Parks Proximity and Awareness
How They May Affect Use

NRPA
National Recreation
and Park Association

GP RED
Research, Education, and Development
for Health, Recreation, and Land Agencies

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A shorter summary report from this research, targeted for parks and recreation practitioners, is available from NRPA at www.nrpa.org under Research, or by emailing info@gpred.org.

GP RED is a 501(c)(3) not for profit organization dedicated to providing research, education, and development for health, recreation, and land management agencies, and a committed collaborator with NRPA. To find out more or to support GP RED's work, please see www.gpred.org.

AUTHORS

Teresa L. Penbrooke, PhD, MAOM, CPRE, Principal Investigator, GP RED, GreenPlay, LLC, North Carolina State University, (NCSU), and Metro State University – Denver, TeresaP@GPRED.org
Rob Layton, PhD, FASLA, CPRP, GP RED, Design Concepts, & NCSU
Chris Cares, MURP, GP RED and RRC Associates
Becky Dunlap, CPRP & Dylan Packebush, MBA, CPRP, GreenPlay, LLC

Along with academic credentials and roles for GP RED (www.gpred.org), the three primary authors of this research are the owners and founders of long established professional P&R planning firms in the U.S. Dr. Teresa Penbrooke is the CEO and Founder of GreenPlay, LLC, a management consulting firm founded in 1999 that has conducted over 500 master, strategic, and related plans for parks, recreation, open space, and related quality of life agencies around the country. Dr. Robby Layton co-founded Design Concepts, an award-winning landscape architecture and planning firm with a focus on parks and community design, in 1981. Chris Cares co-founded RRC Associates, a survey and qualitative research, planning, and tourism analysis firm, in 1983. These three authors and their representative firms have worked together on over 150 community P&R planning projects since 2001. The history of these firms and their relationships is very relevant to this project, as the realization was made that collectively the firms have access to a vast repository of community-specific random surveying, geo-spatial, management, operational, and marketing analysis that had never previously been assessed from an aggregated research standpoint on a topic like this.

TABLE OF CONTENTS

TABLE OF FIGURES

INTRODUCTION

Parks are essential to the physical, social, environmental, and economic health of a community. For about the past 15 years, agencies and researchers have often focused planning efforts on addressing "proximity" to parks as being key to community equity. For example, the National Recreation and Park Association (NRPA), The Trust for Public Land, and the Urban Land Institute have been leading a nationwide movement, the "10-minute walk campaign," to ensure that there's a great park within a 10-minute walk of every person, in every neighborhood, in every city across America (https://www.nrpa.org/our-work/partnerships/initiatives/10-minute-walk/).

Historically, level of service (LOS) analysis has looked mostly at availability of the number of components (known as capacity analysis – or X number of amenities per 1,000 population) and the proximity of those components to residents. The academic research is now questioning whether availability and proximity are really the key driving elements for participation and use (Cohen et al. 2017; Layton, 2016). NRPA and GP RED have suggested that the primary aspects of community use (participation) are both: 1) availability of program locations and facilities (*proximity* of the components of a community system), and also 2) satisfaction with and *awareness* of those components. In 2018, GP RED was contracted by NRPA to look at exploring, "*How the aspects of proximity to and awareness of parks and recreation (P&R) components are perceived, and how may they potentially affect usage of our community P&R systems.*" The research explored both *objective proximity* (actual measured distance from one's home to a park), *perceptions of proximity* (how far they think they are from a park), along with *awareness of availability* (do they know or can they find out where the parks and facilities are).

This report includes a summary of relevant literature, along with aggregated analysis of results from 119 previous random sampling surveys from diverse communities conducted since 2005 during professional P&R planning projects. A case study was included to provide analysis of awareness and proximity issues for two agencies, Cary, North Carolina, and Montgomery County, Maryland, using component-based methods for levels of service analysis, and available marketing documents and input from these agencies. Key elements of awareness, potential strategies (e.g. marketing, social media, signage, and wayfinding), and key management takeaways were examined.

The literature identified that objective and subjective awareness levels of parks and amenities are not often in alignment. Key factors for awareness appear to be age, income, education level, marital status, and whether children are present in the home. Of the variables examined from the case analysis, the only variable that showed significant correlation in this study was related to quality – design and ambiance (D&A). Interestingly, a higher score for D&A nearby was correlated with lower awareness reported of parks and amenities overall. Proximity to a park, number of parks nearby, size of the parks, and other variables analyzed were not significant factors. The answer for this finding was not apparent. It is possible that the presence of a higher quality park nearby increases thoughts that other nice parks and services might be available within the community, and this stimulates an interest in knowing more about them, leading to a positive relationship between park use and the desire for greater awareness of park offerings (thus the self-reported indication that people feel that they are not aware of other offerings).

A suggested overview is provided for a comprehensive marketing and communications plan, with attention to various communication channels, safety and perception of safety, along with cohesive wayfinding, signage, and identity. An agency "checklist" is provided to help agencies select strategies to go forward with goals and mechanisms to increase awareness, participation, and usage.

TO BEGIN – A THEMATIC LITERATURE REVIEW

The authors met and discussed the data available from previous joint professional practice projects and other research that may be relevant for this study, along with a timeline and allocation of roles for completion. To complete this research, strong emphasis was first placed on reviewing the available peer-reviewed literature as related to the research questions. Later in this report, the themes identified are further explored relative to the results from the aggregated survey data and case study results.

GUIDING CONCEPTS FOR THE THEMATIC LITERATURE REVIEW

There are multiple reasons for investigating awareness. A primary one is the concern for public health. Public greenspace lands and other areas generally referred to as parks have long been associated with improved public health and well-being (Schultz, et al., 2016). Originally implemented as policy elements to promote the health, safety, and welfare of residents of industrializing cities with deteriorating urban conditions in the 1800s (Crompton, 2010; Stanley, Stark, Johnston, & Smith, 2012), parks remain important components of public health today. While many of the unsafe and unsanitary conditions of cities from the past have been mitigated, modern lifestyles associated with urban living have brought on new ills related to stress, poor diets, and a lack of physical activity. The result has been an increase in obesity, cardio vascular disease, Type 2 diabetes, and other chronic diseases. Recent research supports the assertion that exposure to parks can reduce the incidence and effects of illnesses. It is important that people are aware of the parks and recreation opportunities available to them. This review of the literature was intended to get a sense of what has been published on awareness and proximity as related to park and recreation (P&R), and the role these aspects play in maximizing the benefits of parks.

Given that parks have been determined to be associated with healthy behaviors and beneficial health outcomes, ensuring that people know they exist, where to find them, and what they can do there, as well as their perception of the quality and other characteristics of the park, are important determinants of whether they will actually use the park. As Lacky & Kaczynski (2009) point out, people cannot make use of neighborhood resources for physical activity if they are not aware of them. Kirtland, et al. (2003) found that those who meet physical activity guidelines, or who are reporting at least some physical activity, had greater agreement with access to recreation – higher awareness.

Bailey, et al. (2014) remarked that how one perceives their environment compared with what is observable by others can have different impacts on health and related behaviors and outcomes. They called for improved measurement, "to disentangle the complex relationships between how one perceives and responds to their environment," and how these relationships operate in varying geographic contexts. They point out that previous studies have found moderate to poor agreement between perceived and objectively collected data.

They conclude that increasing awareness may prove more effective in some circumstances than adding to or modifying the physical environment as an intervention aimed at improving health. They also posit that the converse – modifying surroundings regardless of how they are perceived by people – may initiate behavior changes as well. Bailey et al. posit that modifying the built environment is a utilitarian intervention with broad population reach, but that the effectiveness of modifications to some extent hinges on the residents' perceptions, that is, "their awareness of opportunities and barriers for certain behaviors" (p 217).

LITERATURE REVIEW METHODOLOGY

The focus of this literature review was primarily on local community parks rather than national parks and wilderness areas. This literature review was not intended as a comprehensive systematic survey of all available literature on awareness, but rather as an exploratory and thematic look at what exists in peer-reviewed publications. The review began with a search on the NCSU Summons site for the terms "awareness of parks." This yielded 300,830 results; however, a review of the first 100 results showed that relatively few were related to the topic of interest. The search terms were refined to "awareness of local parks," which yielded 153,538 results. A review of the first 100 showed similar limitations. A closer look at what is meant by "awareness" reveals that it refers to the relationship between what one perceives to exist and what can be objectively measured to exist. This suggests interest in the perceptions that people have of their local environment and how these compare with objective measures of that environment. A search for "accuracy of perceived versus objectively measured local environments" returned 879 results, with somewhat better relevance. Many of these were related to health, though in ways that have little to do with parks and the outdoors and more to do with other environments such as workplaces and offices. Nonetheless, a number of the first 100 returns showed promising relevance to the topic of concern here. Those articles were reviewed, and references cited in them were gone over to trace a path through the literature. Eventually, the references within the articles being reviewed tended to refer back to ones that had already been reviewed, indicating that a level of saturation had been reached. This suggests that, while not comprehensive, the literature review presented here identifies the major themes and concepts related to the subject of awareness and parks.

OVERVIEW OF KEY IDENTIFIED THEMES

A concern for the level of awareness that people have for parks first appears, though in a limited way, in the literature several decades ago, when the need arose for park agencies to justify their value in order to compete for resources among other services normally provided by local governments (Gold, 1977). A few articles published at that time seem to have served the need and became standard references that were cited over the next couple of decades, during a gap in the literature on awareness. A 1984 study by Spotts & Stynes investigated park familiarity levels in relation to variables including the distances between residences and parks, personal characteristics of the individual, and park characteristics. This seminal study continues to be cited in today's literature, indicating that few other studies like it have been conducted in the intervening years, or perhaps that other studies have not added new information to that which they provided.

Things started to change in the first decade of the 21st century, when concern for the obesity epidemic arose and funding for research became available to look at parks and other elements of the built environment as possible ways to address it. Initially, researchers compared perceptions of the environment with self-reported health conditions. As GIS and other technology became available, researchers began to look at objective measures of the environment as well as perceived measures of it,

and to compare these to one another. It became apparent that there was often much disagreement between them, but that both are important correlates of individual behaviors and decisions that people make that affect their health and well-being.

Much of the current literature focuses on the relationship between perceived access to parks and various health outcomes, particularly physical activity, but also the potential for mental health and social well-being. The research indicates that a number of variables affect the reliability and accuracy of perceptions when compared to objective measurements. Variables related to the individual, such as age, education level, income, and other variables can affect the outcomes, as can characteristics and quality of the environment.

Figure 1: Timeline of Related Research Emphasis
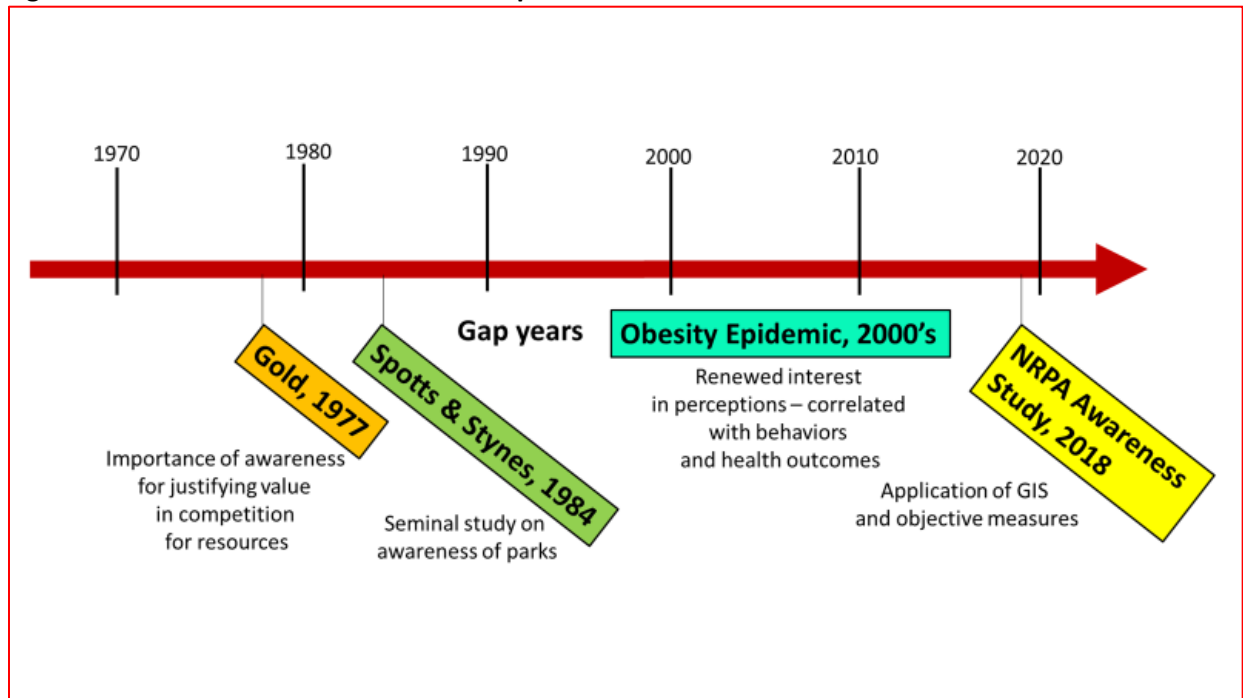
USE OF PARKS

In looking for ways to address public health through parks, a primary focus has been on the relationship between the availability of parks – whether perceived or objective – and physical activity. Lackey & Kaczynski (2007) found that participants who were able to achieve a match between perceived and actual proximity to their closest park were more than one and a half times more likely to engage in at least some park-based physical activity. Hoehner, et al. (2005) reported that people who perceived that they had many places to exercise in their community and who reported more facilities within a 5-minute walk were more likely to meet recommendations for physical activity. Likewise, people who live closer to a park or trail use the facility more frequently than people who live farther away. However, they found no direct association between the presence of recreational facilities and meeting recommended levels for physical activity, suggesting that individual-level factors and other environmental supports besides proximity must be present before a person engages in recommended levels of activity.

The findings of Mowen et al. (2007) confirmed a significant positive relationship between perceived park proximity and park visitation frequency. However, they also found that perceived park proximity was not significantly related to park visitation duration. They reported that perceived park proximity was more robust than objective park proximity in relation to self-reported park visitation frequency and daily physical activity. Perceived park proximity had significant relationships with reported park visitation frequency, daily physical activity, and perceived health. They suggest that while objective distance measures are important, individual awareness and perceptions of park environments may be important prerequisites to physical activity.

> While objective distance measures are important, individual **awareness and perceptions** of park environments may be more important (Mowen et al., 2007)

FACTORS AFFECTING AWARENESS

In general, research indicates that discordance between an individual's perception of the environment around them and objective measures of it is common (Spotts & Stynes, 1984). Researchers have found a complex set of variables that may explain this phenomenon. Studies related to awareness of parks tend to be focused on the ability of an individual to accurately identify the presence or absence of parks within proximity to their home, estimate the quantity of parks available to them, and describe the distance from home to a park. A few studies have begun to look at other perceptions, such as the quality of a park and the features within it, or the safety of the park and its environs.
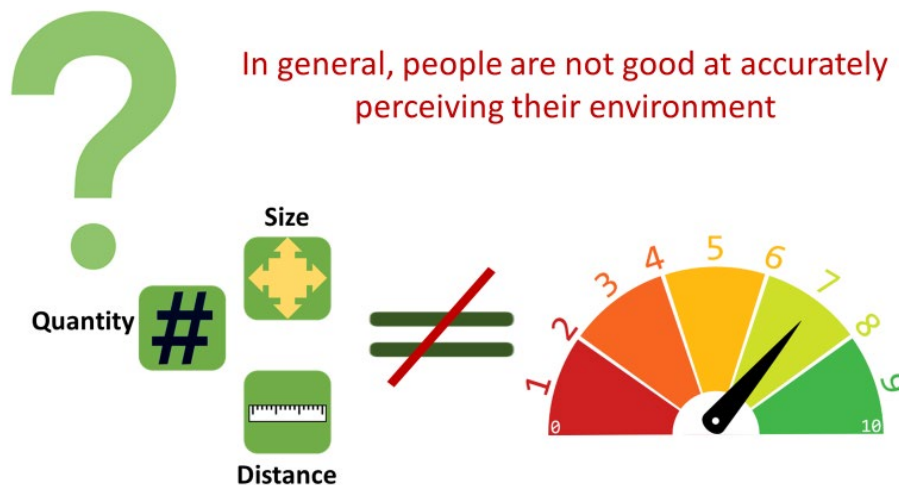
PRESENCE/ABSENCE AND PROXIMITY

Lackey & Kaczynski (2009) found that only 18 percent of participants matched perceived proximity with measured proximity to the closest park. They also found that nearly all participants perceived the closest park to be more than 750 meters from home, when objective measurements showed that almost every participant had at least one park within 750 meters from home. Lackey & Kaczynski cite other studies where there were mismatches between perceived and measured proximity and concluded that overall, the sources of disagreement have varied, but there is generally poor correspondence between perceived and objective proximity to parks.

Bailey et al. (2014) found that discordance was almost always the result of reported presence of a destination by a participant when in fact the destination was not observed in an objective audit. In a study of 12 different types of nonresidential destinations, parks, trails, and fitness centers were the most discordant destinations (in order from most to least discordant) while golf courses, pharmacies, and pools were the least discordant (in order of most to least).

Scott, et al. (2007) found that the percentage of girls reporting easy access to facilities was highest when the nearest objectively measured facility was located within a half mile of home. With increasing distance, accuracy of perception declined. The number of facilities within the first half mile strongly predicted whether the girls would perceive them to be easily accessible. For most types of facilities, it was both the number and proximity of objectively measured facilities and not the simple presence or absence of facilities that predicted the girls' perceptions. However, they point out that easy access may mean different things to different people.

The ability of an individual to perceive the proximity and presence/absence of parks may be related to both. Kirtland et al. (2003) hypothesized that one explanation for low levels of agreement between perceived and objective measurements of physical environments could be people's inability to accurately perceive distances. They also say it is possible that shorter distances may enhance perception of the presence of environmental supports in the neighborhood or community.

The literature indicates

People are particularly poor at perceiving whether they have a park nearby
(Bailey et al. - 2014)

QUANTITY AND QUALITY
The presence of more parks and more features is associated with a better match between perceptions and objective measures (Bailey et al., 2017; Lackey and Kaczynski, 2009; Lee et al., 2014). Bailey et al. noted, however, that the "risk" for discordance – the accuracy with which individuals can identify the number of destinations – inherently increases with density of destinations within the determined buffer. Certain features, such as playgrounds and wooded areas, produce better matches than other features. As such, the type of features matter, and parks that are larger or have more features may produce a higher level of awareness in people (Lackey & Kaczynski, 2007).

Lackey and Kaczynski also suggest that perceived distances and the ability to predict distances may be influenced by the attractiveness of the end destination. Thus, people may be unaware of nearby parks that are smaller and contain fewer features than they are of parks that are larger or possess unique features. But they noted that this had not been empirically studied at the time of their writing (2007). Spotts & Stynes (1984) found that new or less-developed parks were less widely known than older or more heavily developed parks. They also found that size of the park and the percentage of the park's acreage in active uses or passive uses were less powerful predictors of familiarity with the park.

Lee et al. (2014) noted that the mere presence or absence of recreational facilities may not be sufficient to support physical activity, and that other features of such facilities may also determine facility use. This suggests that awareness of the features and characteristics of parks is important in addition to simply knowing whether or not a park exists.

CHARACTERISTICS OF THE INDIVIDUAL

While awareness can be affected by the quantity, quality, and proximity of parks within the environment, characteristics of the individual also affect awareness. In fact, individual and social determinants may outweigh environmental ones in relation to visitation of park and recreation facilities (Mowen et al., 2007). People perceive their environments based on various types of lifestyle behaviors, including individual transportation routes, personal beliefs, and cultural values, and judge the environment according to their own desires and expectations (Kirtland et al., 2003). Age is a key variable in awareness, with older people generally less aware than younger ones (Bailey et al., 2014; Spotts & Stynes, 1984; Lackey & Kaczynski, 2007; Scott, et al., 2007). However, older people may be more aware of the presence of a particular park but less aware of specific features in parks than younger ones, particularly if they have lived in the neighborhood longer (Bailey, et al., 2014; Spotts & Stynes, 1984; Lackey & Kaczynski, 2007). Scott, et al. (2007) noted that most research to date had focused on perceptions of adults, yet obesity among children and youth is also a significant issue, and perception of park access may be an important consideration in mitigating the issue.

Other factors that affect awareness include income, education level, marital status, and the presence of children under the age of 12 in the home (Bailey et al., 2014; Lackey & Kaczynski, 2007). Lackey & Kaczynski (2007) found that matches between perceived proximity to a park were significantly more likely for participants with at least a college education and that persons living in a household with a child under 12 were almost twice as likely to correctly match perceived and actual proximity. The physical fitness of an individual may also be associated with awareness of parks (Bailey et al., 2014). Lackey & Kaczynski (2007) found that overweight or obese individuals were significantly less likely to achieve a match than individuals who owned a membership to a fitness facility. Scott et al., (2007) noted that people who play organized sports or take recreational classes may be more likely to notice facilities that provide such opportunities.

SAFETY AND PERCEPTIONS OF SAFETY

An individual's perceptions of crime and other aspects of their environment may also be important. Lackey and Kaczynski (2007) found that perceptions of neighborhood safety were unrelated to achieving a match on proximity. However, they found that participants who reported high neighborhood cohesion had better matches on proximity. Oddly, Lackey and Kaczynski found that people who perceived their neighborhood as high in aesthetics had significantly lower odds of achieving a match on proximity. Scott et al. (2007) point out that women, children, and long-term residents of a place may perceive their neighborhood as a smaller place than others, as might foreign-born residents, individuals with lower

levels of education, lower income residents, and those with fewer family and friends in the immediate area. They noted that someone who walks or uses public transportation may be limited to a smaller geographic area, but may have a better knowledge of what is there.

The perception that a community or local environment may be unsafe is a factor that can lead to a reduction in use over time. This can be either through perceptions or realities of crime or other unsanctioned behaviors, or related to traffic and transportation. While users of parks tend to perceive them as safe and nonusers perceive them as unsafe, people who are insufficiently active may be better at achieving higher matches for perceived vs. objective safety and crime in recreation facilities. It is uncertain whether an ability to accurately predict safety prevents individuals from using facilities that would promote more physical activity or if use of facilities promotes a false impression of their safety (Kirtland et al., 2003). For example, one barrier to activity participation may be the safety or perception of safety from parent or youth around how youth get to an activity location (Friedan & Dietz, 2010). Research has shown that unsupervised out-of-school time is associated with various negative youth outcomes. Juvenile crime rates and other non-sanctioned behaviors occur most frequently between 3 and 6 p.m. in the afternoon, just after students are released from school and when they have nothing to do. (Kremer, Maynard, Polanin, Vaughn, & Sarteschi, 2014). The National Institute of Out of School Time (NIOST) provides many studies which suggest that during this time period, youth are most likely to become victims of crime; engage in destructive behaviors (graffiti, vandalism); be in or cause car accidents; and engage in risky behaviors, such as smoking, alcohol abuse, drugs, and sexual intercourse (https://www.niost.org/).

There is evidence to suggest that community-based programs, such as those often offered by P&R and other providers, can provide alternative positive activities that can help improve safety and health (Godbey & Mowen, 2010; Kremer et al., 2014). Fear of crime or *perception of safety* has been shown to be related to lower physical activity and outdoor recreation (Shinew, Stodolska, Roman, & Yahner, 2013). Increasing police and adult presence in parks and other recreation and trails areas, along with positive messaging and creation of a safe culture, has been recommended. Moreover, efforts must be made to reduce any gang problems. If perceptions of unsafe conditions, or actual crime is present, there are specific tactics and strategies that can be implemented to address the issues. Working closely with public safety officials can be key to establishing strong positive community environment (Newman, Fox, Flynn, & Christeson, 2000). *Crime Prevention Through Environmental Design (CPTED)* can also help. CPTED is defined as a multi-disciplinary approach for reducing crime through urban and environmental design and the management and use of built environments (www.cpted.net). CPTED strategies aim to help activate spaces through positive programming, reduce victimization, deter offender decisions that precede criminal acts, and build a sense of community among inhabitants so they can gain territorial control of areas and reduce opportunities for crime and fear of crime. CPTED is pronounced "sep-ted," and it is known around the world as Designing Out Crime, defensible space, and other similar terms.

URBAN VS. RURAL ENVIRONMENTS

One aspect of awareness that has not been fully explored in the literature is the difference between urban and rural environments. Most studies on awareness of parks have focused on urban situations, and few have explored the role of suburban or rural communities in awareness (Bailey et al., 2014). Respondents from a large metro area may not view their environment in the same way as respondents in other areas, such as smaller metros, suburbs, and rural areas (Kirtland et al. 2003). Scott et al. (2007) noted that people who live in metropolitan areas define their neighborhoods as smaller than those who live in rural areas. Bailey et al. (2014) found that agreement between perceived and objective presence of various nonresidential destinations was consistently higher for households located in rural areas, and

this discrepancy was particularly clear for parks, with 66 percent agreement in rural areas vs. 30 percent in suburban areas and 34 percent in urban areas. Further exploration of these differences may prove meaningful to the provision of parks and recreation services in all areas.

GOING FORWARD

This review of the literature suggests that awareness of parks is an important part of ensuring that they provide the maximum benefits to people. While this thematic review does not claim to be a comprehensive accounting of all of the literature available related to awareness of parks, certain conclusions can be drawn. Foremost is that the study of awareness, how it relates to support for parks, the use of parks, and the positive and negative effects of parks on individuals and society, are relatively new areas of study, and there are many gaps. The focus of the literature is primarily limited to comparisons of perceived and objectively measured presence and proximity of parks. Further investigations into awareness of the features, quality, safety, and other characteristics of parks, and how these relate to multiple dimensions of health such as mental and social wellbeing, are warranted to fill the gaps.

One important starting point is to address in future research is the ambiguity in the term "park" itself. For example, Lackey & Kaczynski (2007) point out that when conducting their study, they did not know what participants defined to be a park when estimating the distance to one from their home. They suggest that future studies use qualitative or other methods to investigate how residents perceive and define parks and what factors limit or enhance their awareness of parks as neighborhood features. Other refinements to the methods by which awareness is studied and measured are needed as well. Kirtland et al. (2003) suggest that since perception is more accurate closer to one's home, researchers should consider using even shorter distances, such as the street or block, when assessing local environmental supports for physical activity. Scott et al., (2007) point out that studies have focused on adults and recommend that because the number and proximity of objectively measured facilities are most directly related to adolescent girls perceiving them, future studies should incorporate both dimensions in their analyses.

AGGREGATED COMMUNITY SURVEYING

Working on behalf of GP RED, the authors explored a variety of data sources to examine the driving influences on recreation participation associated with physical proximity and awareness of facilities. RRC Associates staff focused on examining primary data that has been collected by the firm through statistically-valid parks and recreation community surveys, usually obtained as a part of needs assessments, often in collaboration with GreenPlay. RRC consolidated data to permit recreation participation and awareness to be analyzed using representative survey responses collected from a wide variety of towns, cities, special districts, and counties. Between 2005 and May 2018, RRC and GreenPlay had jointly conducted approximately 115 mail or email-based survey programs in communities around the U.S. with approximately 98,000 surveys returned. RRC tasks included data consolidation, data cleaning; preliminary data analysis using various statistical techniques; and aggregated reporting, graphing, and analysis of results.

This following summary report provides an overview of the primary data collection and interpretation process and outlines findings. Further, it identifies topical areas where the data may be applied to hypothesis testing and exploration of insights.

The data consolidation process began by aggregating survey data from various studies into a master data file, followed by a process of sorting and cleaning the dataset. The size of the master data file made working with the data challenging, so a main focus was to eliminate variables that asked respondents to provide open-ended answers. By removing the open-ended comments from the master data set, responses from 119 surveys were consolidated, decreasing the size of the master data file by about 9 million lines of text/numbers.

The team was then able to examine each survey question, determine which questions were relatively standard, and to organize results in data *dictionaries* using Tableau and Excel. The purpose of the dictionary approach was to assign a standard name to all variables that represented relevant question themes. For example, initially there were 10 different variables that represented age of respondent. The dictionary assigned all 10 of those variables to one common name, *age*, in the master data file.

In total, the study is based on 119 community-wide random surveys. Of these, 116 were sufficiently comparable to be merged into the final Tableau workbook. In the end, the team identified 25 different variables for analysis. For example, for *age*, the consolidation process yielded data from 58 potential community surveys that contained age variables. Other primary variable examples identified related to importance from the literature review were *income, household makeup (including marital status)*, *race*, and the *geographic location* of the community in which the survey was conducted. These variables emerged as of limited interest on their own, but when used to segment, other variables, the measures provided additional insight. An example of the results from the merged age question from 58 communities is provided. The mean (average) reported ages ranged from 41 in the Washington Park neighborhood of Denver, Colorado, to 63, in Bella Vista Village, Arkansas (a recreational community run by a property owners association).

Figure 2: Average Age of Survey Respondents

Figure 2: Average Age of Survey Respondents showing average age by project, ranging from Washington Park (41.10) to Bella Vista, AR (63.06). Selected values: Galesburg, IL (Ron Vine) 60.32, Palm Springs, CA 59.66, Arlington Heights Park Dist. 57.80, Nederland, CO 57.50, Keene, NH 56.03, Aurora, CO (2012) 55.08, Woodridge Park District, IL 54.68, Fraser Valley Parks and Rec. 54.49, Ken Caryl Ranch, CO (2012) 54.34, Pagosa Springs, CO 53.83, Rio Blanco County, CO 53.32, Eagle Vail, CO 52.50, Byers, Colorado 52.40, Iowa West Foundation 52.22, State of New Mexico - State 52.06, San Diego County, CA 51.31, Monte Vista, CO 51.22, Strasburg, CO 51.06, Charleston County, SC 50.89, Norman, OK 50.13, Longmont/Windsor YMCA 49.84, Erie, CO 2014 49.59, Grand Junction, CO 49.28, Jefferson County Open Space 48.61, Hayden, CO 48.17, Sherwood, OR 47.54, Denver, CO 46.89, Ft. Collins, CO 46.07, Carbondale, CO 45.22, Chautauqua 42.32, Washington Park 41.10. Source: RRC Associates

A full summary of the survey aggregation results is available by emailing *TeresaP@GPRED.org*. The following sections provide highlights of key results identified following statistical analysis. From the investigation, three primary questions emerged that provided significant data to inform this research topic.

Three Primary Questions Around Awareness Analyzed
1) What are the reasons for non-use of Parks and Recreation?
2) How do they currently find out about Parks and Recreation in their community?
3) How do they prefer to receive information on programs and facilities?

One of the primary questions analyzed, with data available from 37 communities (34,429 responses), was why respondents do not use the P&R offerings in their community. As expected, **time** limitation was the most frequently identified answer (35%); however, the perception that they are **not aware** of the programs or facilities offered was the next most frequently identified (29%) reason. Lack of facilities or amenities or **price** were only reported by 14 percent of the respondents.

Figure 3: Reasons for Non-Use of Parks and Recreation Offerings

If you or anyone else in your household DOES NOT use parks or recreation offerings, why not?

Overall 34,429 Responses (37 Communities)

Reason	Percent
No time or other personal reasons	35%
Not aware of the programs or facilities offered	29%
Lack of facilities and amenities	14%
Price or user fees	14%
Hours of operation	13%
Safety and security	10%
Overall condition/maintenance	9%
Dont have the programs or facilities I want	9%
Location of facilities not convenient	6%
Lack of public transportation	
Need more restrooms	
Inadequate ADA accessability	
Customer service	
Poor condition of outdoor facilities	
Lack of parking	
Poor condition of indoor facilities	
Other	16%

Notable Open-End Others:
-"Location- Too Far"
-"Age- Too Old"

However, this question yielded significant differences in answers for respondents based on segmented analysis using variables that describe age, race, income, and marital status.

Figure 4: Significant Reasons by Age

Age 21,572 Responses (28 Communities)
Under 45 | 45 - 64 | 65 or Older

Reason	Under 45	45-64	65 or Older
Not aware of the programs or facilities offered	36%	28%	22%
No time or other personal reasons	31%	39%	43%
Lack of facilities and amenities	18%	14%	9%
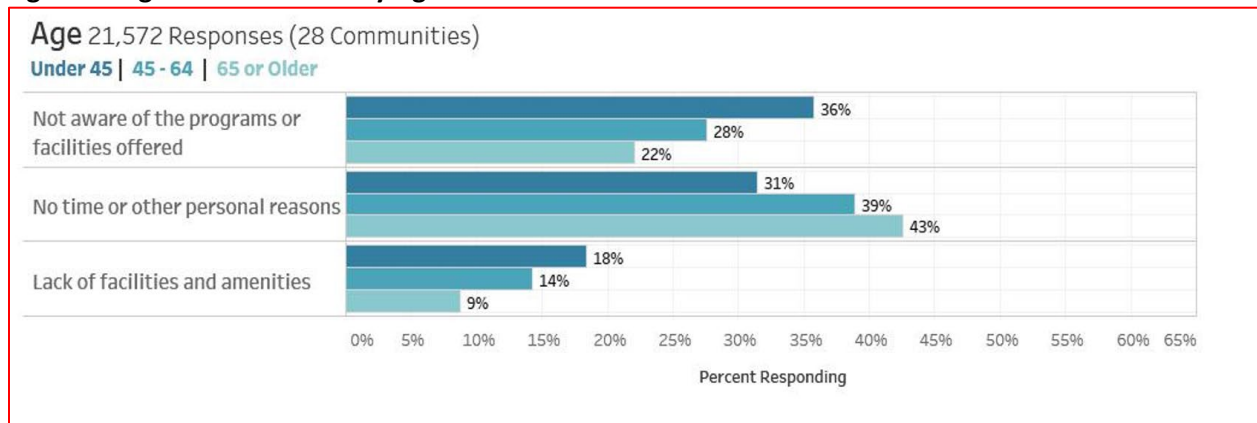
Figure 5: Significant Reasons by Race

Race 18,462 Responses (24 Communities)
Asian, Asian Indian or Pacific Islander | White | Black or African American | Hispanic/Latino

Not aware of the programs or facilities offered	42% / 31% / 22% / 39%
Safety and security	11% / 10% / 23% / 26%

Percent Responding
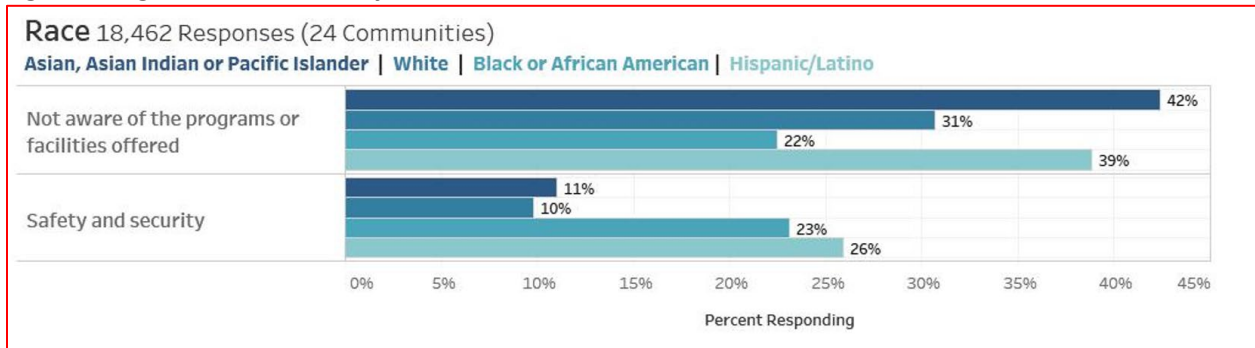
Figure 6: Significant Reasons by Income

Income 20,714 Responses (33 Communities)
Less than $50,000 | $50,000-99,000 | $100,000-199,000 | $200,000 or more

Price or user fees	21% / 15% / 11% / 7%

Percent Responding

Figure 7: Significant Reasons by Family Status

Marital Status 13,183 Responses (26 Communities)
Yes, has children | No children/Adult children no longer at home

Lack of facilities and amenities	18% / 12%

Percent Responding
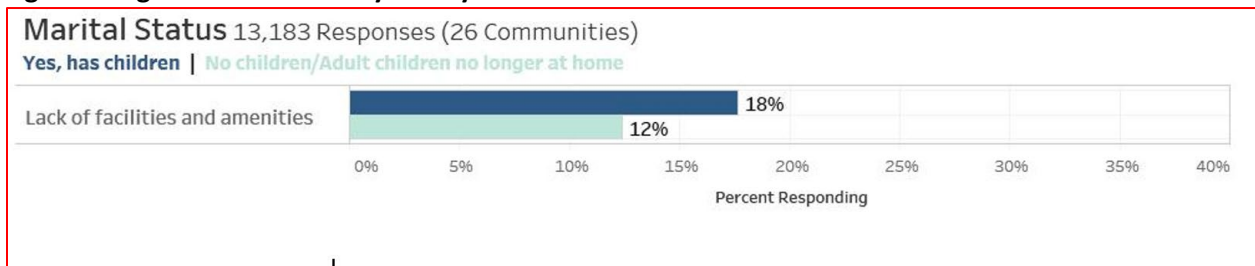
HOW RESPONDENTS FIND OUT ABOUT OFFERINGS

A second question analyzed probed differences in how respondents typically find out about facilities and programs in their communities. Over half cited local media (53%), with internet/website coming in second (37%), and agency activity guides cited as third (33%). Note, these questions were asked from 2005 to 2018, so comparisons can be now tracked to compare changes in sources over time.
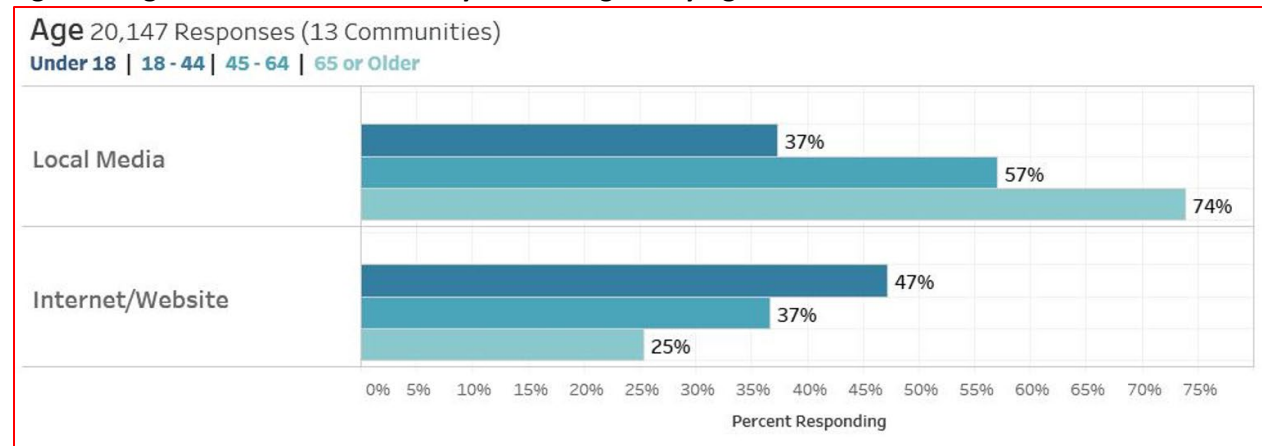
Figure 8: How Respondents Typically Find Out

How do you currently receive information on recreation programs and facilities?

Overall 25,296 Responses (17 Communities)

Source	Percent
Local Media	53%
Internet/Website	37%
Parks and Recreation Activity Guide	33%
Word of mouth	29%
Town Newsletter	26%
At the rec. facility/program location	22%
Email	22%
Posters/Flyers	14%
Social Networks	7%
School Flyer	6%
Other	14%

Local Media: Local TV Stations, Radio, Newspaper, Magazines, etc.

For age, older respondents tended to get most information from local media (74%), whereas those under 44 tended to use the internet (47%).

Figure 9: Significant Difference in Ways of Finding out by Age

Age 20,147 Responses (13 Communities)
Under 18 | 18 - 44 | 45 - 64 | 65 or Older

Local Media	37% / 57% / 74%
Internet/Website	47% / 37% / 25%

For race and income, there were significant differences between the sources used, including local media and agency activity guides.

Figure 10: Significant Difference in Ways of Finding Out by Race
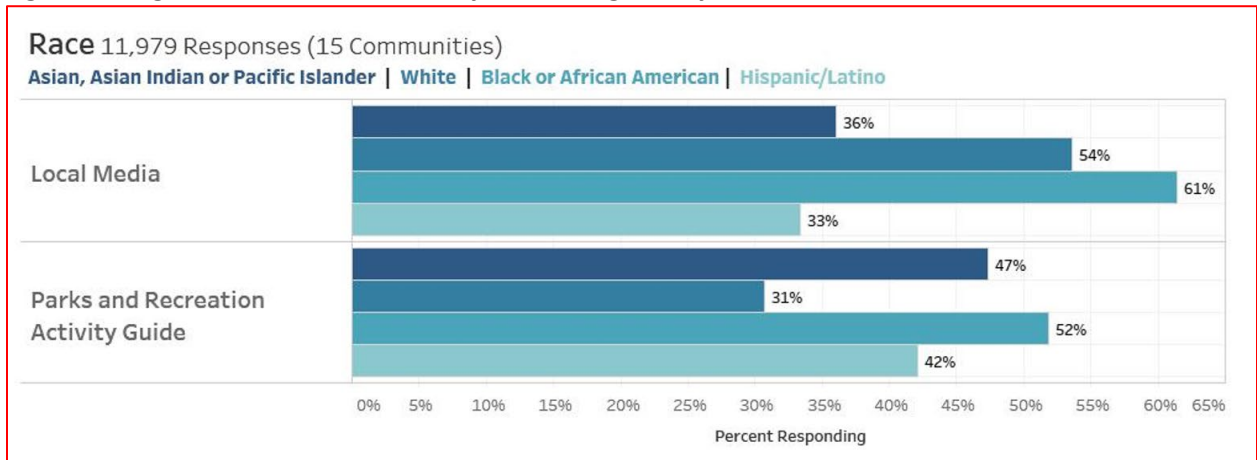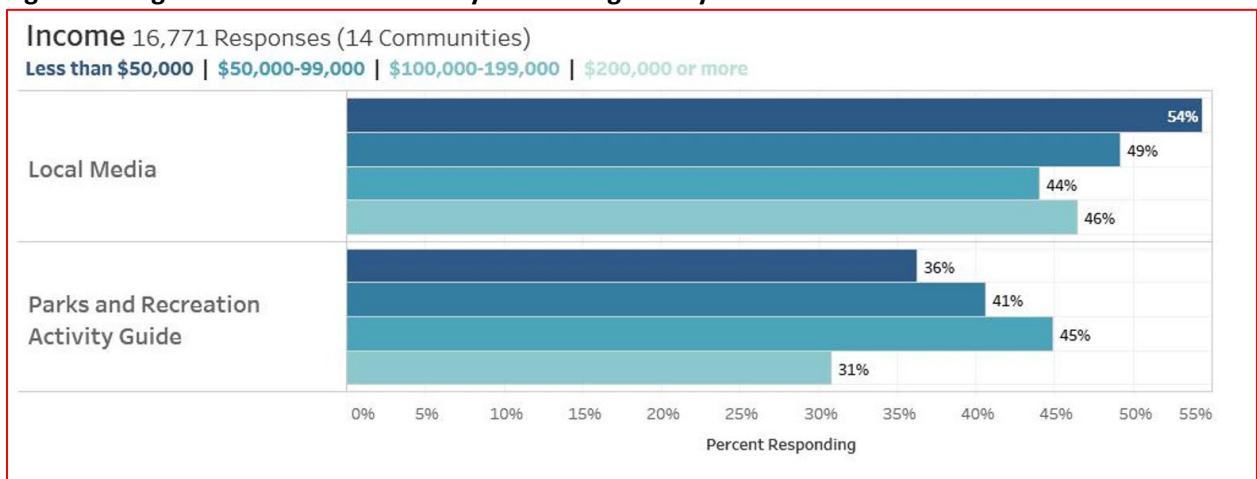

Figure 11: Significant Difference in Ways of Finding Out by Income

Family status produced significant differences, with 59 percent of respondents reporting to be families with no children at home using the local media, and 47 percent of those having children primarily using the internet for their information. These results are also likely correlated with the age variable.

Figure 12: Significant Difference in Ways of Finding Out by Family Status
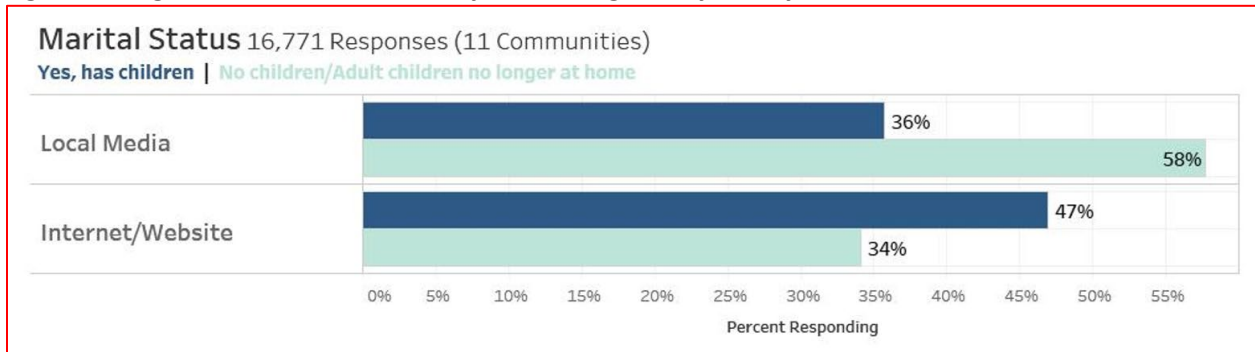
HOW THEY WOULD PREFER TO FIND OUT ABOUT OFFERINGS

The third primary question explored respondents stated preferences for how agencies should reach them with information. A strong majority (54%) indicated a preference for being emailed, with the internet as second (49%) and local media as third (39%). Note that in the previous second question, how they were actually being reached, respondents indicated that email was the 6th most frequent method, with only 22 percent indicating that was a current method. Internet/website was second for both.

Figure 13: How Respondents Would Prefer to Find Out
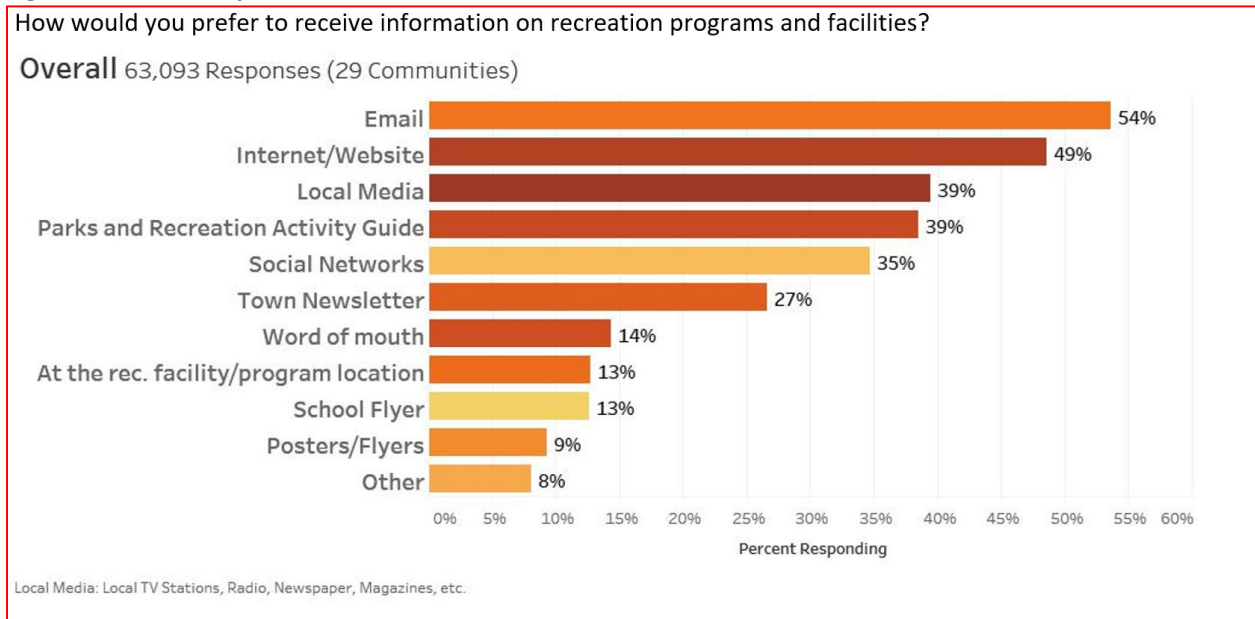
Again, age, race, income, and family status all showed significant differences where data was available. Lower income, older, and non-white respondents reported a stronger preference for local media. Those with children at home had a higher preference for email and social media.

Figure 14: Significant Differences in How They Would Prefer to Find Out by Age
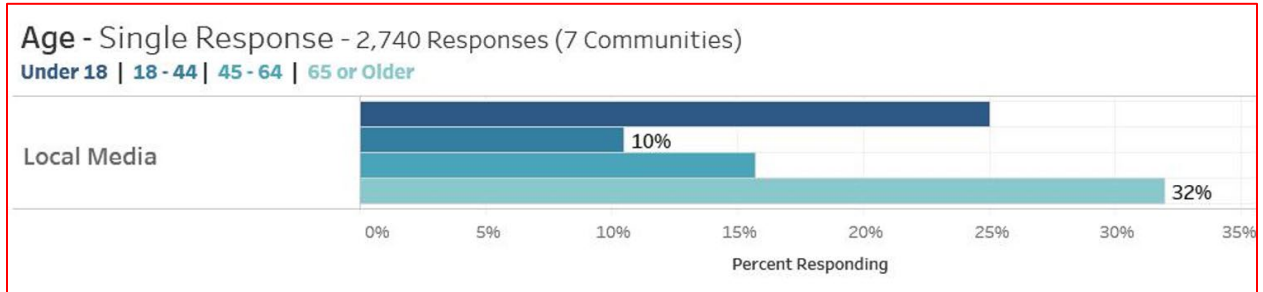

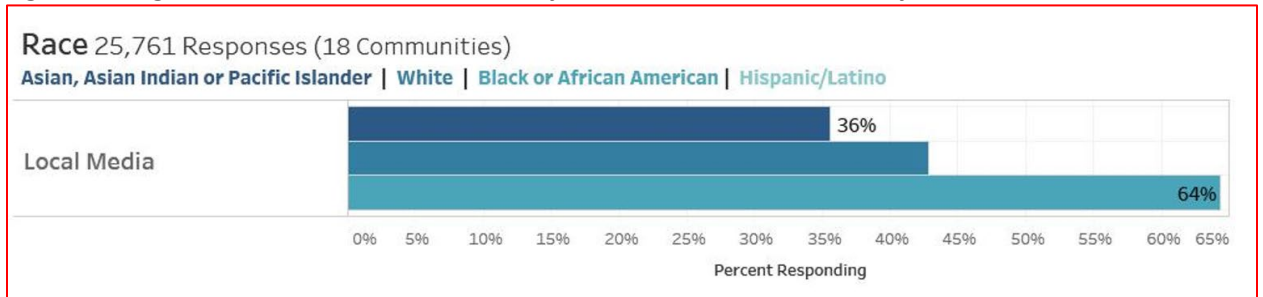**Figure 15: Significant Differences in How They Would Prefer to Find Out by Race**

Figure 16: Significant Differences in How They Would Prefer to Find Out by Income
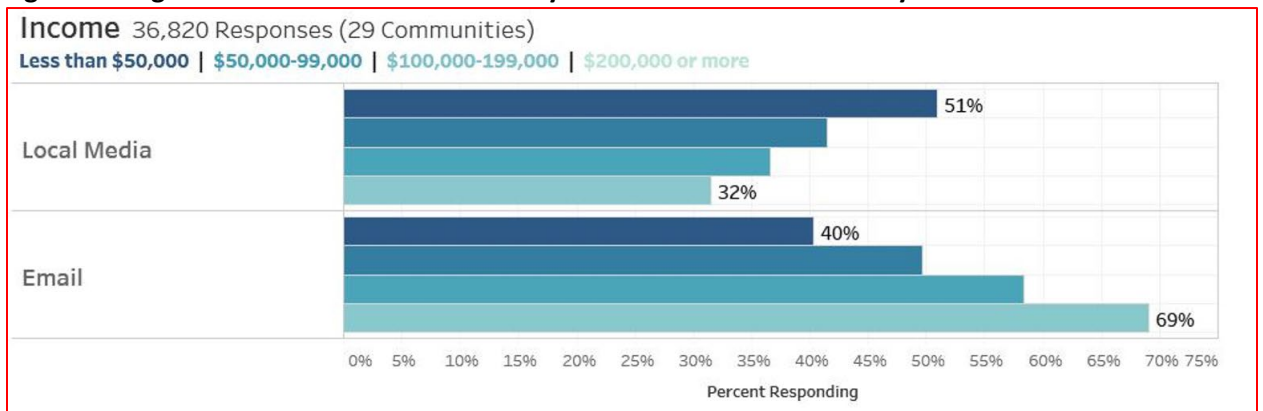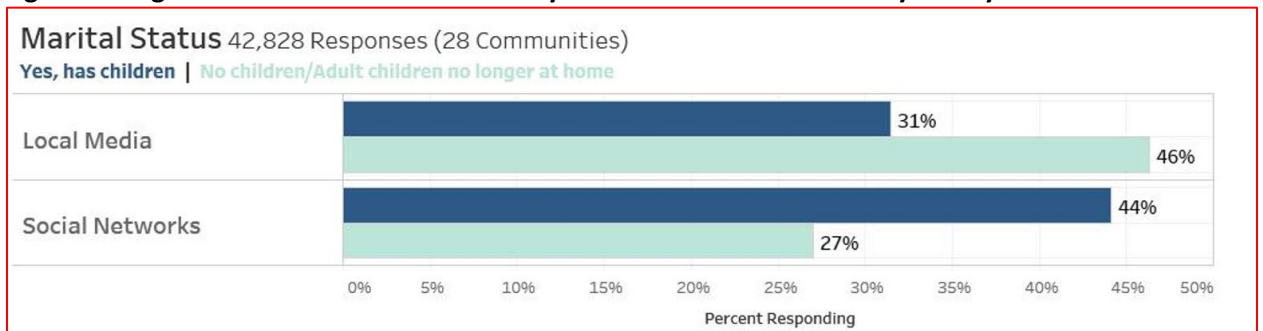

Figure 17: Significant Differences in How They Would Prefer to Find Out by Family Status

SUMMARY OF KEY RESULTS FROM THE AGGREGATED SURVEY ANALYSIS

Younger respondents indicated that they were *not aware* of the programs/facilities offered more frequently than the older respondents. Younger respondents identified *a lack of facilities provided* more frequently than older respondents, for whom facilities availability was not as much of a concern. Respondents in the age group 18-44 were more likely to be raising young children and want more facilities and amenities for their children to use.

The 65 and older age group represented the largest number of respondents who felt they have *no time* to participate. Closer examination of responses indicated that senior respondents frequently wrote "*Too Old to Participate*" in open-ended comment sections for this question. While many of these respondents are represented under the "*No time* or other personal reasons"' responses, a sizable segment marked "Other" and wrote "Too old" in the comment section. Consequently, it is fair to assume an even higher percentage of seniors fell under "No time or other personal reasons" for this question. This indicates an opportunity for older adult programming and facilities that appear to be more relevant to this demographic. Older adults may be less likely to vote for agency tax increases or expansions for a number of reasons, but especially if it does not appear relevant to them. Additionally, the *hours of operation* were reason for non-use for the younger age group; however, this did not appear to be of much concern for older respondents.

Black and Hispanic respondents did not indicate *time* as a barrier as frequently as other racial segments observed. White respondents are the least concerned respondents with *prices* and user fees associated with parks use. White respondents are the only segment to indicate that the *location* of facilities is adequate or not of much concern. Every other race/ethnicity group feels as though the locations are inconvenient, with similar significance. White and Asian responses did not highlight an issue with *safety*, whereas Black and Hispanic responses show safety as a larger reason for non-use. The *condition* of offerings as a reason for non-use also showed interesting results. Black and Hispanic respondents do not participate in recreation offerings because of the overall condition more frequently than Asian and White respondents. These responses suggest possible differences in condition of neighborhoods in terms of safety, upkeep, and proximity to public amenities. Respondents with no children in the home responded heavily to having no time, possibly suggesting that people with children are making time for park use, whereas those with no children or empty nester households are not making time, or are not interested. Households with children indicate a need for *more flexible hours* of operation. People with children in the home responded more frequently to a *lack of facilities* as a barrier for use.

Lower income groups indicated that *prices and user fees* were a barrier for recreation participation, and these results were statistically significant at each of the income thresholds that were investigated. As income increased, respondents grew less concerned with the prices and fees associated. Lower income respondents also indicated that *ADA accessibility* was of concern to them, although these differences were not statistically significant.

The aggregated survey data provided unique insights that contribute to the research findings. Perhaps the greatest finding is the confirmation that the variables of age, race, income, and family makeup consistently influenced the findings and significant differences for responses.

Primary limitations were that this analysis was from secondary data that was not specifically designed for this research. The questions were often not completely aligned on each survey, or for the topics at hand. Also, these surveys were self-reported data, and it must be continually acknowledged that even quantified data is based on perception and may not match objective reality in the community.

Going forward, researchers, consultants, and practitioners should align community survey questions to directly address aspects for awareness and proximity analysis variables as identified. It should be noted that every community will be different and demographics may change rapidly. The variables of age, race, income, and household status (marital and whether they have children at home) are significantly correlated with awareness variables. Demographics analysis and random representative community surveying should be completed and tracked for changes over time. These types of community profiles and needs assessments should be current to at least five years, or within three years if the community is changing rapidly.

CASE STUDY AGENCY ANALYSIS

Through review of some of the more sophisticated and detailed P&R agency plans and data available from the authors, some agencies appeared to have enough relevant secondary data already available to delve more deeply into exploration of the potential interplay between proximity of community P&R components and amenities, and the role that awareness may play in their usage. After additional review and discussions, two P&R agencies were approached to ask if they would participate in this research as case study agencies to deepen the analysis. The agencies selected were the P&R agencies providing services for **Montgomery County, Maryland (as part of the Maryland-National Park and Planning Commission)**, and **Cary, North Carolina**. Both agencies agreed to participate, and agency staff were assigned to work with the researchers to provide materials and participate in online video and conference calls to discuss these topics. An initial conference call with both agencies was held to provide a project overview, initial discussion of available data, and initial thoughts. Additional deepening conversations and data review occurred.

While differing in geographic location, size, and demographic make-up, both agencies are accredited through the *Council on Accreditation for Parks and Recreation Agencies (CAPRA)*. Both have a strong commitment to regular needs assessments, master and strategic planning, and have adopted component-based methods (CBM) for inventory and level of service analysis methods that allowed for additional proximity-based geo-spatial analysis.

MONTGOMERY COUNTY, MARYLAND

Montgomery County Parks (through the MNCPPC) and Montgomery County Recreation together serve the most populous county in the state of Maryland, located adjacent to Washington, D.C, with a current population of just over 1 million residents, Montgomery County is a portrait of contrasts. The County has a population of 1,017,859, with the median household per capita income of $99,435, making it one of the wealthiest counties in the United States. The County is racially and ethnically diverse. However, according to the U.S. Census 2011-2015 American Community Survey Five-Year Estimates, 11 percent of Black or African American and 11.6 percent of Hispanic residents live below the federal poverty level.

Figure 18: Racial Diversity of Montgomery County, MD
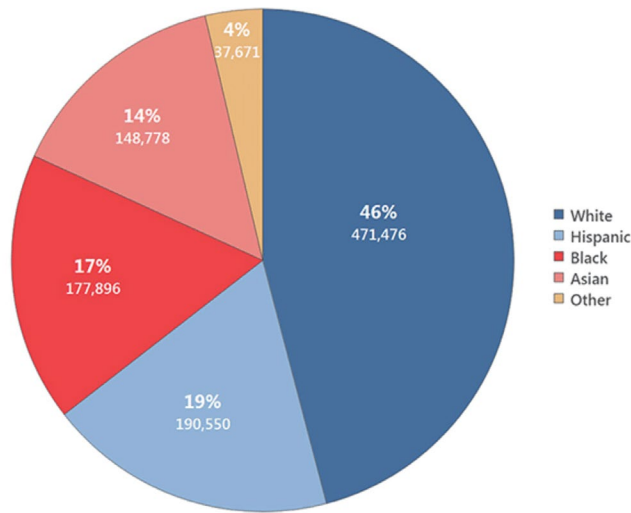
Per U.S. Census 2012 - 2016 American Community Survey 5-Year Estimates

The agency's holdings are diverse and numerous also.

The Montgomery County Park System Includes:

421 parks across 36,895 acres
4 lakes
457 miles of streams
302 tennis courts
303 athletic fields
290 playgrounds
219 basketball courts
238 miles of trails
134 picnic areas
117 historic structures
102 campsites
28 park activity buildings

along with nature centers, miniature trains, indoor tennis facilities, boat rental facilities, indoor ice rinks, event centers, public gardens, and more.

CARY, NORTH CAROLINA, DEPARTMENT OF PARKS, RECREATION, AND CULTURAL RESOURCES
Cary is a thriving community in the heart of the Triangle area near Raleigh, North Carolina. In 2017, Cary had a population of 159,170 (Town of Cary Population and Trends Report) with a median age of 38.8 and a median household income of $94,617. The population of Cary is 65.2 percent White, 15.4 percent Asian, and 8.17 percent Black. Twenty-two percent (22%) of the people in Cary speak a language other than English, and 89.9 percent are U.S. citizens. Nineteen percent (19%) of townspeople were born in another country, and the Asian population (Cary's largest minority) tripled during the 1990s.

Figure 19: Racial Diversity of Cary, NC
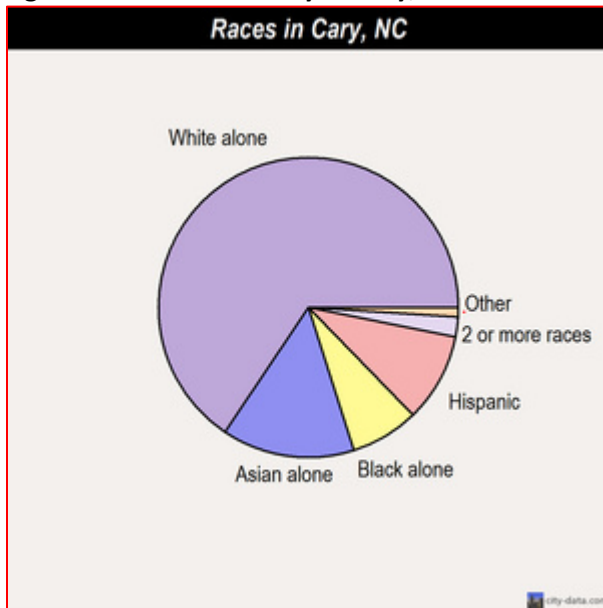
Cary currently has more than 30 public parks and natural areas, a greenway system of more than 70 miles, seven special use facilities, four sports venues, and nine staffed facilities that provide a variety of programs and services for all ages.

Summary of Cary and Montgomery County Key Demographics (DATAUSA, 2018)

Cary, NC   **Montgomery County, MD**

	Cary, NC			Montgomery County, MD	
POPULATION	MEDIAN AGE	MEDIAN HOUSEHOLD INCOME	POPULATION	MEDIAN AGE	MEDIAN HOUSEHOLD INCOME
155,822	38.8	$94,617	1.04M	39	$99,763
3.07% GROWTH		3.32% GROWTH	0.36% GROWTH		0.86% GROWTH
POVERTY RATE	NUMBER OF EMPLOYEES	MEDIAN PROPERTY VALUE	POVERTY RATE	NUMBER OF EMPLOYEES	MEDIAN PROPERTY VALUE
5.92%	82,314	$309,800	6.73%	557,797	$475,300
	3.72% GROWTH	1.18% GROWTH		0.34% GROWTH	0.08% GROWTH
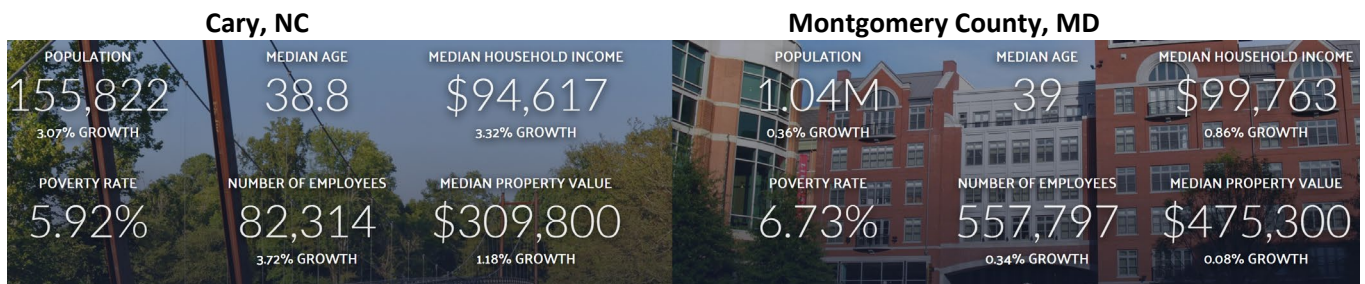
Coupled with basic demographics for basis, the analysis explored reasons, with particular emphasis on: "Not aware of the programs or facilities offered." In the graphed examples (*Figure 20*), data was pulled from both Montgomery County and Cary. There were strong differences between the two agencies. For Montgomery County, a survey conducted for a county-wide needs assessment as part of the 2030 Vision Plan in 2010 indicated similar orders and percentages of responses as to the national aggregation.

Figure 20: Montgomery County MD - Why Not Using Question (2011)
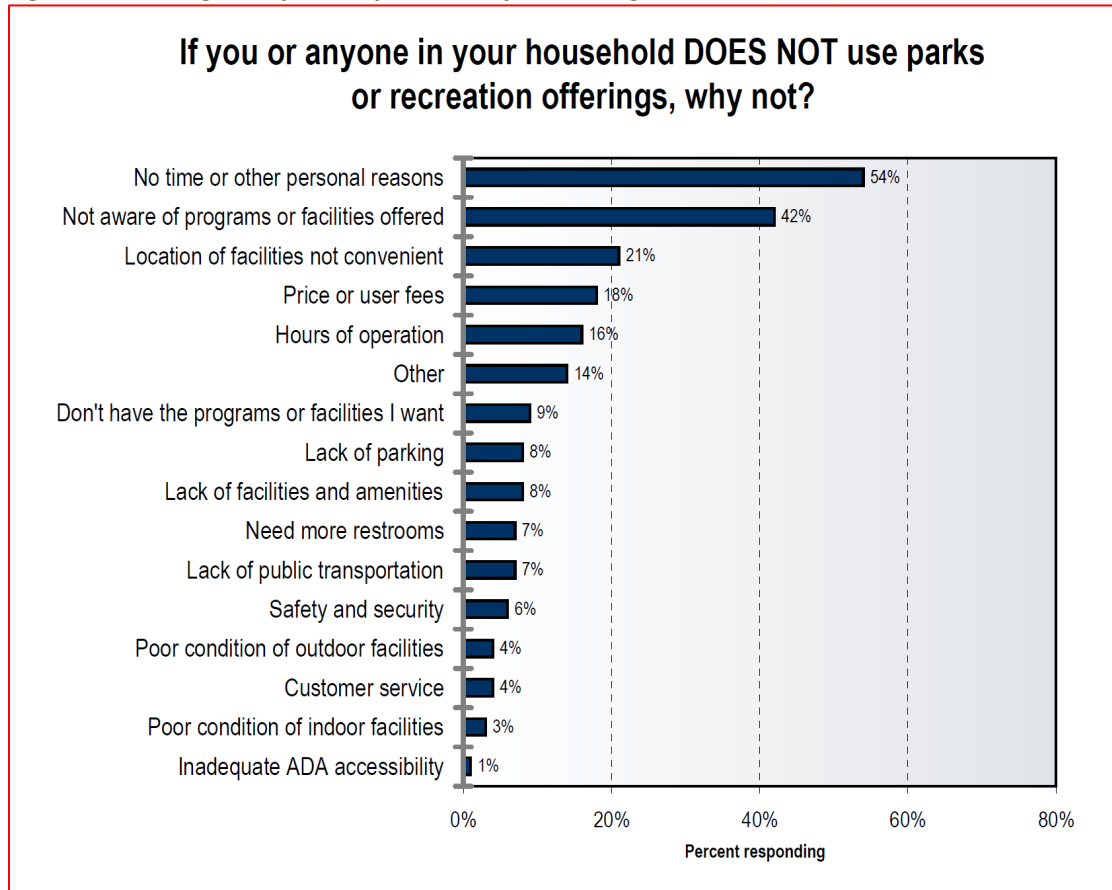
The agency's 2030 Vision plan included goals and objectives related to improving marketing and communications. Staff interviews indicated that marketing staff pay close attention to the various marketing channels, and that they do have a current marketing plan in place, but more recent data was not yet available.

For Cary, the primary reason respondents reported not using the amenities and programs in 2010 was that they were not aware of the programs and facilities offered.

Figure 21: Cary, NC - Why Not Using Question (2010)

Horizontal bar chart titled "Percent Responding"

Category	Percent
Not aware of programs/facilities offered	43%
No time/other personal issues	41%
Too far from my house	22%
Price/user fees	15%
Lack of facilities and amenities	11%
Prefer other recreational providers	10%
Crowding/not enough space	8%
Lack of parking	8%
Don't have the programs I want	7%
Hours of operation	6%
Lack of transportation	5%
Condition of facilities	4%
Safety and security	4%
Customer service/staff knowledge	2%
Overall maintenance	2%
Quality of equipment	1%
Other	8%

Primarily due to this finding, the Cary Parks, Recreation, and Cultural Resources Department implemented objectives to increase marketing and awareness as part of the 2012 Master Plan. The objectives included attention to marketing plans, signage, wayfinding, and communication channels.

AVAILABLE MARKETING AND COMMUNICATIONS PLANNING

Both agencies collect data on program usage, registrations, and retention. Both have committed staff resources to marketing and marketing plans. Cary staff reported that they are moving forward with a unique integrated solution called Marketing Cloud to enhance these abilities. See the description of capabilities of this new tool on the following page.

Figure 22: Unique Example - Cary's Enhanced Marketing Platform

In 2018, the Town of Cary implemented **Marketing Cloud** as a powerful digital marketing platform to allow creation of a personalized experience for every citizen. The plan is to use data from many sources like web analytics and Customer Relationship Management (CRM) systems to build a single view of each citizen and be able to customize their experience to provide exceptional service. Elements of Marketing Cloud include:

Email
The Town can now build personalized email campaigns that target exact content directly to citizens based on past and future experiences with Cary's services and programs by using data across a Salesforce (SF) platform. Email content is created for specific audiences, reaching them in the way they choose to communicate. Robust analytics inform future communications strategy and planning.

Social Publishing & Social Listening
Provides the ability for the Town to create, schedule, and manage posts to its social media outlets. Also provides the Town the ability to "listen" to social media accounts. These can be comments, posts, and interactions on Town pages or other non-Town pages. There is also an ability to analyze a post, assign it a sentiment score and trigger a case or flow for a staff person to reach out and connect with the citizen.

Advertising
Management and implementation of paid digital advertising on different platforms including Google AdWords, Facebook, LinkedIn, Twitter, and digital media outlets. Marketing Cloud connects digital advertising to social, email, and mobile to create a fully integrated marketing campaign for programs, events, and services, increasing efficiency in communication for staff and citizens.

Mobile Marketing
Marketing Cloud provides the ability to communicate with citizens via SMS messaging in a singular, time sensitive manner. Information that needs to reach citizens quickly and succinctly will be done through SMS. This will range from weather related closures and cancellations to subscribed event and program reminders and eventually to potential use cases in public works and water resources.

Predictive Analytics and Reporting
Provides the ability to identify trends around web traffic, social media traffic, mobile interactions, and email engagement. These analytics and reports form the basis of Marketing Cloud's ability to create 1:1 tailored user experiences.

Workflow and Content Planning
Provides the ability for the Town to automate marketing workflows and calendars across teams of multiple people. This creates great efficiencies and allows for real time management of email, social, advertising, and mobile. These can be one time or recurring. With Journey Builder the Town can create 1:1 personalized communications experiences in a visual way. The Journey can be heavily influenced by Marketing Clouds Predictive Analytics and Reporting and can be used across multiple departments in the Town for varied communication.

Marketing & Service Cloud Integration
Via the Marketing Cloud Connector, Marketing Cloud is integrated with the Town's Salesforce instance with the already established Service Cloud being the single data source. Salesforce will maintain contacts and the preference center, as well as other statistical information used to generate marketing content other elements currently in development, such as future 311 operations.

In addition, The Town of Cary conducts a bi-annual Town-wide Citizens survey that includes questions about where residents get their information, barriers to involvement, and potential new media sources. The second largest barrier from that source was also "Don't know about Opportunities."

Figure 23: Cary NC Bi-annual Citizens Survey Questions Related to Awareness

Information Sources - Respondent's usage of 20 information sources that Cary employs to communicate with its citizens					
	Top Source	**2nd Source**	**3rd Source**	**4th Source**	**5th Source**
2018	Word of Mouth	Cary's Website	BUD Newsletter	Television	Facebook
2016	Word of Mouth	BUD Newsletter	Cary's Website	Cary News	Television
2014	Word of Mouth	Cary News	Television	BUD Newsletter	Raleigh News & Observer
2012	Cary News	Word of Mouth	BUD Newsletter	Television	Raleigh News & Observer
2010	Cary News	Word of Mouth	Raleigh News & Observer	BUD Newsletter	Television
Barriers to Citizen Involvement					
	Top Barrier	**2nd Barrier**	**3rd Barrier**	**4th Barrier**	**5th Barrier**
2018*					
2016	Too busy	Don't know about Opportunities	Timing is inconvenient	Topics don't interest me	Issues don't affect me
2014	Too busy	Don't know about Opportunities	Timing is inconvenient	Topics don't interest me	Issues don't affect me
2012	Too busy	Don't know about Opportunities	Timing is inconvenient	Topics don't interest me	Issues don't affect me
2010	Too busy	Don't know about Opportunities	Timing is inconvenient	Topics don't interest me	Issues don't affect me
* This question was not asked in the 2018 survey.					
Potential Use of New Media Sources					
	Most Interested	**2nd Interest**	**3rd Interest**	**4th Interest**	
2018	Podcasts	Pinterest	Reddit	SpokeHub	
2016	Pinterest	Snapchat	Reddit	Tumbler	
2014	Google Plus	Instragram	Tumbler	Next Door	
2012	Facebook	YouTube	GooglePlus	LinkedIn	
2010	Facebook	YouTube	Twitter	LinkedIn	

PROXIMITY CORRELATIONAL ANALYSIS

Dr. Robby Layton brought strong knowledge of the objective geospatial and proximity aspects of both agencies, as they were both included in his 2016 doctoral dissertation research on allocation of greenspace and perceptions of satisfaction (Layton, 2016). From analysis of these and other agencies, Layton had found that proximity of greenspace (parks, trails, and other related components) was not a reliable predictor of opinion of adequacy or usage. His research suggested that demographics or other subjective variables may be more reliable predictors. This research continued to deepen that exploration by looking more closely at the aspects of awareness characteristics and the elements that may influence awareness within those two communities. A summary of key findings follows, and full results of the detailed analysis are available by email from *TeresaP@GPRED.org*.

ANALYSIS OF GEOSPATIAL VARIABLES
An analysis of environmental variables around an individual's home was undertaken to determine if certain physical aspects of the park system in the vicinity of someone's home can be correlated with their sense of awareness of that system. The hypothesis is that the presence and quality of parks in the area surrounding a household would tend to be associated with a higher awareness of the park system's offerings. This is because people might take notice of parks if they are closer to home and there are more of them around, they are of higher quality, and they contain a wide variety of activities. Conversely, a lack of parks, or ones of lower quality, might lead people to pay less attention to them, and thus, they would report a lack of awareness as a reason for not using the parks facilities and services in their community.

To test this, analysis was conducted using available secondary geospatial data from parks and recreation system master planning projects completed from the two communities, Cary, North Carolina, and Montgomery County, Maryland. Survey responses were merged with geographic data and park system data for the local community and a series of analyses were run to measure a number of variables related to the park system surrounding the survey respondent's home. The geo-spatial analysis included data from *component-based methods (CBM)* for inventory and level of service (LOS) analysis for public parks and recreation agency master planning. The base data collected from the case agencies in 2010-2012 was originally processed by Dr. Robby Layton to create a dataset for use in his dissertation, completed in 2016 (Layton, 2016).

The *dependent variable* in this study was a survey respondent's answer to a single question related to *Awareness* from the surveys in the two communities. The question asked of participants in Cary was, "if you do not use Cary parks, facilities, open space, trails, and programs, why not?" and in Montgomery County, it was "If you or someone in your household DOES NOT use parks or recreation offerings, why not?" Respondents could select as many reasons as possible from a set of 15 potential reasons, the first of which was "Not aware of programs or facilities offered." Objective GIS data was included for analysis of *independent variables*. The additional information on the independent variables was collected from a dissertation dataset, which included several measures captured with an audit tool known as GRASP®-IT. This audit tool was one element of an overall assessment process known as GRASP® (Geo-Referenced Amenity Standards Process), designed to capture data through direct observation by trained observers. As of 2018, the GRASP®-IT audit tool had been used to assess and document over 100 park and recreation systems in 25 states across the U.S. It has been tested for reliability and validity and found to be acceptable for its primary intended purpose of collecting data using CBM inventories for use in planning and managing park and recreation systems, with a 65 percent overall exact agreement rating for all items (Cohen's Kappa = 0.42) (Layton, 2016).

The independent variables analyzed for this study included:
- *Number of park sites* (defined as discrete park names if multiple parcels had the same name) intersecting a 1/3-mile buffer around each geocoded address point
- Total *acres of park land within a 1/3-mile buffer* around each geocoded address point
- *Distance to the nearest park* from each geocoded address point (defined as the Euclidean distance to the nearest edge of the park parcel)
- *Size of the park* nearest to each geocoded address point

An additional set of measures derived from the GRASP® tool included:
- A *Design & Ambiance (D&A)* score for the park nearest to each geocoded address point (as defined above)
- The overall index *(GRASP® value)* for the park nearest to each geocoded address point
- The GRASP® Value at each geocoded address point
- The GRASP® Walk Value at each geocoded address point

The independent variables were each tested singly in a bivariate logistic regression with the dependent variable. Results from correlational analysis of 1,030 survey responses related to lack of awareness with over 1,000 park site variables indicated that only one of the independent variables - the *Design & Ambiance (D&A) Score*—was found to have a significant correlation.

Figure 24: Regression analysis for independent variables

Variable	Bivariate			
	N	P-Value	C.I.	O.R.
Park Acres w/in Third Mile Buffer	424	0.584	.990 - 1.006	0.998
Number of Sites Intersecting Buffer	424	0.349	.784 - 1.090	0.924
Total Components in Buffer	424	0.883	.963 - 1.045	1.003
Dist. To Nearest Site (Miles)	424	0.223	.831 - 2.213	1.356
Size of Nearest	424	0.883	.963 - 1.045	1.003
D&A Score of Nearest	424	0.026*	1.050 - 2.128	1.495
GRASP® Score of Nearest	424	0.151	.999 - 1.006	1.003
GRASP® Value	424	0.115	.999 - 1.000	1.000
GRASP®Walk Value	424	0.584	.997 - 1.002	0.999
*Correlation is significant at the 0.05 level (2-tailed)				

It is not readily clear why an increase in the D&A of a park would be associated with a higher likelihood that lack of awareness would be reported as a reason for not using park facilities and services. This in fact is the opposite of the hypothesis that was tested. While it seems reasonable that the presence of a more pleasing or satisfying park near the home would be more noticeable than one that is less desirable, and thereby reduce one's perception that they are unaware of the park system's opportunities, it makes less sense that the opposite effect would occur. Perhaps the presence of a higher quality park nearby raises the awareness that other nice parks and related services might be available within the community and stimulate an interest in knowing more about them. It could also be that there is a positive relationship between park use and the desire for greater awareness of park offerings. This analysis did not look at the correlation between amount of park use and the way a respondent answered the question on awareness, but that may be worth examining.

> Results from correlational analysis of the case agencies, including 1,030 survey responses related to lack of awareness with over 1,000 park site variables, showed that the only variable that was statistically-significant for correlation with *Awareness* was *Design and Ambiance*.

It is also possible that there are interaction effects or confounding variables that were not included in this analysis. It could be productive to look at other variables, such as race, age, or household composition and include any of those that are found to have a statistically significant association with the dependent variable and include them in a multiple regression with the D&A variable to see how controlling for those effects the outcome for D&A.

A limitation of the present study is the nature of the secondary data used, particularly the survey question that was used for the dependent variable. The question was not designed to answer the research question under study here, which could be contributing to the unexpected results. For one thing, it was asked in a way that the respondent could be thinking about parks only, programs only, or some combination of parks and programs when answering the question. The question also does not provide a measure of the perceived degree to which a person feels unaware of parks and facilities. It did not differentiate between households in which no one uses any parks, ones where some people use some parks, or other possible combinations.

For the case agencies, an interesting outcome of this study is the finding that a relatively high portion of the case study sample (424 out of 1,030 = 41%) indicated some degree of non-use of park facilities and programs, and that of those, more than half (54%) indicated that lack of awareness is a factor. Of all the variables examined here, the one that showed an effect, whether positive or negative, was the one that deals purely with *park quality*. All of the other variables are based partly or completely on quantitative measures such as the amount of park land, number of parks, and number of features within them, while quantity has no effect on the D&A variable. Even the smallest and simplest park can score high on design and ambience if it is well designed, located, and cared for. What this and other research is beginning to show is that *quality matters*. Unfortunately, accurate measures of park quality are lacking, leading to a dearth of research into how the quality of a park effects the way people use it and what benefits they take away from it. Future research should look for better ways to define and measure park quality and apply those measures to ongoing research planning and community assessment studies. More focused studies with questions directly related to the research of interest here could provide better data that might produce more conclusive results.

CONCLUSIONS AND IMPLICATIONS FOR P&R AGENCY MANAGEMENT

This study was a preliminary exploration to provide insights as to how researchers might evaluate the topics of proximity and awareness using community specific data, commonly collected as part of agency master planning using surveys and component-based geo-spatial inventories and levels of service analysis.

STUDY LIMITATIONS

A primary acknowledged limitation of this present study is the nature of the secondary data used, particularly the survey questions themselves. The questions were not initially designed to answer the study questions here, and they could be contributing to unexpected results. For one thing, some questions were asked in a way that the respondent could be thinking about parks only, programs only, or some combination of parks and programs when answering the question. The questions also do not provide a measure of the perceived degree to which a person feels unaware of parks and facilities. They did not differentiate between households in which no one uses any parks, ones where some people use some parks, or other possible combinations. A more focused study with questions directly related to the research of interest here would provide better data that might produce more conclusive results.

Improved awareness could have a sizeable impact on overall usage of parks and programs. This could lead to improved health within the community and more support for parks and programs. The fact that little association was found between measurable aspects of the park system around their home suggests that efforts to increase awareness of parks should be focused on marketing and communications strategies rather than adding more parks or features or improving the ones already in place. Wayfinding, social media, and other types of awareness campaigns are likely to have better results. Further research on awareness is needed to determine which of these is the most productive and how to maximize the return on them.

Implementing planning that prioritizes perception and awareness may seem like a daunting task, especially considering that many marketing and branding concepts fall outside of the area of expertise for parks and recreation professionals. This type of planning is dependent on where an agency is in its maturity and operations. While each agency is at different stages in development, the first step and the last (or deliverable) is the same. The end result should be a *strategic marketing plan* that communicates a three to five-year action plan and influences operational decisions over that time period. The starting point is an assessment of current operations in order to understand where to start.

ASSESSING CURRENT MARKETING AND COMMUNICATION EFFORTS
Enhanced attention to marketing to encourage increased awareness is typically needed. To assist agencies in going forward, the following pages include a suggested step-by-step guide to developing a Marketing Plan. An agency should read this as steps of where to start, meaning that if Step 1 is not fully defined, it should not start at Step 2, and so on. The assessment needs to be objective. It is beneficial to create a task force, committee, or gather a group of community volunteers to provide critical feedback. If those options are not available, parks and recreation professionals can go through each step, provide an assessment, and then ask themselves, "how might I be wrong?" This question helps encourages deeper critical thinking pertaining to each topic or step.

Step 1 – Develop a Consistent Brand
An agency already has a brand, or perception, but there is a need to define how it wants to be perceived, and to develop strategies that promote that perception. An agency is in a unique position by being a public entity, and as such, already authentically represents its market. However, it needs to reinforce this brand, perception, and promise in every piece of its operation. If an agency fails to fulfill its brand promise, it will lose support and advocacy.

Step 2 – Develop Goals for the Marketing Effort as a Whole
These goals should be unique to an agency, and should go beyond "increasing awareness" or "attracting new users." They should translate the desired brand into tangible goals that can influence the overall direction of the strategy. Defining goals that are not unique to the Department will make it difficult to communicate value to users.

Step 3 – Define Target Markets and Segments
Defining the target markets or segments for an agency should go deeper than "everyone." Target segments could be defined in many ways, but should focus on the similarities of large groups:
- Demographically – age, sex, gender, socio-economic status, etc.
- Behaviorally – Are there large/key segments that act or behave in the same way (in parks, online, during activities/uses)? When are they online? When do they access parks and services? When the access parks and services, what do they do?
- Psychologically – Are there large/key segments that think or feel in the same way (nostalgia about parks/assets)? How do they think/feel about parks and services?
- Geographically – Are there large/key segments that are in close physical proximity?

Focusing efforts on market segments streamlines communication and allows the agency to communicate directly to a select group rather than having messages muddled when trying to communicate with the community as a whole.

Step 4 – Define the Goals for Each Channel of Communication

Due to the nature of parks and recreation services, marketing channels take on wide-variety of forms in the industry, including:

- Recreational programming
- Events, festivals, and concerts
- Level of service/proximity
- Amenities/components
- Maintenance/current condition
- Pricing
- Social media, including the website
- Print media
- Online media/video
- Customer service
- Mobile applications
- Online searches
- Text
- Email
- Signage/way-finding
- Trail connectivity

Each channel, and subsequent goal, should be developed with specific target markets in mind. For example, Millennial populations should be engaged through fitness opportunities promoted through mobile applications.

Step 5 – Define the Content Guidelines for Each Channel

Content guidelines can be thought of the "dos and don'ts" for each marketing channel. Ensuring that these guidelines are in place allows for more consistent and focused messaging (look, language, content) across all platforms, reinforcing the brand, story, and goals of the marketing efforts. Like the other steps, these guidelines need to be unique to the area or agency, and should include the use of:

- Colloquial language, events
- Pop culture
- Growing trends
- Brand messages

Step 6 – Define Evaluation Methods for Marketing Efforts

Lastly, evaluation methods should be based on the brand, segments, goals, and content that is unique to the Department in order to establish and reinforce an authentic brand. If efforts are evaluated based on other benchmarks, the Department may inaccurately conclude the success or failure of its effort. Opportunities for an agency include:

- Successful funding campaigns
- Increased program participation/lower cancellation rates
- Investment in historical structures
- Engagement through social media
- Utilization of resources, such as maps
- Park usage/event participation
- Increased demand for rental opportunities (shelters, camping, sports fields)
- Informal surveys and feedback

EVALUATING WHERE TO BEGIN IMPLEMENTATION

After an assessment of current operations has taken place it important to decide where to start. In most instances, an agency's marketing efforts (whatever they may be) are already developed, in some cases routine, and staffing is limited. With the demands on resources, funding, and/or staffing pulling an agency in multiple directions, it will be a challenge to overhaul these efforts all at once. A shift in marketing tactics is relatively simply, but effective changes to perception and awareness come from deep organizational culture shifts, which is a long and slow process. To further the challenge, it may take shifts in budgets or Capital Improvement Plans (CIPs) to effectively communicate the commitment required to developing these relationships.

As a strategic marketing plan develops, it will become clear where an agency should dedicate its resources, focusing how to develop core services that reinforce the brand and reach target markets and segments in the community. Often times, this means the focus should be in the park system and on its quality, condition, experience, and perception (*see The Importance of Wayfinding, Signage, and Park Identity*). Core services (parks, trails, community/recreation centers, and programs in some cases, etc.) are the only marketing channels that an agency has the obligation to provide and therefore should be the priority within short- and long-term decision making. All others (social media, advertising, etc.) should be based on critical decision-making and continuous evaluation regarding whether or not each is meeting the desired outcome.

Another key decision at this point is determining which functions no longer serve the direction of the agency, or which functions can be divested from (permanently or for the time being). The most important efforts that increase the perception and awareness of an agency are those that strengthen the relationship between agency and community. All others can be divested. This could mean completely doing away with, scaling efforts down, or delaying the effort until future point in time. A challenging example is social media. Most agencies utilize some sort of social media platform, including the website. In many cases though, it is with the rationale that it is expected in the modern age of business and not because it's seen as the most effective channel to reach certain market segments. While the expectation is true, many of those platforms underperform or are not properly maintained in a way that continuously strengthens the relationship between agency and community. In this example, agencies are investing in a platform that provides an experience that is not up to the standard of their brand promise, effectively diminishing the user's perception in the name of community expectation. In this scenario, an agency needs to determine if it is more beneficial to divest from the platform or invest in promoting a more desirable outcome.

DEVELOPING A PLAN AND REGULAR ASSESSMENT

A strategic marketing plan should be written for a three to five-year time period. This is due to many potential shifts, such as changes to a community's demographic or behavioral character, technology, or recreational trends. An agency can mitigate the changes required in each cycle by committing itself to objective feedback regarding its system and its community at the start of the process, and a yearly evaluation process. In developing this foundation, changes and shifts are more easily accounted for because a mission, vision, and brand promise are long-term commitments and do not need to be changed if they were developed in an objective way. Further, if an agency has spent a five-year period developing trust with its community (through implementation or development), the community will be more likely to trust that the agency will continue to build the relationship in the future, regardless of the channel, and will be more likely to stay engaged in the future.

Unlike the two case study agencies in the research, many public agencies do not have dedicated funding for marketing efforts or staff resources. If they do, the funding and resources are often dedicated only to marketing for specific tasks, focusing on things like flyers, programs, advertising, etc. Looking at these opportunities as marketing efforts or experience, agencies can start to prioritize funds through maintenance or capital improvement to improve the overall awareness in the community without having to reprioritize their operations toward marketing.

In a marketing age that is moving more toward brand appeal and authenticity, and away from product marketing, users are more likely to engage with or advocate for an agency that provides them with positive feelings or is perceived to be an authentic provider. In other words, if a user sees a park and is disappointed with its condition, then they will be less likely to re-engage not only with the park, but with other opportunities provided by the agency as well. On the flip side, users will also be more willing to seek out other opportunities from that provider, like programs, which in turn means a higher efficacy in marketing operations.

THE IMPORTANCE OF WAYFINDING, SIGNAGE, AND IDENTITY

To increase perception and advocacy, a parks and recreation professional needs to prioritize opportunities that impact the way the community *experiences the system*. This can start with signage, wayfinding, and park identity. The importance of signage, wayfinding, and park identity to encourage awareness of locations and amenities cannot be understated. A park system impacts the widest range of users in a community, reaching users, and non-users, across all demographic, psychographic, behavioral, and geographic markets. In a more narrow focus, the park system is the core service an agency can use to provide value to its community (ex. partnerships between departments or commercial/residential development, high-quality and safe experiences for users, inviting community landscaping contributing to the overall look or image of the community). Signage, wayfinding, and park identity can be the first step in continued engagement by the community, and a higher perception or awareness of a park system, which can lead to an increase in health outcomes.

Staff from Cary, North Carolina provided samples of how they chose to implement a cohesive and comprehensive *Wayfinding, Signage, and Identity Plan*, with images included on the following pages. The key elements are that each sign and wayfinding device provides a cohesive identity that helps residents identify parks and recreation holdings and point to their awareness. In a city of trees, such as Cary, staff believes this has greatly helped resident knowledge and awareness.
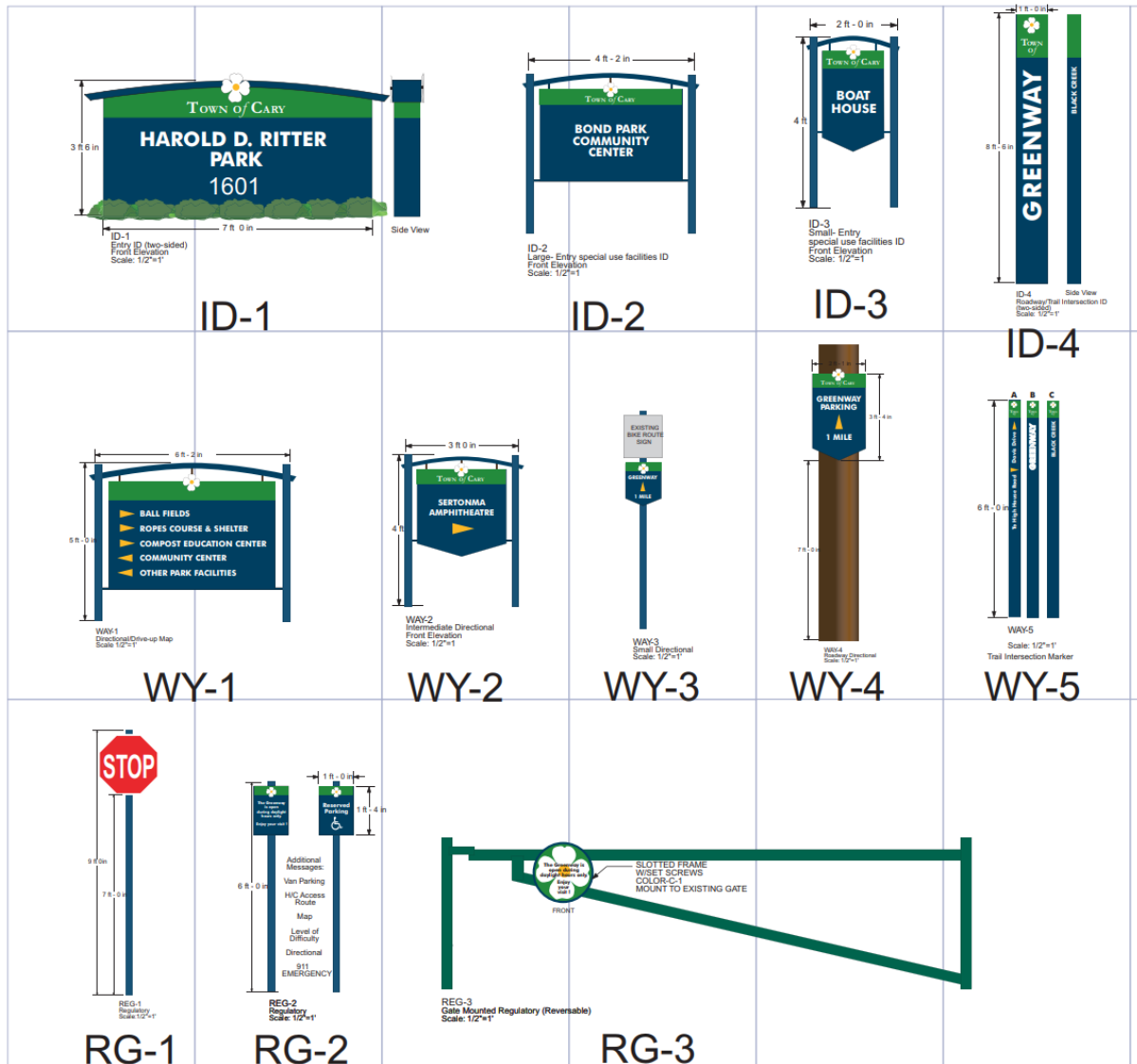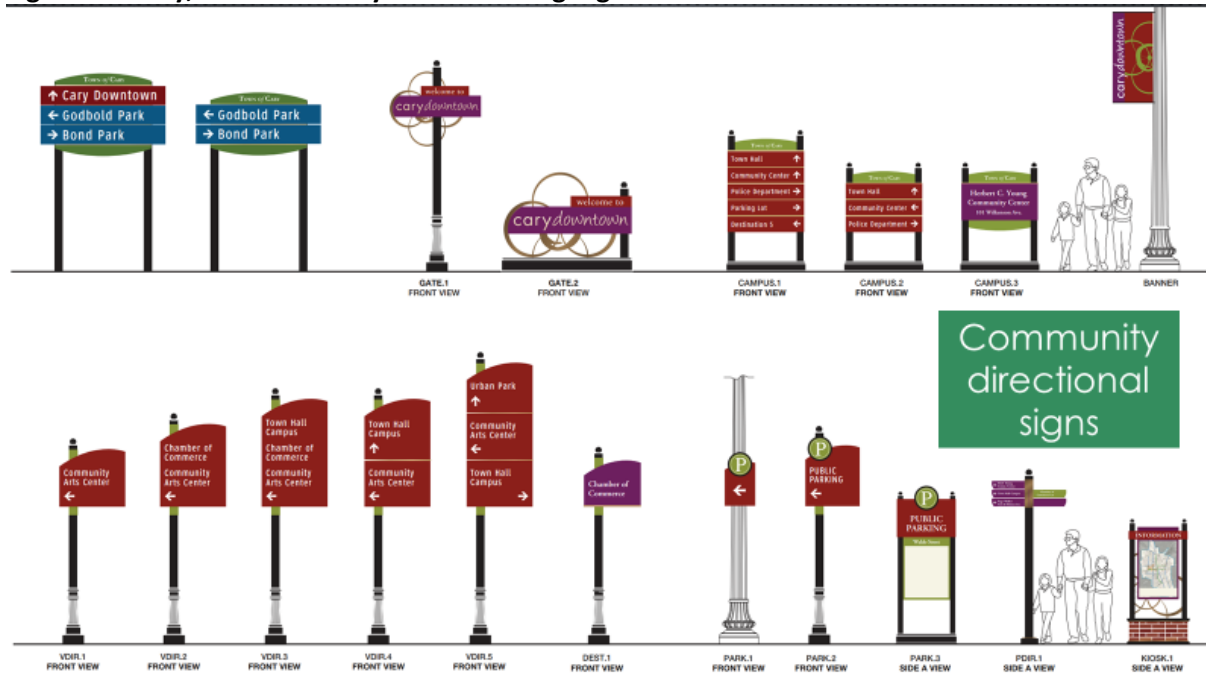
Figure 25: Cary, NC Site-Specific Signage

ID-1

ID-2

ID-3

ID-4

WY-1

WY-2

WY-3

WY-4

WY-5

RG-1

RG-2

RG-3

Figure 26: Cary, NC Community Directional Signage

SUMMARY CHECKLIST FOR GOING FORWARD

On the following page, a suggested "Agency Checklist" for elements and potential strategies to help improve awareness are listed. The case agencies indicated that in response to their findings that awareness of parks and facilities was lacking, they addressed these elements through targeted planning and strategic implementation. Staff from both Cary and Montgomery County indicate that the awareness levels have improved. These anecdotal findings of improvement still need to be validated through focused questions on their next community Needs Assessment and evaluation of outcomes, hopefully with questions similar to those used in 2011 for comparison purposes. For now, these tactics are available for other agencies to learn from and move forward.

SUGGESTED CHECKLIST FOR AGENCY ACTION

Objective Measures

Objective Proximity
- ❑ Measured Distance to Homes

Facilities & Parks
- ❑ Quantity of Amenities
- ❑ Quality of Amenities
- ❑ Component-Based LOS Analysis

Demographics
- ❑ Age
- ❑ Sex
- ❑ Marital Status
- ❑ Race / Ethnicity
- ❑ Household Size
- ❑ Household Income
- ❑ Presence of Children

Measuring Perception

Perceived Proximity
- ❑ Walkability
- ❑ Bike Friendly

Perception of Facilities & Parks
- ❑ Quality
- ❑ Type and Variety of Amenities
- ❑ Satisfaction & Use

Enhancing Perceived Safety
- ❑ Positive Activity
- ❑ Enforcement Presence
- ❑ Lighting
- ❑ CPTED Practices

Awareness

Signage
- ❑ Directional
- ❑ Entrance / Site
- ❑ Wayfinding
- ❑ Interpretive

Marketing
- ❑ Mission, Vision, Brand
- ❑ Website
- ❑ Social Media
- ❑ Direct Mail
- ❑ Vehicle Graphics
- ❑ Local News
- ❑ Outdoor Advertising
- ❑ Activity Guide

Customer Service
- ❑ Knowledge / Helpfulness
- ❑ Cultural / Language

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