COMMUNITY PLANIT: CAPE 2-O

INTRODUCTION

As one piece of its community engagement strategy, the Cape Cod Commission (Commission) partnered with the Engagement Lab at Emerson College in 2013 to create an online game experience that would dove-tail with other, more traditional approaches to building a picture of stakeholder awareness and needs about regional solutions to the waste water management crisis on the Cape. Using the platform Community PlanIt, a tool for engaging diverse participation from geographically defined communities in planning processes, the Commission sought to increase input from residents on this topic, especially youth and others who typically do not attend or find a voice at traditional town hall meetings. Community PlanIt has been used successfully in a variety of planning contexts – from master-planning in the cities of Philadelphia and Detroit, to school quality assessment in the Boston Public Schools, to addressing youth unemployment in the country of Moldova – with success, as understood from the data and as reported by game curators and players in post-game surveys.

Community PlanIt is a playful engagement platform that broadens access to public deliberation processes and fosters trust among participants. Over a series of timed missions, players compete to provide input toward an official planning process, create networks of trust through meaningful exchange, and win real money for local community causes. The Cape Cod Commission ran two unique, 3-week instances of the Community PlanIt: the first, *Cape 2-O: It's Something in the Water*, launched in July 2013 and the second, *Cape 2-O: Ur in Charge!*, launched in October 2013.

Each Community PlanIt game is composed of a series of timed thematic missions that transforms the planning process into an unfolding narrative. Within each mission are challenges that ask players to complete a wide range of activities (from giving simple input into a planning initiative to performing as a character representing another community stakeholder). After a player completes a challenge, he or she can then view the responses from the entire community and deliberate about what's being said and amplify the conversation across social media networks. Players are incentivized to contribute meaningfully to challenges in order to garner interaction from other players and win more coins. With more coins, a player wields greater influence in backing local, community projects, or Causes, that win real world funding at the end of the game. In the case of the two Cape 2-O games, the Cape Cod Commission awarded six local projects $1,000 to fund their work in the community.

In the course of contributing their input to Challenge Questions, players also must face obstacles, in the form of trivia barriers signified by pompous and pesky characters called "Crats," interspersed among challenges, in order to complete a mission. These Crats

challenge players with quizzes that must be solved (based on provided resources – planning documents, infographics, GIS-layered maps, etc.) to demonstrate they have what it takes to advance. The Commission used these Trivia Barriers as opportunities to build rich, educational visual resources into the games that provided context and learning for players about various topics including the nitrogen cycle, eutrophication, watersheds on the Cape and population growth data, among others.

WHO PARTICIPATED? – DEMOGRAPHICS OF THE COMMUNITY PLANIT ENGAGEMENT

Over the course of the two games, there were a total of 1,449 people who registered for the game, of those 443 (30%) were active players of the game, the rest remained engaged with the planning process by receiving email updates about the game and related planning events .

Players of Community PlanIt self-identify when they register according to an array of pre-set stakeholder positions, which allows all players of the game to interact with one another having some sense of each others' interests and perspectives. In the case of the two Cape 2-O games, these stakeholder positions available were:

- Year-Round Cape Resident (33%)
- Business Owner (6%)
- Cape 2nd-Home Owner (2%)
- Vacationer (3%)
- Regular Visitor (5%)
- Student (18%)
- Work on Cape (8%)
- Municipal Employee (4%)

The Cape Cod Commission was particularly interested in engaging students from 6th – 12th grade is this process, as youth voices are typically absent from local waste water planning conversations. 34% of the total number of active players were under the age of 18. Another 23% of players were between the ages of 18 – 40 year old. In post-game interviews, representatives from this group also felt more able to participate in this process, since it was online and allowed them to take part according to their own schedules. This met the Commission's goals for taking this online game approach as part of its engagement strategy for regional waste water planning to include people in the planning process who typically do not find their way to traditional public meetings. Furthermore, during the second game in the fall, successful efforts were made to reach out to area schools, children and science teachers and have them build playing and discussing Community PlanIt into their classes.

In addition to a wide representation across age groups engaged by this process, there was also ample distribution across other stakeholder positions and demographics. 33% of active players identified as year-round Cape residents with another 18% identified as students, presumably also full-time residents, while 17% identified as vacationers, regular visitors, or as non-resident employees on the Cape. (NB, 20% of players identified as "Observers" of the game or did not input this information at all.) In other words, 61% of the active players of the games identified, in one way or another, as living on the Cape year-round.

Racial and ethnic demographics for this game were somewhat reflective of the distribution of diversity on the Cape, with 70% identifying as white, non-Hispanic Caucasian. Across the two games, 51% of players identified as female and 33% as male, where specified.

In terms of player input, intensity and number of challenges completed, in the first game, *Cape 2-O: It's Something in the Water*, of the 48 Challenge Questions, one-third of players completed 30 - 40% of the questions (roughly16 questions); and, one-fifth of players completed 90 – 100% of the questions in the game. In total, players left a total of 2,345 responses and comments (data points) and earned a total of 98,870 coins, indicating a moderate to high level of intensity of play.

In the second game, *Cape 2-O: Ur in Charge!*, 43% of players completed at least one full Mission of the game (16 questions), while 32.5% of players completed between two-thirds and all of the questions across all three Missions. The total number of responses and comments in the second game provided 4,569 data points and 183,140 coins were earned by players, again indicating a moderate to high level of intensity of play.

More detailed information about the demographics of each of the two Cape 2-O games can be explored at http://datavis.communityplanit.org/cape/ (Game 1) and http://datavis.communityplanit.org/urincharge/ (Game 2).

OUTCOMES AND TRENDS

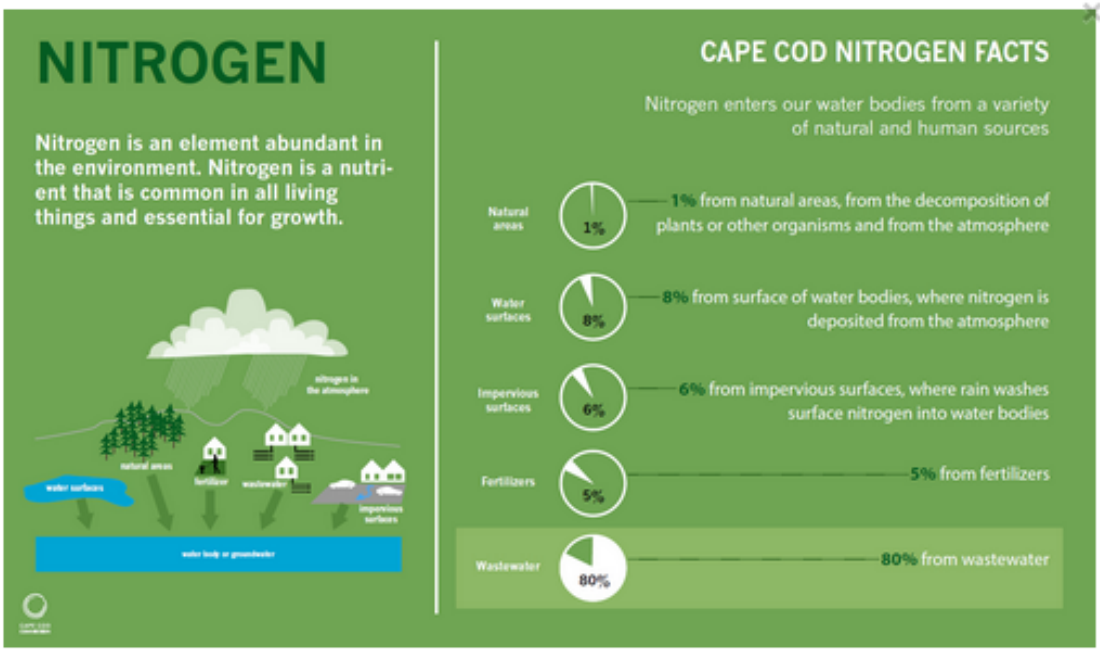
The great majority of the data that comes out of a Community PlanIt game is qualitative in nature. That is because the process encourages thoughtful open-ended responses to questions, reflection, and dialogue among players. Although certain Challenge Questions are formulated to give quantitative feedback to the game curators, most questions were crafted by the Cape Cod Commission with two simultaneous goals in mind: 1) informing the player about the complex ecology of the Cape, options available for future waste water management, and the risks of simply maintaining the status quo; and 2) getting input from players about their experiences, opinions, and aspirations for the future of Cape Cod. These questions produced a host of data that gave nuanced input and multivalent sentiment, providing a much richer picture of the community that would otherwise have been available. All of the responses from the games can be reviewed in full by accessing http://communityplanit.org/capecod (Game 1) and https://communityplanit.org/capecod2 (Game 2). In this section, we will distill some of the data pertaining to questions about the perceived future of Cape Cod and what actions they'd like to see taken in order to ensure the best and most manageable solution for the Cape's waste water problem.

One Challenge Question from Game 2 - Mission 1 provided some background about nitrogen and then asked: "To solve the Cape's nutrient problem, we have to look to

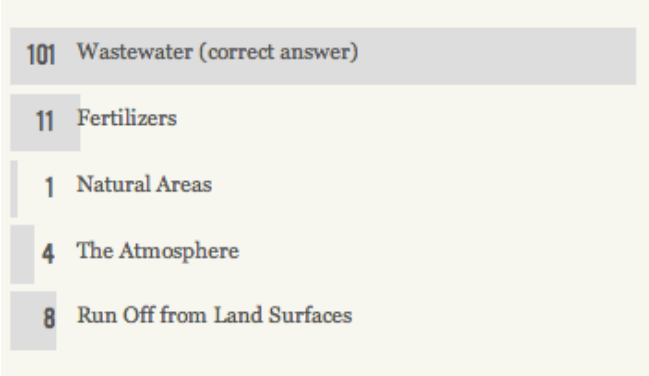
what we can control. Which of the following nitrogen contributors do you think Cape Codders are likely to be able to control the most?" Here are the responses:

7	Air Pollution
52	Fertilizer Application
56	Wastewater
0	Stormwater
6	Ocean

Of these, it is interesting to note that of those respondents who indicated a year-round presence on the Cape, only one-fifth understood waste water to be the overwhelmingly most critical issue that that was most in their control. As we can see above, nearly the same number of respondents identified fertilizer application and waste water as equally within their control. It was a goal of the Commission to teach players that although there is a perception that fertilizer contributes heavily to the nitrogen that then seeps into ground water and ponds, fertilizer accounts for only 5% of the total nitrogen content while waste water accounts for fully 80% of the nitrogen in the environment. Challenge Questions later in the game provided opportunities for this kind of teaching, through scenarios presented and also infographic resources attached to Challenge Questions, for example:



By the time players encounter a Trivia Barrier which tests their knowledge about facts, like “What’s the biggest source of all Nitrogen entering the Cape’s waterways?” players responded thusly:



**NB – All of the infographic and document resources created by the Cape Cod Commission for the games are available at: https://communityplanit.org/capecod/resources/ (Game 1) and https://communityplanit.org/capecod2/resources/ (Game 2)

In another case, when players were asked in Game 2 what they saw as the three most important aspects for Cape Cod addressed in the Clean Water Act, year-round residents (including those who identified as students, municipal employees and business owners) overwhelmingly cited: Drinking Water Standards (33.6%), Wetlands Protection (40%) and Stormwater Run-off (22.7%) as the most pressing concerns. Additionally, 10% of students saw Bacteria Contamination as a priority concern within the Clean Water Act for the Cape, a marked difference from most other groups, who saw that as not very important.

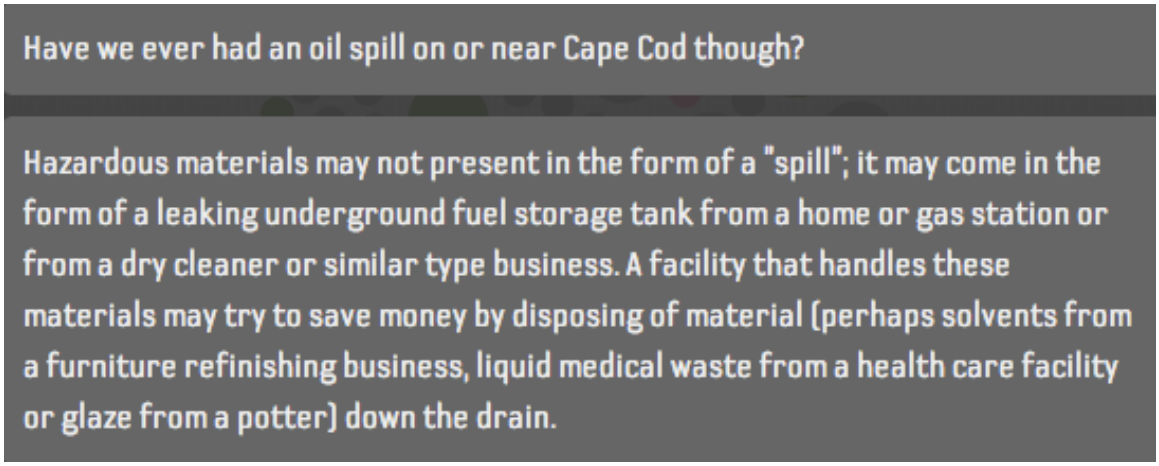
In addition, players engaged in meaningful conversation about this topic in comment threads. One player, Karen B. (Regular Visitor / Vacationer), wrote:

> "Tough choices. My choices are not to suggest that drinking water is not important as it is critical for all residents and visitors. This is an acute problem for people living over currently a contaminated supply BUT, hear me out. Shellfishing is an economic resource dependent on bacteria-free product. If we address bacteria contamination, that will also benefit private wells impacted by septic. Stormwater runoff impacts shellfish areas and swimming areas. If we approach stormwater issues by addressing the elements in the stormwater, that will protect the waterways and any drinking water supply receiving that runoff. Wetlands are an essential part of the Cape's ecosystem with a wide reach. As both breeding grounds and as part of migratory flyways, these areas are critical for survival of many avian species. Wetlands provide areas for fish breeding, and cover for young ocean dwelling fish that is critical for their survival. Physical and biological protection of these areas is needed.”

Whereas another player, Brian B. (Business Owner), opined in favor of drinking water and natural runoff, with his extended comment:

"Due to the nature of our region we have a sole source aquifer which supplies all of our drinking water. The quality of our drinking water is an indicator of the pollution in our groundwater which is ultimately the vehicle that carries the excess nutrients to the coastal waters. In many area wetlands create a natural buffer by up-taking some of these nutrients as they flow toward the seas. Natural attenuation is the least costly and most natural process for treating nutrients entering our coastal waters. Another significant source or nutrient pollution is runoff from impervious surfaces, by channeling runoff through vegetative buffers such as wetlands much of the pollution carried in the flow can be eliminated.

In another comment thread in the same question one player, Brett D., advocated on behalf of Oil Spill Prevention, when another questioned the relevance of oil spill prevention on the Cape ("Have we ever had an oil spill near Cape Cod, though?"), Brett D. clarified his static multiple-choice bubble response by elaborating:



It's precisely this kind of dialogue and nuance in answering multiple choice questions that are opened up by Community PlanIt, in contradistinction to traditional surveys. Furthermore, Brett D. identified himself as a high school student, making it unlikely that he would be participating in such conversations during traditional town hall meetings.

Other questions asked players to give input on the level of cost they would be willing to bear, in terms of dollars and cents or convenience, in order to affect positive change with respect to waste water management on the Cape. For example, in Game 1 – Mission 2 one question asked players to imagine that the values of coastal properties have decreased due to the impacts of excess nitrogen and that they consider the effect on household finances of an across the board tax hike to cover the difference. Year-round Cape residents saw this as overwhelmingly negative, potentially forcing families to move off the Cape or to spend less money on non-essential items. Compare this to a player response to the ways in which they see themselves contributing to the economic health of Cape Cod from Game 2 – Mission 2:

On a personal level, I can contribute to the Cape's economic health by buying local and supporting local businesses whenever possible. I can further contribute by doing my part to improve the environment, including taking steps to reduce my contribution to the problem of excess nitrogen." – Kathy B., Business Owner

Other residents and vacationers expressed similar sentiments, that they saw themselves as contributors to the Cape economy now, but should property taxes go up forcing increases in rents, it may induce many to reconsider how they spend money on the Cape or whether they live or visit there at all. Since the majority of the Cape's economy is driven by tourism, this was seen as a real shortfall of letting the waste water situation languish to the point that taxes might need to be raised dramatically in the future. And players were uniformly interested in engaging in this issue as part of the planning processes. When asked in Game 1 – Mission 3 whether they would consider attending a live town hall meeting about this issue, fully 75% said they either "Would Attend" or "Might Attend." When it came to bearing the financial burden of paying for solutions, most respondents, again regardless of stakeholder position, said they "Would be happy to see more trees, wetlands, and protected open space in my community, regardless of cost" (29.%) and that "We should rely on natural systems to remove as much nitrogen as possible in as many locations as possible, regardless of cost" (30.4%).

It's worth noting, though, that most players, across stakeholder categories, saw the financial burden as one to be shared equally among residents, vacationers, businesses and the federal government alike. When asked the question: "Preliminary estimates of the cost of a waste water solution on Cape Cod range from $4.2 and $6.2 billion. Many options are available to pay for these solutions. Who should pay for the Cape's waste water solution? Check all those who you think should contribute?"

Players responded thusly:

This suggests a picture of a community that is willing to invest in solutions to the waste water problem on the Cape, to take an active role in the planning process, so long as it is ensured that everyone pays their fair share. The notion that only those connected to new treatment facilities should bear some or any of the cost burden was roundly rejected in favor of a more balanced approach that saw opportunities for financial partnerships and solutions across the business community, residents, state and federal

government and visitors to take part in investing in the Cape's healthy future. As one player, Sheila L., put it – reflecting the quantitative results above:

> "We all contribute to creating the problem. We have to face the fact we need to fix it or we lose everything. However, our population is too small to foot the bill by ourselves. Whatever the solution(s) may be, they must be built to withstand the contribution of the summer population making any solution more expensive. Visitors and the federal and state government have to share a larger portion of the costs because if it becomes solely the burden of year round residents, it will force people to live elsewhere. Our federal and state taxes have been used to fix Boston Harbor, the Chesapeake bay, etc. it is time we receive similar assistance."

BUILDING TRUST IN THE COMMUNITY BUILDING THROUGH CAUSES

One means for recruiting more participation in the process is the in-built process of rallying for Causes, or local projects that would receive real world funding at the conclusion of each game. Players are invited to submit proposals for Causes, which are then vetted by the Cape Cod Commission before being made public. Once public, players were able to show their support for these projects by allocating the coins they had earned for answering Challenge Questions in the game. They also could advocate for these Causes by sharing their reasons for supporting on Facebook and Twitter, recruiting more players to the process. Players often saw this as an incentive to participate and the Cape Cod Commission, as game curators, saw thisas an additional recruitment tool and as a means of bolstering their relationship with the community. Awards were distributed at post-game "Finale Events" – organized as town hall meetings where all members of the community, players of Community PlanIt and non-players alike, were invited to attend, learn about the process to date, and find out ways to remain engaged in waste water planning efforts in the future.

In each game, the top three Causes each receive funding. In *Cape 2-O: It's Something in the Water* (Game 1), the following local projects each received $1,000 to benefit the community on Cape Cod. Of the nine projects that were proposed, the following were awarded funding based on player votes:

> <u>Protecting Wildlife on Cape Cod</u>
> Organization: **Wild Care**
> Coins received: **17,346**
> Description: In this program, Wild Care provides medical treatment to animals that have been found injured, orphaned or ill on Cape Cod. Critical Care animals are wild animals that have been brought to Wild Care by the caring public and are in need of emergency medical or supportive care. Injuries caused by vehicles, lawn mowers, fish hooks, poisoning, and wounds from attacks by pets are all typical maladies that are seen in Wild Care's Critical Care Program. Wild Care is

currently caring for over 50 patients and has already admitted 200 more animals this year as compared with 2012.

Helping Abused Children
Organization: **Children's Cove**
Coins received: **16,650**
Description: Children's Cove is a freestanding, child-friendly facility in the mid-Cape area designed to ensure that victims of child sexual abuse and their non-offending family members have access to support and services in a safe, respectful, and compassionate environment. Established in 1997, Children's Cove, the Cape & Islands Child Advocacy Center, is a safe and welcoming place where children who have been sexually or physically abused can begin their journey of healing. Children's Cove provides a compassionate, efficient, child-friendly facility for child abuse intervention. As part of our ongoing awareness campaign, we have produced several successful radio ads about child sexual abuse awareness. The $1000 prize would greatly contribute to our next project of producing another much needed radio ad as part of this campaign.

Volunteering on the Cape
Organization: **Cape Cod Volunteers**
Coins received: **13,705**
Description: The vision of Cape Cod Volunteers is to create a network of organizations and opportunities that inform, inspire, and engage people of all ages and backgrounds in strengthening our community through volunteering. Cape Cod Volunteers links people with meaningful opportunities for volunteering on Cape Cod. Its website, www.capecodvolunteers.org, provides an online matching tool for nonprofits to list opportunities and a place for Cape Codders to search for openings that match their interests. Should Cape Cod Volunteers be among the leading causes at the end of the game, prize money will help cover the cost of the online matching and ensure the right people find the right opportunities to help make a difference on the Cape.

Of the fifteen projects submitted as Causes in *Cape 2-O: Ur in Charge!* (Game 2), the following were the top three that each received $1,000 of funding to do work in the community. Again, awards were distributed at a live town hall stakeholders meeting organized by the Cape Cod Commission as the occasion to review results from the game and invite stakeholders to continue to participate in the on-going planning process.

It was notable in this instance of the game that students became very involved in the process. Not only did the Cause that received the most number of coins getto benefit the STEM program at a local high school, but the third top Cause was submitted by a

middle school student during the last week of the game, who was then able to rally sufficient numbers of new participants to the game to win funding for his project.

Falmouth STEM Program
Organization: **Lawrence Middle School and Falmouth High School**
Coins received: **41,620**
Description: The Falmouth Public Schools are working to offer an increased number of STEM courses at the secondary level. In the past year, several new courses have been introduced at both Lawrence Junior High School and Falmouth High. At Lawrence, students have been participating in an Advanced STEM class that is offered in addition to their regular science class, and at the High School all 9th graders take the STEM9 class which focuses on biology-related projects like eutrophication, algae farming and aquaponics, and reverse engineering the human body. Additionally, STEMinar is an elective course at Falmouth High which includes topics such as biofuels, green engineering, solar energy, and the chemistry of foods. Award money will be used to purchase supplies for these new STEM initiatives.

Expand Our CAPEabilities
Organization: **CARE for the Cape & Islands**
Coins received: **29,610**
Description: CARE for the Cape & Islands was founded in 2012 as the Cape and Islands' first travelers philanthropy initiative. Its goal is to encourage, support and create opportunities for visitors to donate their "time, talent, and treasures" to help preserve and protect the very things they travel here to see and enjoy. By creating contribution opportunities for local environmental conservation and cultural heritage preservation efforts, CARE facilitates meaningful relationships among travelers, businesses, local organizations, environmental initiatives and residents. A new program to design and launch tours at Cape Abilities Farm as part of its expansion is among the current projects supported by CARE. Prize funding would go toward the costs of this project.

Algae Drone
Organization: **Lawrence Middle School – Science Project**
Coins received: **24,343**
Description: You have learned about the algae problem in this game, and you know that it is directly related to the amount of nitrogen, so how could we track the nitrogen output on Cape Cod? We know how... a drone!! A drone can get and aerial view of a lake without the cost of planes, or the unpredictability of using Google Earth, and I could post the images to a website to report my findings to the public, and educate them like this game does! Award money will be used to buy the drone and the equipment for the detection of algae.

One metric provided by the number of coins earned by players in the game is that the ratio of coins to players is indicative of an intensity of play. Since players can receive a set number of coins for each mission and bonus coins for achieving Awards that are given to players who interact with others' responses or, more typically, who garner responses and "likes" from other players. These bonus coins and awards incentivize the process of public deliberation, conversation and increase the kinds of thoughtful, meaningful responses to challenge questions, providing the game curators with the kind of nuanced data and input not usually available from other forms of community outreach such as surveys, canvassing and in-person public meetings. It is this kind of rich, nuanced understanding of community sentiment and the opportunity to connect with, teach and engage meaningfully with the public that the Cape Cod Commission sought when implementing Community PlanIt in its public outreach campaign.