlighting how these impacts translate into new hiring, extension of employees' hours, and increased purchasing from other businesses.

We conducted a survey of more than 50 hotels, restaurants, retail stores, and other businesses in Lower Manhattan, Brooklyn, and elsewhere in the city. In total we surveyed:

- 22 hotels;
- 16 restaurants/food establishments;
- 7 other retailers;
- 3 tour boat operators; and
- 4 tour companies (2 bus companies, a bicycle rental/tour company, and a walking tour).

## IMPACT ON HOTELS

ARA estimates that the Waterfalls attracted more than 34,200 incremental overnight visitors to New York City this summer. Based on its surveys, ARA estimates that about 58 percent stayed in a hotel or bed & breakfast and another 5 percent stayed in a hostel. On average, overnight visitors who stayed in hotels stayed about 5 nights – about 5.4 nights for international visitors and 3.5 nights for domestic visitors.

Many hotels offered special Waterfalls packages that included tickets for one of the boat tours or for Gray Line or City Sights bus tours, gift certificates for nearby retailers and restaurants, and amenities such as in-room telescopes with views of the Waterfalls and a car service to South Street Seaport to access Circle Line Downtown's tour boats.

The Carlyle, a hotel on East 76th Street, offered its guests a package called *A Waterfall Journey*. The package included breakfast, a private town car to Pier 16, a one-hour Waterfalls cruise for two, and complimentary cocktails at Bemelmans Bar.

The 18 hotels surveyed that offered Waterfalls packages sold 455 room-nights of Waterfalls packages between June 26 and October 13 – about 25 room-nights per hotel. On average, hotels in Lower Manhattan sold more Waterfalls packages – about 66 room-nights per hotel.

In addition to selling more Waterfalls packages, on average, hotels in Lower Manhattan benefited in other ways because of their proximity to the Waterfalls. The sales manager of Gild Hall noted that this summer the Waterfalls gave Lower Manhattan hotels an opportunity to showcase downtown landmarks and activities like the South Street Seaport and Circle Line Downtown and “to offer something unique and different to guests” they couldn't find elsewhere in Manhattan. The general manager of New York Marriot Downtown reported having a strong summer, with regular Saturday night sell-outs, and more international guests than in past years.

The press attention focused on the Waterfalls also helped to publicize Lower Manhattan hotels. For example, the general managers of the Ritz-Carlton Battery Park cited international press coverage of

the Waterfalls as being particularly valuable to the hotel – not only this summer, but as it competes for business in the future.

Nearly 15 percent of Waterfalls viewers who reported staying in a hotel, chose a hotel in Lower Manhattan. Less than 7 percent of New York City's hotel rooms are in Lower Manhattan, suggesting that those visitors disproportionately chose Lower Manhattan hotels over others in the city.

## **IMPACT ON RESTAURANTS AND OTHER BUSINESSES**

Restaurants and other businesses on the Lower Manhattan and Brooklyn waterfront also benefited from increased traffic.

At least two temporary dining establishments were created specifically to cater to Waterfalls viewers this summer: the 70-seat Waterfalls Café in the South Street Seaport, operated by Ark Restaurants; and the Rice Café at Pier 1 in Brooklyn, operated by Rice. In both cases, the operators of the restaurants hired additional personnel to staff the businesses over the summer.

Established businesses also benefited from increased foot traffic to the waterfront. For example:

- The president of Ark Restaurants Corp. remarked that the Waterfalls helped contribute to a substantial increase in sales this summer at Sequoia, a restaurant at the South Street Seaport, whose summer quarter sales were up in excess of 10 percent over the prior year. Sales at its sister restaurant RED, a few blocks away on Fulton Street, were up 10 percent. Ark hired new staff at the restaurants for the summer to meet the increased customer demand.
- Summer period revenues were up between 12 to 15 percent at Il Porto restaurant on Fulton Street. The Italian restaurant hired additional staff to meet the demand.
- A manager at The Body Shop on Fulton Street reported that the Waterfalls helped contribute to a particularly strong summer quarter. In 2007, the store's revenues were down 5 percent year-to-year; in 2008, the store's revenues were up 14 percent.
- Harbour Lights restaurant on Pier 17 took advantage of its views of the Waterfalls by

## **Helping to revitalize Lower Manhattan through cultural investment**

New York City and the Lower Manhattan Development Corporation have invested in cultural institutions and events in Lower Manhattan to encourage the kind of round-the-clock activity other parts of the city take for granted. By helping to increase the amount of traffic on Lower Manhattan streets – and in its hotels, restaurants, stores, and cultural institutions, the Waterfalls have had an especially positive economic impact on Lower Manhattan.

Out of the 1.4 million viewers of the Waterfalls, we estimate that nearly one million viewers saw the Waterfalls from vantage points in Lower Manhattan or from boats that departed from Lower Manhattan. About 94 percent of those viewers live outside Lower Manhattan, about half of whom live elsewhere in New York City and half outside the city.

By encouraging New Yorkers and visitors to spend additional time in Lower Manhattan this summer, the Waterfalls have helped to raise awareness of its shops, restaurants, and other businesses while also contributing to its vitality during the weekends and in the evenings.



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## Introducing people to (or reacquainting them with) the City's waterfront

With significant investments by the City and the private sector during the past decade, New York City's waterfront is gradually being transformed. Governors Island, Brooklyn Bridge Park, and the East River Waterfront Greenway – sites of several Waterfalls vantage points – are undergoing redevelopment.

The Waterfalls helped to bring visitors and New Yorkers to the waterfront who otherwise may not have done so, raising awareness of these projects and of the waterfront itself. On the *Inside Thirteen* blog, Bob Morris wrote about how the Waterfalls gave him a chance to see and experience parts of the city he had not visited before: "But just as interesting was seeing the city from places where I had never been; seeing an orange sun setting behind Governor's Island and the Statue of Liberty, discovering a friendly walkway next to the river or that Brooklyn Bridge Park has the best views of Manhattan."<sup>1</sup>

Overall, 23 percent of all Waterfalls viewers – more than 320,000 people – acknowledged that their trip to see the Waterfalls was their first trip to the Lower Manhattan or Brooklyn waterfront, including about 6 percent of all Waterfalls viewers from New York City. Visitors from outside the city were even more likely to have been to the waterfront for the first time because of the Waterfalls. For example:

- About 13 percent of suburban viewers;
- About 34 percent of domestic viewers from outside New York's suburbs; and
- About 62 percent of international viewers said it was their first-ever trip to the waterfront.

These numbers highlight the power of public art to bring people to areas they might not otherwise visit, and to make them part of the process of revitalization.

<sup>1</sup> Bob Morris, *Inside Thirteen*, July 21, 2008, <http://www.thirteen.org/insidethirteen/?p=87>. (Bob Morris was the producer of the WNET documentary, *The Waterfalls: Making Public Art*.)

hosting Waterfalls-themed dinners and cocktail and hors d'oeuvres receptions. More than ten businesses held events at Harbour Lights to take advantage of the view. The restaurant hosted two weddings this summer in which the Waterfalls was cited as one of the primary reasons for choosing the location. In addition to increasing sales for special events, Harbour Lights also experienced an overall increase in traffic and interest due to the Waterfalls.

- The owner of MacMenamins Irish Pub on South Street reported that while it is difficult to determine how much of the increase in traffic this summer is based on the Waterfalls, the exhibit definitely had a positive impact.

**Liz Young Tours** offers culinary walking tours of New York City neighborhoods, highlighting the city's historical, cultural and culinary landmarks. This summer Ms. Young created the Waterfalls Culinary Tour. The tour started in Battery Park and ended at the South Street Seaport, where visitors could board one of the Circle Line's Waterfalls tour boats. As part of the tour, the group stopped at Trinity Place Bar & Restaurant on Broadway or at other restaurants for lunch. The Waterfalls tour was a big draw for the tour company, accounting for about one-third of all tours sold this summer. More important, Ms. Young said, is that "New York City has created world-class river experiences. I love highlighting in my tours how we're being given back the waterfront."

## IMPACT ON FERRY AND TOUR BOAT OPERATORS

More than any other business, ferry and tour boat operators benefited from the Waterfalls.

**Circle Line Downtown** was Public Art Fund's official water tour operator this summer, and offered three cruises that passed by the Waterfalls: a 30-minute tour that was created this summer for the Waterfalls, a 60-minute tour on its Zephyr boat that passed by other sights in New York harbor in addition to the Waterfalls, and a 30-minute Shark speedboat tour. The tours departed from Pier 16 at South Street Seaport and included a recorded introduction to the Waterfalls by the artist, Olafur Eliasson.

Through much of the summer, Circle Line Downtown offered between 25 and 30 tours a day, with sell-outs on many tours, particularly during



its evening cruises. Between June 26 and October 13, about 213,000 passengers took one of Circle Line Downtown's three tours, including more than 89,000 who took Circle Line's 30-minute Waterfalls tour, created specifically for the exhibit. Another 124,000 passengers took Circle Line's Zephyr and Shark boat tours past the Waterfalls. While the 30-minute Waterfalls cruise did not begin operating until the Waterfalls began, average weekly ridership on the Zephyr and Shark tours jumped by 123 percent after the Waterfalls began operating.

The Waterfalls was a draw for Circle Line Downtown's charter cruise business this summer. More than 5,000 passengers took charter cruises on board Circle Line boats since the Waterfalls began operating at the end of June.

In order to accommodate the additional tours and passengers because of Waterfalls demand, Circle Line Downtown increased its staff levels this summer by about 20 percent.

**Gray Line New York** offered a Waterfalls package that combined its Downtown Loop with a ticket on Circle Line Downtown's 30-minute Waterfalls tour, bringing its guests to the waterfront at Pier 16 and giving them access to the water itself.

Like Circle Line Downtown, **New York Water Taxi** also experienced an increase in ridership this summer as a result of the Waterfalls. In addition to its commuter and hop-on/hop-off services, Water Taxi operated two tours that passed by the Waterfalls, a 1-hour daytime tour and a 90-minute sunset cruise. On a year-to-year basis, Water Taxi's Seaport and sunset tour ridership increased four times as much during the Waterfalls compared to the 11-week period prior to the Waterfalls. During the 16-week exhibition, about 109,000 passengers took one of New York Water Taxi's Waterfalls tours.

Smaller boat operators also benefited from the Waterfalls. The **Classic Harbor Line Company** operates boat cruises out of Chelsea Piers on the west side of Manhattan. In addition to its other tours and its charter business, the company created a 90-minute Waterfalls cruise this summer, offered twice a day Thursday through Sunday. According to General Manager Sarah Greer, the Waterfalls tour was a big success and the Waterfalls also helped increase ticket sales on other tours and private charters by 10 to 20 percent: "The Waterfalls seems to have inspired people who normally might rent a hall or restaurant, to charter a boat and be

## A waterfront park grows in Brooklyn

On June 26, 2008, the Brooklyn Bridge Park Conservancy and the Brooklyn Bridge Park Development Corporation opened a temporary park on Pier 1, just south of Fulton Ferry in Brooklyn. The 26,000 square foot park was a destination for Waterfalls viewers, with picnic tables and a food and drink kiosk operated by Rice, a restaurant located a few blocks away on Washington Street.

Between June 26 and September 28, when the park closed, the Brooklyn Bridge Park Conservancy counted more than 192,000 visitors to Pier 1, averaging 3,580 visitors per weekend day and 1,760 visitors per weekday. Like the Waterfalls, the temporary park captured a global audience: its international visitors came from at least 52 countries.

By comparison, about 71,000 people visited the temporary beach or the floating pool in Brooklyn between July 4 and Labor Day, 2007. About 153,000 people visited Pier 1 in Brooklyn between July 4 and Labor Day 2008.



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near the exhibit. We're really happy this happened this summer." In part because of the Waterfalls, the company increased its overall tour hours this summer – and the hours of its staff.

## GOVERNORS ISLAND

Governors Island is a 172-acre island off the southern tip of Manhattan. A former military facility, the island was transferred to New York City and New York State in 2003 and is now the site of a 92-acre Historic Landmark District, open to the public. The island is operated jointly by the Governors Island Preservation and Education Corporation and the National Park Service.

During the summer of 2008, a free ferry between the Battery Maritime Building and Governors Island operated on Fridays, Saturdays, and Sundays between May 31 and October 12. The service operated between 10:00am and 5:00pm on Fridays and 10:00am and 7:00pm on weekends.

Between June 27 and October 12, 2008, the Governors Island ferry recorded about 100,000 passengers between the Battery Maritime Building and the ferry landing on the island's north side, adjacent to one of the Waterfalls. Of the Governors Island ferry passengers surveyed by ARA, about 31 percent took the ferry specifically to view the Waterfalls.

## MEASURING THE INCREASING ATTRACTIVENESS OF THE WATERFRONT

Researchers at the Massachusetts Institute of Technology's SENSEable City Laboratory, with the support of AT&T, have developed techniques that help identify changes in the relative number of people in an area over time by analyzing georeferenced photographs posted to the popular photo-sharing website, Flickr.com.<sup>1</sup>

Using anonymous data from georeferenced

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1 Georeferencing refers to the process of defining the position of an object in physical space. Flickr.com allows its users to specify where photos were taken by clicking on a point on a map, or entering a nearby address.

photographs from Flickr.com, the MIT researchers found that the Waterfalls vantage points' popularity with photographers, relative to other sites in New York City, increased significantly between the summer of 2007 and the summer of 2008. The share of photographers with pictures taken from the official Waterfalls vantage points relative to the number of photographers with photos taken elsewhere in the city increased by nearly 17 percent from the summer of 2007 to the summer of 2008. The share of photographers with pictures from other sites in the area declined or grew more slowly.<sup>2</sup>

This analysis can be represented visually. By recreating photographers' "digital footprints" from the timestamps on their pictures, SENSEable City researchers traced the implicit paths they took in Lower Manhattan and downtown Brooklyn, and examined how those paths changed over the past three summers.

Figure 5 shows how the paths of photographers changed in Lower Manhattan and Brooklyn during the past three years. The thicker, darker lines indicate better-established connections between major sites. During the summers of 2006 and 2007, for example, photographers tended to move primarily between City Hall Park, the World Trade Center site, and the New York Stock Exchange; a small share ventured to the waterfront at Battery Park and South Street Seaport.

During the summer of 2008, Battery Park and South Street Seaport – both official Waterfalls vantage points – became more significant destinations for photographers. More importantly, the Flickr data suggests that many more photographers traveled directly between the two waterfront sites. The Flickr data also suggests that Empire-Fulton Ferry State Park and Pier 1 drew more photographers to the Brooklyn waterfront in 2008 than in the two prior years.

The SENSEable City team quantified the connectivity of the vantage points over time using

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2 For example, the share of photographers posting pictures taken around the World Trade Center site declined about 21 percent; and the share of photographers posting pictures taken at the New York Stock Exchange declined by about 12 percent.

a network analysis technique similar to that used by Google to rank the authority and relevance of websites in its search results. This analysis, which assigns each site a "PlaceRank," determines the centrality of a site (a vantage point, for example) among a group of sites based on the number of Flickr photographers and the flow of photographers between sites.<sup>3</sup> Between the summer of 2007 and 2008, the PlaceRank of the vantage points increased by 56 percent while the PlaceRank of inland sites declined by 30 percent.

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3 If more photographers visit the World Trade Center site than Battery Park, then the former is more "central" than the latter in the network of sites. Moreover, if an equal number of photographers move from World Trade Center to Wall Street and from Battery Park to South Street Seaport, we can also say that Wall Street is more central than South Street Seaport.

Figure 5: Points of interest in Lower Manhattan and Brooklyn based on the number of Flickr photographers active at each site



2006



2007



2008

# The Waterfalls in a World Capital of Culture

*The New York City Waterfalls* was, first and foremost, a public art exhibition, bringing people to the water to experience public art on a massive scale. In this section, we discuss how many of these “cultural tourists” participated in a wide range of other cultural activities and events in the City; how the Waterfalls, like other recent public art exhibits, became a global phenomenon via web-based social media; and how Public Art Fund and the New York City Department of Education are using the Waterfalls to help educate children about public art.

## SUPPORTING “CULTURAL TOURISM” IN THE CULTURAL CAPITAL

Many viewers of the Waterfalls used the opportunity to participate in the City’s other cultural institutions and events. According to Audience Research & Analysis’s survey of visitors at the Waterfalls vantage points, about 95 percent of all out-of-town visitors – and the same percent of incremental visitors – viewed or participated in at least one other cultural attraction during their stay. About 43 percent of visitors attended one or more Broadway shows; 42 percent attended a visual art, photography, or design museum; 34 percent visited a history museum; and nearly 27 percent viewed a public art installation other than the Waterfalls.

Table 6 shows the percent of out-of-town visitors who attended selected types of cultural attractions or events based on the surveys conducted by ARA.

The Waterfalls was one of many cultural experiences in which visitors were engaged. Some cultural institutions benefited from proximity to the Waterfalls themselves. For example, visitors to the Museum of Jewish Heritage in Battery Park City could enjoy a view of the Governors Island Waterfall from the museum. The Museum surveyed visitors this summer and found that about 15 percent said that they had viewed – or planned to view – the Waterfalls during that trip to the Museum.

In 2008, Governors Island hosted more than 30 performances, events, activities and exhibitions during its open season. Audiences enjoyed dance performances, folk and rock concerts, an artist-designed mini golf course, outdoor sculpture, and car-free biking. One of the Island’s most popular events was the FIGMENT Festival, held on June 27-29. FIGMENT featured participatory exhibitions, events, and performances. The Festival, which coincided with the first weekend of the Waterfalls, brought more than 10,300 visitors to Governors Island – three times as many as the one-day festival in 2007.

From May 31 to August 24, 2008, Creative Time presented *Playing the Building*, a 9,000-square foot, interactive, installation by artist David Byrne. The artist transformed the interior of the landmark Battery Maritime Building in Lower Manhattan into a massive sound sculpture that visitors were invited to sit and “play.”

According to Anne Pasternak, curator of the exhibition and President and Artistic Director at Creative Time, “*The New York City Waterfalls* and *Playing the Building* were mutually reinforcing and brought people from all over the world to experience the New York waterfront in a new way. They showed how innovative public art installations can bring people to parts of the city they have never seen before. I talked to dozens of visitors from all over who said that they came from just seeing the Waterfalls or that they were about to see the Waterfalls after leaving our installation.”

Table 4: Percent of out-of-town visitors who attended selected types of cultural attractions or events

CULTURAL ATTRACTION OR EVENT	TOTAL
Broadway theatre	42.9%
Historical monument	42.5%
Visual art, photography or design museum	42.4%
History museum	34.0%
Public art installation other than the Waterfalls	26.8%
Music performance	20.5%
Outdoor performance (theatre, dance, music, other)	17.6%
Zoo or aquarium	16.8%
Science museum	15.9%
Libraries or humanities institution	14.5%
Off-Broadway theatre	13.9%
Botanical garden	13.8%

### *Take your time: Olafur Eliasson at MoMA and P.S.1 Contemporary Art Center*

Between April 20 and June 30, 2008 the Museum of Modern Art and its Queens-based affiliate P.S.1 Contemporary Art Center presented *Take your time: Olafur Eliasson*, a survey of the artist's work. The exhibition consisted of 34 works created by Eliasson since 1991, including six new works created for MoMA and P.S.1. Ticket holders for the survey exhibit could access both museums – and many visitors took advantage of the opportunity to do so. Visitor Services staff member Ellen Schaffer noted that several Manhattan and Brooklyn residents mentioned that Eliasson's show was one of the "rare occasions that brought them out to Queens."

The Olafur Eliasson exhibition was one of the best attended in P.S.1's history, helping to increase attendance at the museum by 144 percent in 2008 over the comparable period in 2007. The final week of the exhibit in June coincided with the start of the Waterfalls. During that weekend, lines to enter P.S.1 snaked out the front door from open until close and attendance was about 200 percent higher than during the same period in 2007.

P.S.1 extended the display of three of the pieces from the exhibition over the summer, including *Reversed waterfall* (1998), *Beauty* (1993) and *Take your time* (2008). P.S.1's regular summer attendance between June 30 and September 8, 2008 was 46 percent higher than during the comparable period in 2007.





## Helping maintain New York's position as the top overseas tourist destination in the U.S.

Interviews with hotels and restaurants in Lower Manhattan and Brooklyn revealed one consistent theme: that the number of international visitors seemed particularly high this summer. While this is in part due to the strength of foreign currency compared with the U.S. dollar, businesses cited the Waterfalls as helping to attract international tourists.

According to an analysis conducted by NYC & Company, media outlets from more than 25 countries – including Argentina, Australia, Brazil, Canada, China, France, Germany, Japan, Korea, Spain, and UK – published hundreds of articles about the Waterfalls. In the U.S., the nation's highest-rated television and print media reported on the Waterfalls, as did all local and regional press, and hundreds of websites and blogs, resulting in more than five hundred media clips and countless media impressions.

As noted in Part Two, we estimate that about 320,000 visitors from at least 55 countries viewed the Waterfalls this summer. While most visitors came from major overseas markets including the UK, France, and Germany, ARA's survey included visitors from China, Dominican Republic, Uzbekistan, and Malaysia.

Other museums benefited from more specific “cultural proximity” to the Waterfalls. For example, the Museum of Modern Art (MoMA) and its Queens-based affiliate P.S.1 Contemporary Art Center presented a retrospective survey of 34 of Olafur Eliasson's works between April 20 and June 30.

## THE WATERFALLS GOES GLOBAL: A WORLDWIDE PHENOMENON

A work of public art is, by nature, a creation by an artist, and often artists respond to a particular place or context. In creating *The New York City Waterfalls*, Olafur Eliasson was inspired by the particular conditions and geography of the East River and the New York Harbor, which inspired his way of looking at the City of New York.

Equally important to the artist's inspiration is the response of viewers, who may specifically seek out works of public art or come across them unexpectedly. Judging visitor response and engagement is difficult, but the existence as personal technology – including digital cameras and camcorders – make it easy to record images and experiences of large installations and then publish, share and discuss them through web-based social media.

Our research finds that many people who attended *The New York City Waterfalls* documented their experiences online. For example:

- Users shared more than 6,000 photographs of the Waterfalls on the photo sharing website, Flickr.com.
- Individual and professional bloggers published at least 1,200 blog posts about the exhibition.
- Waterfalls viewers posted more than 200 videos on YouTube, totaling more than 3 hours of footage, and earning over 235,000 views.
- Public Art Fund's official exhibit website, [nycwaterfalls.org](http://nycwaterfalls.org), received more than 512,000 visits between January and October 2008. The website provided information about the artist and the exhibit, as well as educational activities and a nine-part podcast series with comments by Olafur Eliasson.

- Many of these photographs, videos, and blog posts were viewed – and commented on – by others who had not had a chance to see the Waterfalls in person.

These online interactions, images and stories about the Waterfalls took place across thousands of online venues – blogs, media repositories, messaging networks and other social media – and will remain long after the exhibit is dismantled.

Social media give people in other cities and around the world an opportunity to view the Waterfalls from many perspectives and to react to what they saw. As one Los Angeles-based artist, Caryn Coleman, wrote on her blog:

*...traveling for fun this summer is out of the question even if it is art related. But that's what we have Flickr for - a way to see the same thing in numerous versions from the differing eyes of others. With over 1000 images of Eliasson's The New York City Waterfalls (it just opened on June 30) it's the next best thing to being there.<sup>1</sup>*

Public art offers viewers an experience that is both shared and personal. Blogs and other web-based social media provide a complementary outlet, allowing users to publish the evidence of their experience, discuss its personal impact, and hear others' reactions. Leesa Wytock reflects in Jack Morton Worldwide's blog, Jack360, about what the Waterfalls meant to her this summer during her daily commute:

*...in the morning, as I commute to work, seeing the metal scaffolds and pouring water it feels like the wheels of progress and work--as if it's gearing me up for the day. And at night, as the sky grows dark, the waterfalls light up softly--as if it's calming me down for a good night's sleep.*

*This public work just reminds me how much of art is about personal experience. And the great thing about the waterfalls is that everyone can experience them.<sup>2</sup>*

1 <http://art.blogging.la/2008/07/seeing-new-york-waterfalls-from-los-angeles/>

2 [http://360.jackmorton.com/2008/06/nyc\\_waterfallscommuting\\_over\\_h.html](http://360.jackmorton.com/2008/06/nyc_waterfallscommuting_over_h.html)

With more than 200 posts on the Waterfalls during the past four months, the “micro-blogging” site, Twitter.com, proved to be a popular tool for real-time reporting from the Waterfalls vantage points, tour boats, and on commutes that pass by the Waterfalls. The two posts below highlight these quick, contemporaneous reactions, captured permanently on the web:

*sadkids: “Looking at the nyc waterfalls from a boat. No better way to see them. So cool.”*

*am3thyst: “highlight of the commute: seeing the NYC waterfalls whenever the subway train crosses the Manhattan Bridge”*

Anecdotally, these short publicly-accessible messages have even proved persuasive in encouraging people to visit New York to see the Waterfalls firsthand. In July, *junecohen* posted to Twitter:

*“Eliasson's waterfalls are cool by day. But wow. They are \*spectacular\* by night.”*

Twitter user *kokoe2* responded:

*“P.S. Your post about NYC waterfalls inspired me to make the effort to go...”*

Other user-created media in response to the Waterfalls are notable, including a video tour of the Waterfalls by daily video newscasters, Rocketboom.com, and a video poem inspired by the Waterfalls.

While a full analysis of Waterfalls-related content on the web is beyond the scope of this report, we have identified three primary categories of online experiences generated by the exhibition, summarized in Table 5.

While there is no easy way to measure direct economic impact of these widely scattered on-line activities, several emerging cultural and economic impacts are clear:

- For some people, online images and stories about the Waterfalls amplified interest in visiting New York City to see them firsthand.
- Online media extended the experience of visiting the Waterfalls, giving people a chance

## Inspiring a new generation of artists

Although the last drop of cascading water returned to the East River on October 13, the Waterfalls will continue to flow in the imaginations of thousands of students in New York City public schools. Public Art Fund, together with the City's Department of Education and Department of Environmental Protection,<sup>1</sup> produced a series of educational materials that use the Waterfalls to think about public art and its role in the City's cultural landscape.

The curriculum, *Stop, Look and Think: A guide for making the most of public art and New York City's viewing opportunities*, includes activities for K-12 teachers who took field trips to view the Waterfalls and classroom materials that can be used to stimulate broader thinking about public art. Public Art Fund published and distributed curriculum guides to every New York City public school and to private schools that requested the materials. Public Art Fund also shared 50,000 activity guides with summer schools, summer programs and libraries.

Inspired by the Waterfalls, teachers have already complemented their existing public art curriculum with Public Art Fund's materials. Robin Miller, an art teacher in PS 108 in the Bronx, said that she, "decided to begin the year by focusing on the New York City harbor" in her art classes. At IS 73 in Queens, art teacher, Beth Helfant-Goldman had in the past shared photographs she had taken of public art works in Philadelphia and St. Louis in her art classes. She says, "This guide has inspired me to look into locations for public art that can be viewed as a class trip... It's time for me to look in our own backyard!"

In September Erica Yonks, an art teacher at the NYC Museum School, accompanied thirty 12th graders to the South Street Seaport. She and her class created brush and ink paintings and wrote haiku inspired by the view of the Waterfalls. At MS 217 in Jamaica, Queens, the entire talent department went to see the Waterfalls and will use the exhibit as the theme for their spring concert in May 2009.

Some of the city's colleges and universities incorporated the Waterfalls into coursework. For example, students in New York University's two-year Interactive Telecommunications Program were assigned to view the Waterfalls and respond to them in a blog post. One student, John Kuiphoff, wrote about the first time he saw them from a subway car on the Manhattan Bridge during his daily commute:

*In this context, the Waterfalls appeared as magnificent structures and the unexpected discovery of them was exhilarating. Though I've read about them before, seeing the waterfalls on the subway felt a lot like seeing the statue of liberty for the first time.<sup>2</sup>*

<sup>1</sup> In collaboration with the US National Park Service, Battery Park City Parks Conservancy, Natural Resources Defense Council, Riverkeeper, Metropolitan Waterfront Alliance, New York Restoration Project, and Urban Assembly's Harbor School.  
<sup>2</sup> <http://itp.johnkuiphoff.com/2008/09/15/nyc-waterfalls/>

to reflect and share their experience of public art, the waterfront, Lower Manhattan and New York City. Online outlets provide an opportunity for visitors to serve as cultural ambassadors, taking the Waterfalls home in a physical sense, and translating the experience into many languages.

- In addition to providing a valuable training and practice opportunity, economic value is created through the production of amateur and semi-professional works.

When the Waterfalls began flowing in June, Olafur Eliasson said, "it's not my work of art anymore, it's your work of art... This piece of art is now a part of

the city. It belongs to the people of the city."<sup>3</sup> It is not surprising then that Mr. Eliasson was delighted with the number of photographs of the Waterfalls that users have posted to the on-line photo sharing site, Flickr.com, noting, "I see the waterfalls as a co-producer of the time and place in which they take place. I suppose, in that way, the work filters into questions about society and democracy."<sup>4</sup>

<sup>3</sup> Sewell Chan, 'Waterfalls' Display Opens on Harbor, New York Times CityRoom Blog, June 26, 2008, <http://cityroom.blogs.nytimes.com/2008/06/26/waterfalls-display-opens-on-harbor/>.

<sup>4</sup> Sean O'Hagan, "Splash!," The Guardian, September 14, 2008, <http://www.guardian.co.uk/artanddesign/2008/sep/14/art>.



Table 5: Categories of on-line user-generated content inspired by the Waterfalls

CATEGORIES OF USER-GENERATED CONTENT	EXAMPLES
<p><b><i>"Reporting" by visitors</i></b></p> <p>These include announcements about the visitor's intentions and anticipations about visiting New York, Lower Manhattan or the Waterfalls, as well as blog posts, photographs, and video footage documenting viewers' experience and impressions.</p>	<p>Photo and video sharing sites, including Flickr, Picasa, FotoLog, YouTube</p> <p>Social networking sites and blogs, including Facebook, Twitter, MySpace, Blogger, Typepad</p>
<p><b><i>Discussion about the Waterfalls by non-participants</i></b></p> <p>Perhaps the most interesting and novel is the significant amount of discussion generated in various forums by people who experience images, video and other documentation of the Waterfalls online but did not actually visit. It is likely that more people, located throughout the world, experienced the Waterfalls in this fashion.</p>	<p>All of the above</p>
<p><b><i>Amateur and semi-professional works</i></b></p> <p>Any exhibition the size of the Waterfalls invites follow-on opportunities for local artists, amateur and semi-professional photographers, landscape painters and sketch artists to practice their craft and create their own images, films, and other works.</p>	<p>Photo- and video-sharing sites, including Flickr, YouTube, iStockPhoto, and Revver.</p>



# Conclusion

During the summer and early fall of 2008, nearly 1.4 million people viewed *The New York City Waterfalls* about 3.6 million times from the seven official vantage points and ferry and tour boats. They included about 800,000 people who live or work in the City – and about 590,000 visitors who came to the City from elsewhere in the metropolitan area, from communities across the U.S. and from at least 55 other countries. Hundreds of thousands of others viewed the Waterfalls as part of their daily routine – commuting, exercising, shopping, or working. The exhibit directly and indirectly generated about \$69 million in total economic impact in New York City during the life of the project.

The economic impact of the Waterfalls includes Public Art Fund's \$15.5 million investment in the exhibit's total presentation, an estimated \$26.3 million in incremental visitor spending, and the indirect economic impact of these expenditures.

We estimate that about 79,300 of these out-of-towners were "incremental" visitors – people who, were it not for their interest in seeing the Waterfalls, would not have come to New York, or would have spent less time here.

Beyond the directly quantifiable impact of this incremental spending, the Waterfalls contributed in several other ways to the vitality of the City's economy. It brought nearly 1.4 million people to the Lower Manhattan and Brooklyn waterfronts – and for those who saw the exhibit from a tour boat or ferry, onto the East River itself. Based on the surveys conducted by ARA, we estimate that 23 percent of all those who saw the Waterfalls – about 320,000 people – were visiting the Brooklyn or Lower Manhattan waterfront for the first time.

The Waterfalls also helped to reinforce the City's status and reputation as the world's great capital of culture. The exhibit attracted media coverage from across the U.S. and around the world. And it engaged thousands of people who posted comments, photos and videos about the Waterfalls online.

Through the creativity of Olafur Eliasson and the commitment of Public Art Fund, *The New York City Waterfalls* demonstrated once again how public art makes New York one of the world's great places to live, work and visit.



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