

GP RED

Survey Results from Technology Initiative:

- Technology in Parks and Recreation Areas
- Motorized Bikes on Trails
- Drones

March 2018

Prepared for:

GP RED

Prepared by:

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Introduction

GP RED conducted a series of surveys that investigated technology in parks and recreation. Specifically, the GP RED team was interested in the opinions of recreation professionals on matters of technology in their communities and professional settings. The topics included:

- Drones,
- Technology-based recreational activities in public spaces including geocaching and Pokémon Go, and
- Power-assisted bikes.

The surveys were designed to ask some similar questions across all surveys to permit comparisons, as well as some questions specific to the activities that were investigated. The detailed results from the surveys are presented in a series of graphs that follow. A brief summary of the overall findings is presented below.

Respondents represented organizations and departments from across the United States, ensuring that the answers reflect a wide geography. The survey was distributed via email to contacts on the GP RED Master e-mail list that includes parks and recreation professionals and a wide variety of interested community leaders. A total of 96 responses were received for the survey on drones, 26 for the survey on technology-based recreational activities, and 86 for the survey on power-assisted bikes.

Perceptions of the Technology/Recreation Relationship

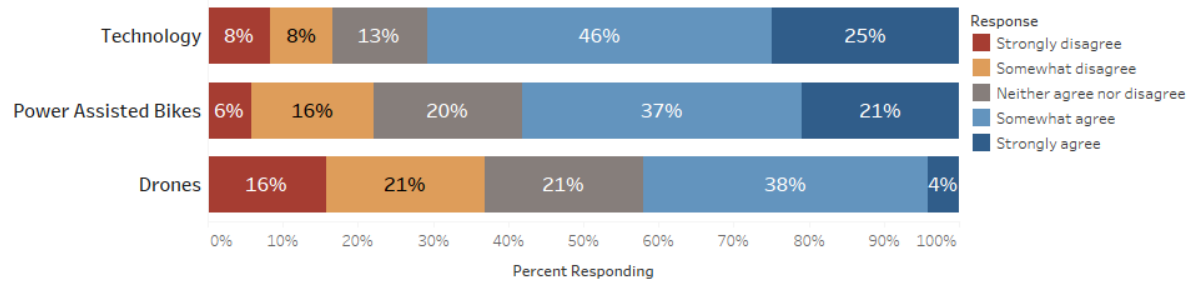
Each of the three surveys asked respondents to indicate to what extent they believe the use of technology enhances recreational experiences overall, with the question framed specifically to the survey topic (i.e., drones, technology-based recreational activities, and power-assisted bikes).

Respondents were most likely to agree that technology such as geocaching and Pokémon Go enhances recreation experiences overall, with 71 percent reporting that they somewhat or strongly agree.

Agreement was next-highest for innovations in recreational products such as power-assisted bikes (58 percent), followed by drones (42 percent). In other words, there were differences in opinions that varied by the types of technology that were investigated, with drones least likely to be perceived as enhancing the recreation experience. The question was worded as follows:

Please indicate how much you agree or disagree with the following statement: **The expanded use of technology and innovations in recreational products and sporting goods (such as geocaching/Pokemon, power assisted bikes, drones) enhance recreational experiences.**

Technology "enhances the recreational experience:" Agree or Disagree



The survey results suggest that there is a fair amount of disagreement among parks professionals on the impacts of technology in general on parks and recreation. As illustrated, more respondents indicated that the types of technologies investigated "enhance" the experience than those that disagree with the statements. However, there are a substantial number of practitioners that express misgivings about the incursion of these types of new equipment and activities.

Survey results show that drones elicited the most mixed and negative reactions from respondents. Thirty-seven percent of respondents said they disagreed that drones enhance the recreational experience overall. Detractors commented on their concerns around privacy, noise, and negatively impacting the recreational experience of other parks and open space users. Among those who were more positive about drones, comments touched upon their utility in a professional setting (e.g., photography, security, etc.). In fact, 61 percent of respondents were aware of local parks and recreation agencies using drones for work-related purposes.

General sentiment was more positive regarding power-assisted bikes, although some concern was expressed as well. Supporters of power-assisted bikes commented on the technology allowed people to get outside who might not normally be riding a bike and being an eco-friendly way to commute or get around town. Those who expressed more skepticism commented on power-assisted bikes being heavy and slow, that these types of bikes could affect the safety of other trail users, and that more research was needed before deciding how to move forward with policy.

Resident Engagement

Respondents were asked to rate the engagement of residents in their communities with various recreational activities. Results highlight that resident engagement with new or niche recreation technologies is generally low.

Respondents to the power-assisted bike survey generally indicated that residents are more engaged with traditional, non-motorized bikes, but that interest in power-assisted bikes was starting to grow with some residents very engaged in the technology. Using a scale from 1 to 5, where 1 means "not at all engaged" and 5 means "extremely engaged," respondents reported that residents are most engaged with road bikes/traditional cycles (84 percent providing a rating of 4 or 5), followed by mountain bikes (49 percent), and then power-assisted bikes (16 percent).

According to respondents of the technology-based recreational activity survey, residents are most engaged with using phone-based apps to track runs, bike rides or walks (58 percent providing a rating of 4 or 5), followed by posting photos of natural areas on Instagram (50 percent), geocaching/orienteering (50 percent), game-based apps like Pokémon Go (38 percent), and using phone-based apps created by parks and rec agencies (13 percent).

Policy Discussions

The surveys asked a question about the extent of policy and regulatory discussions on technologies at the community level. Overall, drones have prompted the most discussion, followed by power-assisted bikes. In contrast, technology-based recreational activities such as Pokémon Go or geocaching seem to be the least controversial of the technologies probed. Even in the survey on technology-based recreational activities, many respondents commented on drones more so than various recreation apps, further highlighting that drones have solicited the most discussion and controversy.

In communities where there is drone policy, drones are mostly prohibited or permitted with limitations. Nearly half of respondents to the drone survey indicated that their community or agency has implemented regulations or policies addressing drones in parks or other public lands in their area. Another 41 percent said there were no such policies and 15 percent were unsure. Among those who said there were policies, equal shares reported that drones were either prohibited in local parks and recreation spaces (45 percent) or permitted with limitations (45 percent). The remaining 10 percent were unsure about the specific policies. Many respondents commented that their communities were starting to develop policy around drone usage, and others indicated interest in knowing what other communities were doing to inform future policy. Open-ended questions asked respondents to further comment on their responses. Selected verbatim open-ended comments on local policy from the drone survey are provided below.

- *City council will be studying this issue in the near future to develop an updated policy.*
- *Drones are generally prohibited, but are permitted in areas set aside for model aircraft flight, or in other areas via a special use permit.*
- *I think it takes away from the outdoor experience disrupting nature and other people recreating. It may have to fit in with a recreation opportunity spectrum*
- *My agency doesn't have jurisdiction for establishing policies/regulations. However, during the recent forest plan revision process in the region, there was discussion about use of drones on forest lands.*
- *While drones are prohibited it is generally not enforced unless there is a complaint or a potentially unsafe situation. Park staff may use drones for photo documentation.*

Meanwhile 38 percent of respondents have conducted specific outreach to encourage residents to participate in technology-based recreational activities in public spaces, such as geocaching or Pokémon Go. Specifically, those communities have encouraged geocaching and some have facilitated Pokémon Go. When asked if they have considered or developed policies or regulations to limit or control

technology-based activities in public spaces including parks, trails or civic space, about a third indicated that their community has developed policies or regulations, with drones being mentioned with the greatest frequency.

When it comes to power-assisted bikes, just over one-third of communities have policies or regulations around using power-assisted bikes on trails (37 percent), 42 percent do not, and 21 percent were unsure. Among those who said there were policies or regulations in existence, 16 percent of respondents noted that power assisted bikes are permitted in their communities, 36 percent say they are somewhat regulated, and 48 percent are prohibited on public trails or sidewalks. Furthermore, when asked if they were experiencing any conflicts or controversy around power-assisted bikes, about a quarter of respondents said they were (25 percent). Open-ended questions asked respondents to further comment on their responses about the conflicts they were experiencing in their local jurisdictions; selected verbatim comments are provided below.

- *Pedal assist eMTB are on non-motorized trails and it makes enforcement extremely hard when they are not easily identifiable. They look and sound like a normal mountain bike, so it is a challenge.*
- *Public entities are having a hard time Classifying E bikes. Public land managers consider them to be motorized. There is the debate in the bike community between purists and those that support EBikes.*
- *Speed differential to other bikes. Power assisted bikes on sidewalks.*
- *Use of e-bikes is limited in the area on the non-motorized trail system. The limited conflict and controversy has typically been between bicyclists on regular mtn bikes and e-bike riders. Some concern has also be expressed by equestrian users.*

Conclusions

This round of REDLine surveys provides insight into practitioners' attitudes toward several different types of technology. The overall finding is that professionals are divided in their opinions about whether some of the new technologies are enhancing experiences. Further, the data show that communities are increasingly involved in dealing with new technology challenges, especially those created by motorized bikes and drones. We anticipate that the regulatory and policy implications of technology will continue to expand and that there will be rapid evolution of regulations and guidelines that warrant attention. Particularly in situations where practitioners have divided opinions about the benefits of new technology, it will be important to share innovations and best practices as communities learn from one another.

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Technology in Parks and Recreation Areas

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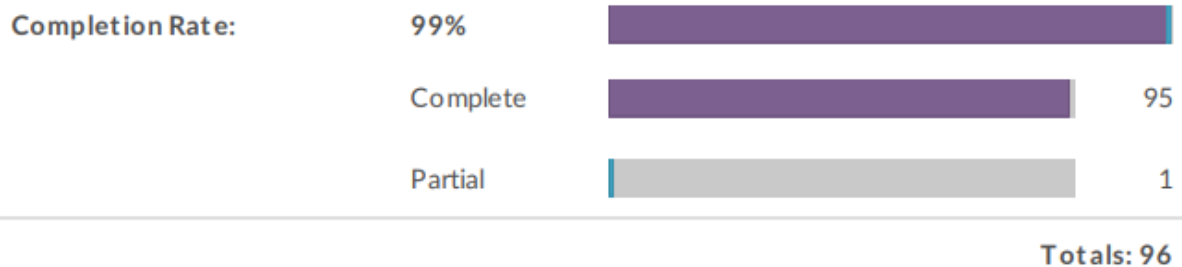
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

Response Counts



2. Based on your knowledge, has your community or agency implemented regulations or policies addressing drones (i.e. unmanned aerial vehicles) in parks or other public lands in your area?

| Value | | Percent | Responses |
|----------------------|---|---------|-----------|
| Yes |  | 44.2% | 42 |
| No |  | 41.1% | 39 |
| Don't know/Uncertain |  | 14.7% | 14 |
| Totals: 95 | | | |

3. Which best describes your local policies:

| Value | | Percent | Responses |
|--|--|---------|-----------|
| Drones are prohibited in local parks and recreation spaces |  | 45.2% | 19 |
| Drones are permitted but with limitations |  | 45.2% | 19 |
| Drones are regulated but I'm uncertain about the specifics |  | 7.1% | 3 |
| Don't know/uncertain |  | 2.4% | 1 |
| Totals: 42 | | | |



4. To your knowledge, has your community had discussions about permitting drones to race for recreational purposes in identified restricted areas?

| Value | | Percent | Responses |
|----------------------|--|---------|-----------|
| Yes | | 7.4% | 7 |
| No | | 73.4% | 69 |
| Don't know/Uncertain | | 19.1% | 18 |

Totals: 94

5. Do you have any comments on your response?



Response

Parks are places where people of all ages abilities can come together to pursue recreational activities. The challenge for park management professionals is to cater for the recreational



needs of their constituents in way where the experience of people's recreational needs is not compromised by the needs of others. Whether we like it or not drones like other emerging technologies are a sign of the times and park professionals need to be proactive to managing these changes and not place them selves in a position of responding

Although no written guidance preventing drone use in our Parks, we do regulate drone use at our RC field. We allow the university to fly large drones for research and aeronautical engineering purposes.

City council will be studying this issue in the near future to develop an updated policy.

Drone usage is prohibited however approval by the Parks Administrator can be given for specific reasons identified in our permit.

Drones are generally prohibited, but are permitted in areas set aside for model aircraft flight, or in other areas via a special use permit.

Drones are generally prohibited, but special use permits may be granted for some uses.

Drones are prohibited in county parks in our area, except under special conditions via a department issued permit.

Drones have been added to language addressing remote controlled aircraft, which identifies where in state parks drones can be launched and flown from within the parks.

Have not really thought about this issue until seeing this survey . . . my work is pretty tangential to Parks & Recreation these days.

Have only observed recreational use of drones in the park.

I feel this type of use brings in a slew of additional issues of space, safety, liability and purpose of the public organization. This feels to me more of a private enterprise segment to serve.

I have seen drones being operated in the local parks, but do not know what the policies of the agency are.

I think it takes away from the outdoor experience disrupting nature and other people recreating. It may have to fit in with a recreation opportunity spectrum

I work for the national cancer institute so drones haven't really come up, yet



I would be concerned about noise, safety and visual impacts.

My agency doesn't have jurisdiction for establishing policies/regulations. However, during the recent forest plan revision process in the region, there was discussion about use of drones on forest lands.

Not an emerging activity at this time

Our park is close to an airport so probably drone racing would be inaccessible

Our policy related to drones is covered under long standing established Rules and Regulations(see below). Section 5. Models No person shall engage in the use of gas- or battery-operated model aviation devices, model motorvehicles, or boats, whether radio-controlled or not, except at areas designated by the Park Commission or as authorized by a specific Park Commission permit. Section 1. Aviation No person, except in an emergency, shall launch, land, or operate any aviation apparatus within the Park System without the written authorization of the Park Commission.

Our policy states: No person shall fly any kite, radio controlled airplane or similar device within 100 feet of any park building or playing field in use by other patrons, nor operate such device so as to endanger any park patron or thereby encroach upon the use and enjoyment of the parks by others.

Planning drone policies at our agency. Regulatory law at FAA Law seems to change fast. Unaware of racing drones.

So far drone use is an individual activity however discussing their use would be appropriate for parks staff

Some activity took place at the University of Utah but none to our knowledge in the communities surrounding Salt Lake City

South San Francisco is located in proximity to SFO, so I believe that drones are prohibited outdoors in general.

Staff have allowed groups to lease an athletic field during non-programmed time for drone racing.

Staff is currently considering creation of ordinance/ policy regarding use of unmanned aerial vehicles in parks. Reviewing what's in place in the Nevada Revised Statutes (NRS).

The public risk and nuisance of drones is the reason they are banned in parks in this city.



There has been very little mention and or discussions on drones and or restrictions on them in Klickitat County, WA

We are home to Wright Patterson Air Force Base.....one of the largest in the country. I highly doubt our policy would change. However, I could see a "Community-wide Event" possibly occurring away from the base in the future.

We are open to the idea of a race if an organization wishes to rent the festival area.

We are very interested in this!

We currently do not have policies speaking to drone use, but we in the discussion stages to put one in place

We do allow a couple of sites for model electric aircraft with no cameras allowed. This is under permit only in restricted space and self policed by model aircraft club.

We have a model airplane park within our parks system and we have discussed shared use at this facility to provide for other recreational experience for drones and coordinating it with the local airport, as it is within 5 miles.

We have allowed Drone races in our park.

We have an area designated in our park where RC planes and drones are allowed to fly as long as they are going by all FAA regulations.

We have had discussions but no formal policies in place at this time.

We have wooded trails that we want to develop into drone paths

While drones are prohibited it is generally not enforced unless there is a complaint or a potentially unsafe situation. Park staff may use drones for photo documentation.

no

the city I live in doesn't have a policy, but county prohibits them from flying in parks.

would be great to hear what others are doing.

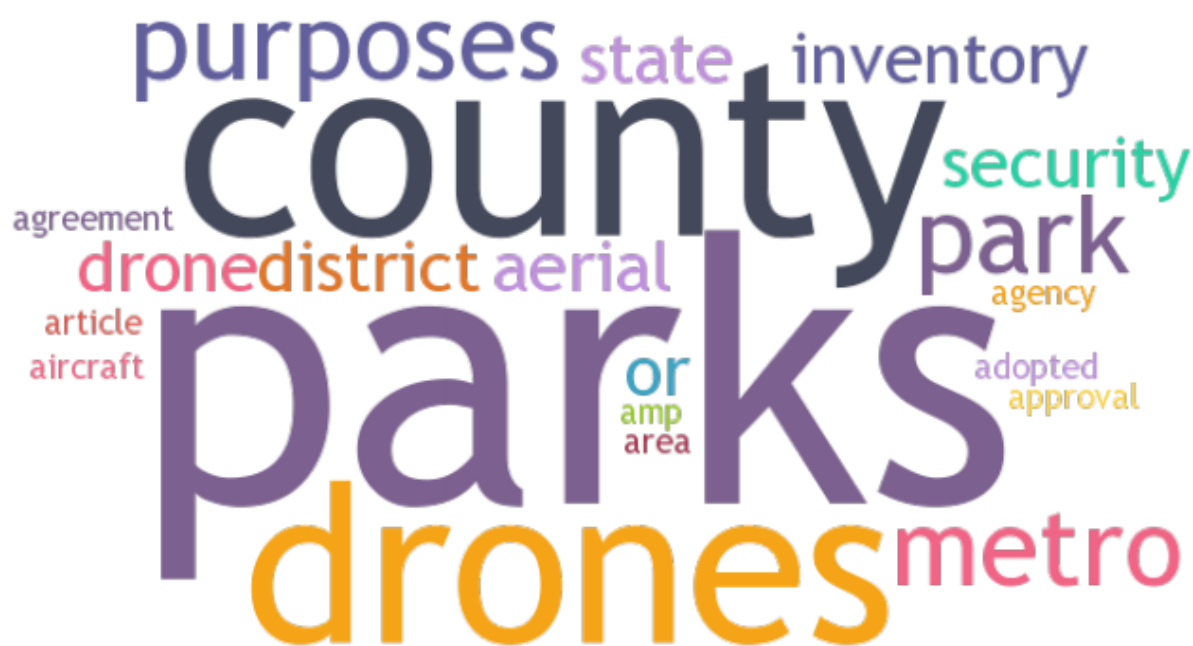


8. Are you aware of local parks and recreation agencies or firms that are using drones for work-related activities such as photography, security, or other purposes?

| Value | | Percent | Responses |
|----------------------|--|---------|-----------|
| Yes | | 60.6% | 57 |
| No | | 33.0% | 31 |
| Don't know/Uncertain | | 6.4% | 6 |

Totals: 94

9. Please identify the names of cities or agencies that have adopted regulations so that we might further investigate what has been developed. Do you have any specific comments on the types of regulations that have been implemented?



Response

Didn't know indoors was an option/desire.

Haven't consider it but probably a great opportunity for the community and recreation funding.

I am aware on bans on drones in wilderness areas and at public events (e.g., outdoor concerts) but not in city parks yet

I am sure this will come soon!

I feel we may consider this as part of our offerings but would want to make sure it is associated with programming we offer with drones.

No

Our facilities would not be large enough.

There has not been a request for this.

We do not have an indoor facility large enough to hold Drone races.



We would have no indoor venue at this time that would be appropriate.

Why would you use a drone indoors?

Would need a large facility for this, and we do not have one big enough.

would not be applicable for Boulder County Parks and Open Space

10. Please indicate how much you agree or disagree with the following statement: The introduction of technology and new equipment/activities like drones into parks and recreation spaces enhances recreational experiences overall.

| Value | | Percent | Responses |
|----------------------------|--|---------|-----------|
| Strongly disagree | | 15.8% | 15 |
| Somewhat disagree | | 21.1% | 20 |
| Neither agree nor disagree | | 21.1% | 20 |
| Somewhat agree | | 37.9% | 36 |
| Strongly agree | | 4.2% | 4 |
| Totals: 95 | | | |

11. Do you have any further comments on the use of drones in parks and recreation settings?



Response

As long as the Drones stay in a designated area, I have found people don't mind them. It causes problems when Drones hover over their homes invading their privacy.

As this may be true for some, I believe that the majority of those persons active in the park would not want to have them flying around over head.

Do not agree with the way the question is phrased. I support new technology, but not fair to lump this in with drones - two different issues. Survey seems slanted toward drones - clearly not a neutral survey. Poorly written.

Drones are intrusive and should fit into the events degree. The recreations opportunity spectrum addresses the degree of activity and development. If it is a highly developed area with a lot of activity, then yes maybe. Or a recreational activity that is spread out and using a drone to cover/film a race or for security reasons. It should not be used in passive recreational experiences where the expectations are for solitude, privacy and peaceful recharging. How many times have I seen a video of birds of prey taking out a drone.

Drones can be very beneficial to the parks and recreation industry. Public use of drones in parks continues to be a developing story and is of interest to many and in P&R field.

Drones in the hands of non-professional users are a menace and should not be permitted in parks. After many years of managing parks it seems to me that technology is always giving us new management challenges that we don't need. Drone operators seem to think it is ok to do



their thing without any consideration of other park visitors. Although drones have a place in commercial applications letting everyone in the country have one to fly anywhere they want is a bad policy. We refer to drones as aerial ATVS, another menace that we have dealt with since they were introduced many years ago.

Drones should be considered no differently than "model airplanes" that have been banned from parks and school yards for decades.

Drones would be useful for Parks and Recreation Agencies for research and maintenance purposes for remote areas. Recreational use of drones should be regulated in public spaces including parks so they do not become a nuisance.

Have little experience with this issue so not sure I fully understand the application within a P & R setting.

I build and fly drones. Parks and Rec can only control where they take off and land. That is the power to regulate drones. If the users don't like our regulations then we have the ability to stop their use in our parks.

I have been considering the marketing aspect. Better views of park. We would have some residents complain about the possibility of disturbing wildlife with "drone" events.

I think drones and drone races are fine in restricted areas. however, if I am camping in a park or trying to have an outdoor experience, I don't want drones buzzing around me, photographing me, or otherwise impacting my experience of nature. It is bad enough to deal with people playing loud music in parks!!

I think drones are here to stay, but will evolve rapidly in terms of what they are used for and how they affect parks. Policies need to be agile and able to respond to the changing environment and needs.

I think it enhances the recreational experience for the owner/user much like model planes. It doesn't do much for non-users and may disrupt other activities like a tennis match in progress.

I think parks can be a great area for the use of drones; however, there needs to be restrictions and dedicated spaces for them.

I think they should be licensed if used outside of your own property lines (kind of like a hunting license?) so there is a sense of responsible use and non-interference with aircraft/user experience.



I'm OK with drone use in designated areas (like model airplanes or rockets), but not in park and open space settings that are intended to be serene. They can invade privacy, disturb wildlife, and generally be noisy and annoying.

If permitted, they should be in a very large, unused area such as areas designated for model airplanes.

If policies, procedures and training of staff are established it seems reasonable to proceed offering opportunities. Model airplanes have all but disappeared. These hobbies are central to a "leisure" lifestyle across the age spectrum.

It all depends on how they are used and the potential conflicts with other recreation activities and public safety.

Like any new technology, it will have its benefits and costs. For an open space program there are obvious concerns about impacts to conservation values such as wildlife and the expectation of a user experience in a quiet natural area. There are also many potential benefits to our agency for monitoring resources such as growth of prairie dog towns or agricultural properties. We are just starting to engage in conversations about how to go down that road.

Like other activities, drone use can be disruptive to other parks users. It is something to be studied for use in areas with minimal conflict with other recreational users and activities.

Limited and targeted drone use for data collection (ex: vegetation/weed mapping; trail/social trail mapping; aerial imagery of parks) could lead to an enhanced visitor experience. Recreational drone use by the public will detract from visitor experiences in the outdoors.

My objection is based on the noise and potential for intruding on my privacy (in public). The noise could be resolved in the future, but that would only exacerbate the privacy issue.

My opinions would vary based on the technology.

Need for balance between intrusion and need to use the technology to help analyze conditions on the ground not able to easily access.

Only trained and certified law-enforcement officers in our agency are allowed to use drones at this time. Most parks here are in urban areas with high aircraft traffic and it is unlikely that drones will be unregulated or allowed in these area.

Our public works dept. is using drones for flood monitoring and many of our natural resource management partners are also using it for monitoring revegetation efforts.



People recreate in parks to enjoy the outdoors and in a natural setting. Any intrusive technology takes away that opportunity. Keep them at home or in urban settings that match their annoyance. I saw a mother pack up her children and leave an otherwise fun day at the park when a drone hovered nearby. Drones invade people's personal space and while the "pilot" may be having a good time, it ruins the experience for others. Leave them out of natural settings.

People should evaluate how their activities impact others rather than simply focusing on enhancing their own day.

Regulating where drones can fly is difficult. This effects the safety as well as the enjoyment of other park users. Drones flying low over tennis courts, trail users, pools and sports fields is annoying and potential dangerous.

Should not be at the expense of other park users.

The Fruita Parks and Recreation Advisory Board has had initial discussions on drone use in parks and is currently taking a wait and watch approach prior to implementing a policy on drones in local parks.

The introduction of some technology like drones in select locations under specific circumstances has a great potential for enhancing recreational spaces and experiences. To generalize the appropriateness of technology like drones as the previous question does is too broad.

The pictures from drones are great- getting a close up aerial view can be great.

The potential enhancement of recreational experiences is offset by privacy and safety issues.

Unfortunately, drones have been mis-used in our parks in the past. (Bothering park patrons or disrupting soccer games.

Unlike the issues facing model airplanes, model rockets, etc. "drones" appear to be more universal in their use. More specifically, police, news organizations, construction, farming, wildlife management, etc. are using these to carry out daily business. The drone "hobbiest" does not parallel the model airplane enthusiasts. We cannot regulate everything but this is a broader public issue for elected officials to address.

Use of drones in public spaces often interferes with others enjoyment and use of public places, can be a safety risk and risk personal privacy. Additionally, drones can be a risk to wildlife, including disrupting breeding and rearing of young.

We are very interested in this!



What a terrible idea!

emerging technology/desire to be planning for.

finding ways to allow can promote more users.

i do not think drones should be allowed in parks.

it seems to be unavoidable that technology will creep into parks and it behooves the municipality to incorporate them appropriately.

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Motorized Bikes on Trails

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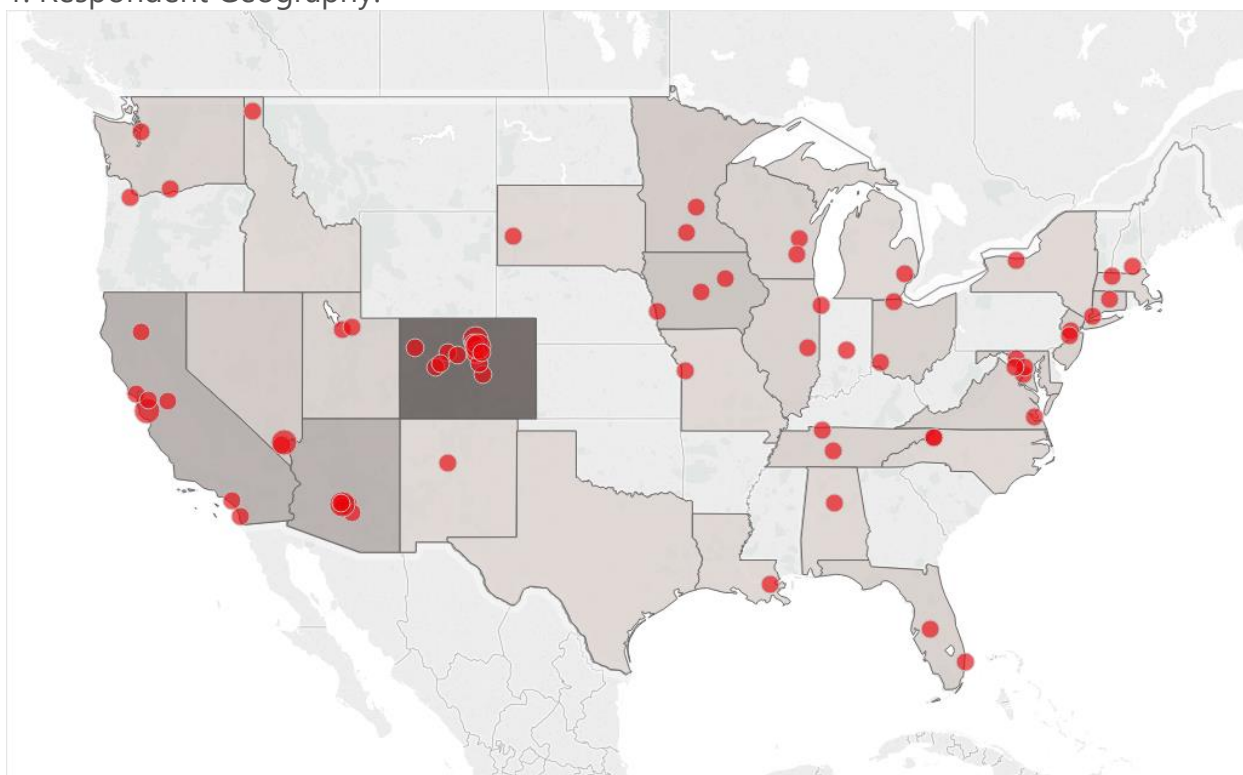


Response Counts



Totals: 86

1. Respondent Geography:



2. How familiar are you personally with "Electric Bikes, Motorized Bikes or Power Assisted Bikes? " (I.e., traditional bicycles that are outfitted with small - often almost invisible – motors that assist riders, particularly on uphill grades.)

Motorized Bikes on Trails



| Value | | Percent | Responses |
|-----------------------|--|---------|-----------|
| 1-Not at all familiar | | 8.2% | 7 |
| 2 | | 14.1% | 12 |
| 3 | | 21.2% | 18 |
| 4 | | 28.2% | 24 |
| 5-Very Familiar | | 28.2% | 24 |

Totals: 85

3. Have you personally seen a Power Assisted Bike up close?

| Value | | Percent | Responses |
|-------|--|---------|-----------|
| Yes | | 95.6% | 43 |
| No | | 4.4% | 2 |

Totals: 45

4. Have you tried riding one?

| Value | | Percent | Responses |
|-------|--|---------|-----------|
| Yes | | 44.2% | 19 |
| No | | 55.8% | 24 |

Totals: 43

5. Any comments on your experience, positive or negative?



Response

Very positive experience

Very positive. E bikes allow people that otherwise would not ride a bike to get out and ride. They also offer bike commuters a longer range and take vehicles off the road. I have a friend that had 40% of his lungs removed due to cancer and he would not be able to ride if he did not have an E bike.

I enjoyed riding the bike and loved the way it helped me going up hi.

Hard to answer. I won an electric PA bike and only use the power to allow me to cover more ground or commute between home & work. I don't see a problem.

great...encourages most any able bodied person to use our trails concerned about impacts (safety, crowding etc) on busy urban trails

The are a great way to get around town. Rather ride the e-bike than drive

Fantastic! I plan on purchasing one when I retire in a few years to enjoy riding a bike again with an old broken down body!



They are harder to pedal than non-motorized bikes because of the extra weight.

Reduces the exercise aspect of biking. Allows my wife to do longer rides and more up hill and she has 2 replaced knees.

Contrary to popular belief ebikes are actually slower and less responsive for an avid cyclist. On the other hand they are more efficient than a traditional bike for non-cyclists, a great way to engage more and different people in cycling and the outdoors

Pretty cool. Makes a difference getting uphill. Super heavy bikes though.

Pedal assist bikes could be a great component to ADA accommodations.

Bike is heavier than my current mt bike. Definitely give you an advantage going up hills, but if you don't pedal you don't move!




Its a normal bike in design and look it just has a small battery to power the motor. It doesn't go very fast. My experience is all positive

Love them, commute to work several times per week and use for personal use. E-bikes allow a much broader range of cyclists than traditional bikes; allows the rider to carry gear; and cargo bikes can carry 2 small children on one bike. Increases health and wellness.




6. Has your community or agency had any public discussions on policies related to Power Assisted Bikes?

| Value | | Percent | Responses |
|----------------------|--|---------|-----------|
| Yes | | 25.6% | 22 |
| No | | 54.7% | 47 |
| Don't know/Uncertain | | 19.8% | 17 |
| Totals: 86 | | | |




7. Does your community have any policies or regulations regarding the use of Power Assisted Bikes on trails or in public spaces?

| Value | | Percent | Responses |
|----------------------|---|---------|-----------|
| Yes |  | 36.5% | 31 |
| No |  | 42.4% | 36 |
| Don't know/Uncertain |  | 21.2% | 18 |
| Totals: 85 | | | |

8. In your community, are Power Assisted Bikes...

| Value | | Percent | Responses |
|--|---|---------|-----------|
| Permitted |  | 16.1% | 5 |
| Somewhat regulated |  | 35.5% | 11 |
| Prohibited on public trails or sidewalks |  | 48.4% | 15 |
| Totals: 31 | | | |

9. Are you experiencing any conflicts or controversy around policies or regulations regarding Power Assisted Bikes?

| Value | | Percent | Responses |
|----------------------|---|---------|-----------|
| Yes |  | 24.7% | 21 |
| No |  | 45.9% | 39 |
| Don't know/uncertain |  | 29.4% | 25 |
| Totals: 85 | | | |

10. Can you briefly summarize the situation?



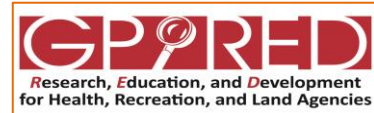
Response

We have one continuous pathway system that runs between towns and in the County - the rules are different for the County and our town, making it a confusing matter for users and enforcement.

No and the questions on this survey suck!!!! Should have gotten a professional to write them. If the person who did thinks they are a professional go get a PhD and then you will learn how to write a survey. Otherwise stop wasting peoples time!!!!

Public entities are having a hard time Classifying E bikes. Public land managers consider them to be motorized. There is the debate in the bike community between purists and those that support EBikes.

The conversation is just getting started. From 300 comments received to date, there seems to be more acceptance for e-bikes on flat trails than on foothills/mountain trails.



The identification of them as being the same as motorized. So that they are being regulated as motorcycles which prevents users from using them on non-motorized trails.

Some think the bikes go too fast, making them unsafe.

speed complaints for bikes in general and concerns about safety and the perception of safety.

Different land management agencies have different policies, which can be confusing to the public.

Minimal because electric bike users seem to be conscientious of other riders and pedestrians

Unskilled bikers get on a bike that goes as fast as a moped. On shared bikes how do you know what your stopping distances are or mechanical integrity of unit.

Seniors want to use on open space trails, dept. doesn't want except for those with disabilities

Pedal assist eMTB are on non-motorized trails and it makes enforcement extremely hard when they are not easily identifiable. They look and sound like a normal mountain bike, so it is a challenge.

Current ordinances prohibit by definition on City trails, but private public partnership trails allow e-bikes.

Some bike owners would like to be able to use them on our soft surface trails.

Power-assisted bike advocates want Class 1 & 2 on bikepaths. Many people do not want them.

Challenge is being able to distinguish which bikes are motorized...Speed differences between motorized/non-motorized....claim that e-bikes are an accessibility mobility device

people riding the bikes on sidewalks in Parks have total disregard for the rules. riders will not stop to discuss. pedestrian patrons get very upset when power bikes "fly" past them.

Speed differential to other bikes. power assisted bikes on sidewalks.

Bikes going 24mph on 8 foot wide shared use bike paths.

One City has developed an ordinance and many others are trying to define how to word their ordinance. All the local agencies in the region have not reached consensus on how to approach power assisted bikes.

The conversation is not about person e-bikes that look like a traditional bike. Some citizens think an e-bike that has an outer shell is like a golf car - important to explain they are not categorized the same. See ELF bike: <https://organictransit.com/>

Use of e-bikes is limited in the area on the non-motorized trail system. The limited conflict and controversy has typically been between bicyclists on regular mtn bikes and e-bike riders. Some concern has also be expressed by equestrian users.

11. Using the scale below from 1 to 5, how would you rate the engagement of residents in your community in the following recreational activities?

| | Not at all engaged1 | Not very engaged2 | Neither engaged nor unengaged3 | Very engaged4 | Extremely engaged5 | Don't know/not familiar | Responses |
|---|------------------------|----------------------|---|------------------|-----------------------|-------------------------------|-----------|
| Mountain bikes Count Row % | 1 1.2% | 6 7.1% | 17 20.0% | 27 31.8% | 31 36.5% | 3 3.5% | 85 |
| Road bikes, traditional cycles Count Row % | 0 0.0% | 3 3.6% | 9 10.8% | 36 43.4% | 34 41.0% | 1 1.2% | 83 |
| Power Assisted Bikes Count Row % | 6 7.1% | 24 28.6% | 25 29.8% | 9 10.7% | 4 4.8% | 16 19.0% | 84 |
| Totals Total Responses | | | | | | | 85 |

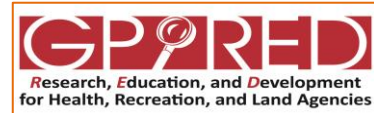
12. Do you have any further comments on your responses?



Response

Certainly an emerging issue that needs to be addressed proactively before it becomes a problem.

This discussion has been going on in the bicycling world for the past several years. It is controversial. I participate in 1-2 large group ride annually and 2017 was the first time I saw a participant use a power assisted road bike. I anticipate more power assisted bikes in the future.



This survey should be expanded to include bikes and other vehicles that could be used by pedestrians with mobility disabilities such as handcycles.

E bikes or a new and important mode of recreation and transportation. There needs to be more education about the real impacts of EBikes. IMBA is a good resource on this topic and should be further engaged.

I think we need to promote their use as a way for groups of mixed ability to enjoy the outdoors.

most of the interactions between trail users are primarily at one park (for now) As bikes become more affordable there will be additional interest for now, the majority of electric bikes are invisible to most other trail users

We are an IMBA Gold level bike community

I am for allowing class 1 bicycles on trails that currently allow regular non-powered bicycles as long as they follow the same rules.

I am not aware of any public discussion about the merits of power assisted bikes.

As battery and electric motor technology rapidly increases in efficiency and lowering costs, power assisted bikes and other wheeled modes (Segway type, wheel chair, etc.) use will increase for user need, convenience and comfort. Public attitudes and policies will lag, first going through draconian like responses of segregating the technology and users. However the "truth" will lie in between. We must ask what are the issues, differential of speed, user courtesy to slower/human power modes, impact to animals (dogs being walked, equestrians, etc.). We can achieve a balance of this new mixed modes through education and downright humanity. The use of our trails, paths, sidewalks and bike lanes will increase, isn't this what we all want? Yes! It is our job(s) to make sure the interaction of users is SAFE, convenient and comfortable!

The trend has not reached us here in Utah

Our trails come under State DNR rules which prohibit any motorized equipment with the exception of ADA and snowmobiles on such trails.

I've researched getting one since I live on top of a mountain but think I may be viewed as lazy.

We don't see too many e-bike riders around town.

Mechanized go on trails, motors go on roadways. No brainer. People should have to earn wilderness experience not be handed. That is why side by side ATVs are called wilderness wheel chairs. People get to go places they can't physically handle it and shouldn't get to go.



I anticipate large growth in the assisted bike category.

One community I work in is in the research stage of power assisted bikes and bike sharing.

I am aware of any concerns with them and I honestly am only aware of a couple people who I have seen using one.

I haven't seen one of these bikes in our Community. I am not aware of issues with these bikes.

The majority of e-bikes locally seem to be used for commuting purposes primarily. Our operational staff may have a different perspective, but the issue of e-bikes has not been identified as a priority in the planning and policy group.

We do not have many opportunities for mountain bikes. Road bikes are used for the most part on hard surface trails.

Power Assisted Bicycle use in our area is growing slowly as more retailers offer these bicycles.

More research needs to be done to evaluate the impacts of pedal assist bikes on trails.

It's a polarizing subject, but I think opponents to this technology are resisting for all the wrong reasons.

Power Assisted Bikes are now showing up more

We have a contingency trying to update current ordinances.

This is, for the most part, a self-powered community.

people that enjoy these activities participate, ie engage.

We are in process of looking at including all Motor Assisted Vehicles (MAV) in a current Active Transportation Plan. We have defined MAV's as electric powered; bicycles, scooters, wheel chairs, personal mobility devices, hover boards, segways and possibly including electric golf carts.

I am on the Bike Master Plan Committee for our City. We just completed working on the bike Master plan. We have a couple of public engagement meetings where we intend to bring up this topic. With our City divided by a large hill range power assisted bikes will be more and more popular as a means of cresting this hill.

More concerned with powered chairs due to their width on trails and others not being able to pass



It would be great to see electric bike share. Much less expensive than electric cars, easier to get around than a bike, only cents per year to charge, saves car parking, zero-emissions, health promoting, and reduces traffic congestion.

13. Please indicate how much you agree or disagree with the following statement: The expanded use of technology and innovations in recreational products and sporting goods (such as Power Assisted Bikes) enhance recreational experiences overall.

| Value | | Percent | Responses |
|----------------------------|--|---------|-----------|
| Strongly disagree | | 5.8% | 5 |
| Somewhat disagree | | 16.3% | 14 |
| Neither agree nor disagree | | 19.8% | 17 |
| Somewhat agree | | 37.2% | 32 |
| Strongly agree | | 20.9% | 18 |
| Totals: 86 | | | |

14. Do you have any comments on your response to the previous question about new products and innovations?



Response

Would depend on the activity

Its hard to agree or disagree when the question is so broad and covers all recreational products and sporting goods. I may be for or against depending on the product. In general technology will be implemented and most likely be embraced by certain users and rejected by other users based on age, socioeconomic status, familiarity, and ease of use.

Technology and innovation are not in themselves detrimental, but rather how they are used is the issue. If were not for advances in technology and innovation, we would not have the recreation gear that we have and enjoy today.

Hard to make a general statement. Context is important and the particular technology is important. There are pros and cons to increased accessibility weighed against impacts to visitor use experience and resource impacts.

The measure should be the exchange between affordance and the goal conflict with other users.

Any of these new technologies are neither good nor bad. Our job is to determine if they will become a sanctioned trend, and if so, how we will best manage what our community wants, in line with conservation, equity, resources available, and other goals.

some technologies are great for the individual (like drones) but have a broad impact on users of parks and open space (safety, privacy, impacts to wildlife, noise)



Life throws curves at people and technology can restore their activity and enjoyment again.

It seems inevitable that new technology will have an impact. Did we have this debate when mountain bikes were introduced?

Sometimes tech is helpful and sometimes it gets in the way of the experience.

See written response above.

Defeats the "exercise" premise & leads to potentially dangerous interaction with slower vehicles & pedestrians

Power assisted bikes could be used to help get those not currently able for physical reasons into areas they'd love to enjoy.

outdoor experience is very personal and having an electric motor doesn't enhance that experience and could be defeating the purpose of riding a bike because of the lack of energy needed to ride one.

I think that using additional powered engines can help some people who have mobility issues but for those able bodied the fitness aspect of using the piece of equipment is lost.

Technology and innovation create opportunity for easier engagement in recreational experiences which is important for sustainability. That said, the new products and innovations also detract from the art, skill and quality of experience for established participants.

Gets people on bikes who might not otherwise ride. E-bikes seemingly un-noticeable compared to regular bikes on trails/sidewalks. Potential for conflict with traditional uphill mountain bikers, however.

We are in rural eastern Washington state, so "new" products often take longer to arrive in here. If they can get more people out and activity, that would be great. Costs is another issue.

I say somewhat disagree as I don't feel that technological improvements in gear have significantly improved recreational experience. It may have increased the ability of more people to have a certain recreational experience. With respect to e-bikes, that may not be accurate. I have heard that e-bikes can improve accessibility to recreational experiences for a segment of the population.

I believe it could be useful for those with physical restrictions and would enable them to participate in activities with friends and family.

I think technology and innovations can enhance recreational experiences when it fits within the park guidelines.



Anything that helps people want to get outside and exercise is good.

As a Parks and Recreation agency it is important for us to be adaptable to trends and work towards preparing for and meeting those demands.

Tech and innovation do not necessarily equate with power-assist.

Im concerned that the statement could be misrepresentative...technology advancement (goretex, bike suspension, sunscreen enhance overall experience - power assisted technology advancements make new experiences possible for some and can change the recreation setting/experience for others.

A person that enjoys power bikes would feel they enhance the biking experience. A pedestrian that is startled by a pb would not want them present.

Would expand to include transportation.

no

Very fine line between Power Assisted Bikes and some motorcycles.

Electric assist bikes allow for a whole new group of people to experience enhanced recreational experiences. If you have limited mobility, want to commute to work and feel fresh, increases greenway use, health benefit, and fun!

The expanded use of technology in recreational products seems to create both winners and losers. For some a recreational experience is created or enhanced and for others the technology being used creates conflict or adversely impacts the experience of others. In some cases there are also impacts to trail infrastructure and natural resources as a result of new technology.

15. Do you have any further comments on the use of Power Assisted Bikes on trails or sidewalks?



Response

Safety issues - how to classify them - need license?

Are they affecting safety on the trails?

Some concern on paved walking trails and conflicts between wheels and heels.

I think they should be accommodated, especially given the aging demographics. This could keep people active later into life. But needs to be done in ways that don't negatively impact overall use for everyone.

The question really becomes, are the bike motorized? Motorized vehicles are not allowed on our trails or in our parks. I'm sure the manufactures will make the power assisted bikes "more assisted" over time. For the bike manufactures it's all about getting more bikes sold.

It depends on the circumstances whether they should be allowed or not. In the case of regional trails that are used for both recreation and commuting, E bikes should be allowed. Sidewalks may not be an appropriate place for E bikes because of the speed differential. Singletrack trails may or may not be suitable and, again, it depends on the circumstance.

They seem to me to be like mountain bikes.

There needs to be speed limits for all bikes whether power assisted or human powered.



Co-use of trails and sidewalks needs to be addressed. How do you limit a trail for recreational use with power-assisted bike, but still allow it's use for a person with a disability?

need to engage public if there is proposed regulatory change. Lots of benefits to allowing them (within rules (like speed)) for all users) but there will be safety concerns. will need additional education measures

We don't allow them on dirt trails - only paved trails. We have an E-bike share program throughout our community (Park City, UT)

No

They are hazardous to pedestrians, the land itself, and wildlife on trails and, in my opinion, do not belong on sidewalks. Wheeled vehicles are best used on the road or on designated surfaces, and not on sidewalks and undeveloped trails.

See written response above.

Safety is the major concern and the experience of other recreation users and visitors.

Get people out walking, jogging, etc. Isn't our health care bill now unmanageable?

We could educate users about the speed at which power assisted bikes should be used in more congested areas.

Older and somewhat disabled riders should be able to use electric bikes to experience the outdoors and allow the potential to travel longer distances.

As a motorized vehicle it should be treated as such and use the roadway the same as motorized scooters would do.

don't belong on sidewalks. Uncertain about trail use where there are multiple users. Certainly not with Equine Trails

Serious research should be done on safety before allowing Power Assisted bikes on sidewalks.

Not a good mix, research E-bike hits student on bike in Glenwood Springs during bridge construction. 12 hour coma, helicopter ride and stay in Children's Hospital.

The current performance of assisted bikes fits well within the range of the performance of traditional bikes and therefore do not require additional regulation.



Trails designed as "non-motorized" should remain as non motorized trails, this would include e bikes. E bikes do not belong on sidewalks.

If it has a motor I do not believe it belongs on a sidewalk.

Sounds interesting and just thinking there are potentials for conflicts as well as being a good recreational resource

I'm a regular bicycle commuter. There are a wide range of e-bike types produced. Some are no more than electric motorcycles and others are power assisted bicycles. The power assisted bicycles can co-exist with non-powered users in most cases; however, I do note from personal experience that many e-bike users tend to have lower bicycle handling skills compared to non-powered users. This can be an issue with the additional power they have access to.

I do not believe they should be allowed on trails or sidewalks that are intended for manual use.

We have not heard much from the community on this topic.

We will be re-looking at our policies to consider these options on trails.

It would be nice for the manufactures of ebikes to work with agencies who manage lands and trails. Products get pushed out without knowledge of rules and regulations, which forces land and trail managers to be defensive. If they would work with those people, they might be able to create a product that fits within the guidelines and is accepted system wide. Most ebikes are not permitted on non-motorized trails limiting consumer use.

I'm all for it.

I think they should not be allowed on trails or walks because of their speed and conflicts with walkers

i think they should be allowed but regulated/licensed to control speed, number and possible noise.

There is concerns about e-bikes on sidewalks and paved alternative transportation path. Not as many safety concerns on trails.

Our current policy allows for use on tier one commuter trails. We do not allow them on backcountry soft trails at this time.

Ick!



anything with a motor on it belongs in the street. they can drive their p.a.b.'s in the designated bike lane in the street. They have no business on trails or sidewalks.

Speed differential is the safety issue.

Do not allow them. Or put a devise on the bike that limits the speed to 10 mph

I don't think these are any different than a regular bike in many instances a person can shut off the power and ride them like a bike or pedal while the power is going to ease climbing hills.

While some are quiet I have heard some local "homemade" power assisted bikes that are very loud and would disturb the peace and quiet of some trails and should in no way be allowed on sidewalks.

Signage reminding cyclists to slow down and signal "passing on your right" and marked walk/bike painted signage on greenways can be helpful. Cycling on sidewalks should be done if the streets are not safe, walking bikes in narrow city centers and being mindful to move out of a pedestrian's way on the side walk should be taught and/or signage provided.

16. And do you have any specific references (individuals, communities or agencies) that are dealing with issues related to Power Assisted bikes in your locale that we could contact for additional information?

Response

Rowing fork mountain bike association - Mike Pritchard. Pitkin County open space.

Mary Ann Bonnell in Jefferson County City of Durango

Breckenridge, Colorado

City of Boulder, CO seems to be addressing?

nearly every federal , state and local government land management agency in Colorado

Jefferson County Open Space, Golden Colorado

Nope



WI DNR

70 year old women in my neighborhood just upgraded her power assisted bike. May be available for a contact.

City of Cupertino is considering bringing power assisted bikes to its internal bike fleet and plans to do so this year. Contact Chelseab@Cupertino.org.

Glenwood Spring. They also built a flow mountain bike trail where they are having user conflict with hikers on high speed flow trail.

If it is of any value, my contact information is: Matt Cleland 419-265-8312
matt.cleland@metroparkstoleado.com

Morgan Lommele E-Bikes Campaigns Manager Bicycle Product Suppliers Association/PeopleForBikes
P.O. Box 2359 / Boulder, CO 80306 EMAIL: morgan@peopleforbikes.org MOBILE: 720.470.2981
PeopleForBikes.org

It's still in that radical vs. radical stage, but will be mainstream soon.

No

You can contact my office. Karen Palus 719-385-6501

Pitkin County Open Space & Trails

City of Apache Junction, AZ Larry Kirch Community Development Director.

No

N/A

Charlene Minor Davidson Parks and Recreation 704-940-9645 cminor@townofdavidson.org Visit this website for general information: <https://electricbikereport.com/>

GP RED

Drones

March 2018

Prepared for:

GP RED

Prepared by:

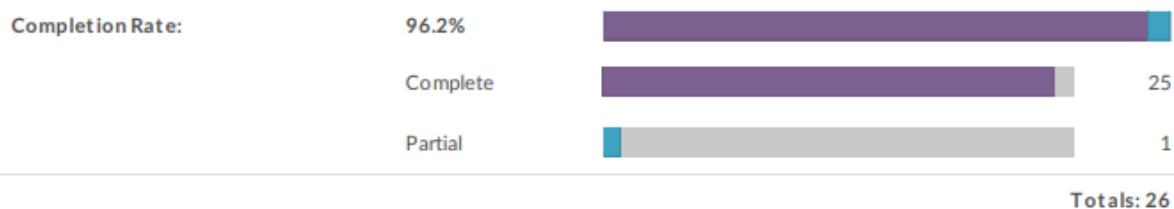
RRC Associates, Inc.

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303/449-6558

www.rrcassociates.com



Response Counts



2. Has your community or agency conducted specific outreach to encourage residents to participate in technology-based recreational activities in public spaces, such as geocaching or Pokemon Go?

| Value | Percent | Responses |
|----------------------|---------|-------------------|
| Yes | 37.5% | 9 |
| No | 58.3% | 14 |
| Don't know/Uncertain | 4.2% | 1 |
| | | Totals: 24 |




3. What specific activities do you promote or encourage?



Response

| |
|--|
| Allowed Geocaching at parks, were also seeing painted rocks at parks and City buildings |
| Both have been played in our parks |
| GIS Map with parks and pokemon go stops. |
| Geocaching |
| Geocaching & How To Workshop Pokemon Go Safari special event & Pokemon Go Clinic Scarecrow Contest using Facebook likes to vote |
| Pokémon Go, geocaching and use of QR codes on interpretive signage for additional web-based information. |
| Set Pokemon Go Lures last at a Halloween event last year, and encouraged players to tag us in their posts when out at our parks. |
| changed park hours at several 'gyms' for Pokemon go |
| geocache |

4. Conversely, has your community or agency considered or developed policies or regulations to limit or control technology-based activities in your public spaces including parks, trails or civic spaces?

| Value | | Percent | Responses |
|----------------------|---|---------|-----------|
| Yes |  | 33.3% | 8 |
| No |  | 58.3% | 14 |
| Don't know/Uncertain |  | 8.3% | 2 |
| Totals: 24 | | | |

5. What types of technology-based activities are regulated?



Response

Approved site locations for geocache or pokeman locations to keep person safe.

Considering limits on drone usage

Considering regulating drones

Drones

Drones handled similarly to radio controlled airplanes ok for use in specific designated areas.

Geo-caching and metal detecting

Within a certain area/boundaries, especially drones.

drones are permitted in a specific location only

6. Using the scale below from 1 to 5, how would you rate your residents' engagement in the following technology-based recreational activities?

| | Not at all engaged1 | Not very engaged2 | Neither engaged nor unengaged3 | Very engaged4 | Extremely engaged5 | Don't know/not familiar | Responses |
|--|------------------------|----------------------|---|------------------|-----------------------|-------------------------------|-----------|
| Game-based apps like Pokemon Go Count Row % | 1 4.2% | 7 29.2% | 5 20.8% | 9 37.5% | 0 0.0% | 2 8.3% | 24 |
| Geocaching/orienteering Count Row % | 1 4.2% | 7 29.2% | 3 12.5% | 10 41.7% | 2 8.3% | 1 4.2% | 24 |
| Posting photos of popular natural areas on Instagram Count Row % | 0 0.0% | 4 16.7% | 3 12.5% | 9 37.5% | 3 12.5% | 5 20.8% | 24 |
| Using phone-based apps to track runs, bike rides, or walks Count Row % | 1 4.2% | 2 8.3% | 2 8.3% | 7 29.2% | 7 29.2% | 5 20.8% | 24 |
| Using phone-based Apps created by parks and recreation agencies for communicating information such as regulations, way-finding, etc. Count Row % | 8 33.3% | 2 8.3% | 5 20.8% | 2 8.3% | 1 4.2% | 6 25.0% | 24 |
| Totals Total Responses | | | | | | | 24 |

7. Are there additional examples of technology-based activities that are occurring in you recreational spaces or on public lands?



Response

Apps iNatural Discovery Agent

Can't answer the above questions as we have not assessed the community's use of these types of things

Drones, people playing Pokémon Go but that fad is just about over.

Drones, remote controlled boats, devices.

No

None

Not that we're aware of

POV drone racing on soccer fields and in parks. Although we have a public RC track for cars and a Private RC air strip in area

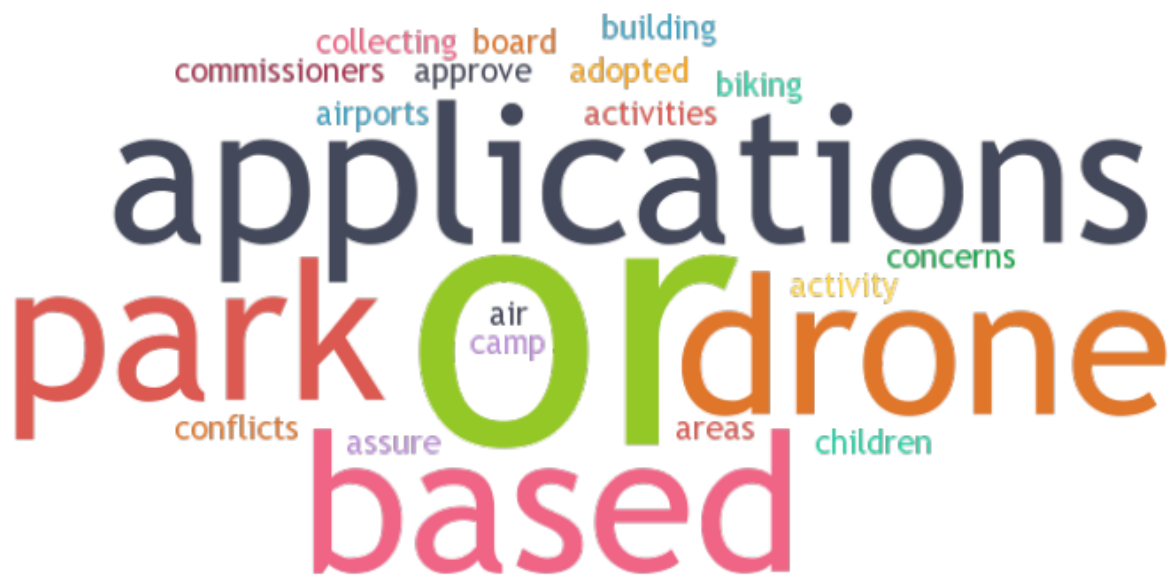
Strava competitions

Trail wayfinding through GPS location mapping systems

flying drones

none

8. Do you have any comments on the types of technology-based programs or activities that you are seeing in your local setting? And has your community developed any guidelines or policies that you would like to share with our readers? (Feel free to attach any links or addresses to information to be shared)



Response

Drones can not take off or land in Park Property

Expectations are increasing for providing technology-based programs/activities in our parks system.

Hiking and Biking Tracker applications.

No

No remote controlled air devices permitted.

None yet, Expect them to respect other users.

Some nature based sites are using photos to track changes to the environment - See Fluker Post project - <http://www.flukerpost.com/>

We are hearing of more incidents/interest/concerns regarding the use of drones in or near public areas

We are holding off on developing any greater regulatory control on technology applications until we see any user conflicts or specific needs for greater control






We had success with our first summer drone building camp for children

We have the Park Board of Commissioners approve geocaches in parks to assure content and placement are appropriate. Pokémon Go was very popular several months ago. We still some groups collecting in parks for this activity. The Park Board of Commissioners adopted the local airports plan for drone use in parks.

none

nothing going on

9. Please indicate how much you agree or disagree with the following statement: The use of technology such as the examples identified above encourages participation in recreational activities and enhances recreational experiences overall.

| Value | | Percent | Responses |
|----------------------------|---|---------|-----------|
| Strongly disagree |  | 8.3% | 2 |
| Somewhat disagree |  | 8.3% | 2 |
| Neither agree nor disagree |  | 12.5% | 3 |
| Somewhat agree |  | 45.8% | 11 |
| Strongly agree |  | 25.0% | 6 |
| Totals: 24 | | | |

10. Do you have any further comments on the use of technology in recreational settings?



| Response |
|---|
| no |
| It is here to stay, so we need to embrace it... |
| Many of our seniors are not interested in using these technologies. They are aware of them but not tech savvy and therefore not interested. |
| No |
| Privacy issues must be addressed. |
| This is true for some people who might never go outside, otherwise... |
| Use of natural education apps is something we are exploring to engage younger visitors and hopefully encourage future pursuits. |
| WE need to embrace technology it will drive the trends we will see in future. |