



**NDOT**



# GREENWAY E-BIKE ACCESS

RESEARCH AND SURVEY FINDINGS  
JANUARY 2022

**DRAFT**



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# The Greenways and Open Space Commission

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- The Greenways and Open Space Commission of the Metropolitan Board of Parks and Recreation is charged with the acquisition of public open space and planning and development of greenways throughout Nashville and Davidson County
- The Greenways and Open Space Commission was established in 1992 to be advisory to the Park Board. It is comprised of eight Mayor-appointed citizens, four Metro Council members and representatives of the Park Board, Planning Commission, Metropolitan Development and Housing Agency, Metro Water Services and the Nashville Department of Transportation. The Commission is served by Metro Parks staff members.
- The efforts of the Greenways and Open Space Commission is supported by Greenways for Nashville, a private-sector, nonprofit friends group.



## Greenways for Nashville

A 501(c)3 non-profit organization founded in 1994,  
working to leverage public and private support to build  
and enhance greenways, and conserve land

# Who is Greenways for Nashville?



Mill Creek Greenway at Orchard Bend

- The official friends' group of the Metro Parks Greenways and Open Space Division
- Privately funded through individual, foundation and corporate donations
- 24-member Board of Directors with 4 full-time and 2 part-time employees
- Greenways for Nashville Community Statistics:
  - 5,606 E-newsletter subscribers
  - 7,627 Facebook followers
  - 2,466 Instagram followers
  - 1,938 Twitter followers
- More Information at [www.greenwaysfornashville.org](http://www.greenwaysfornashville.org)

# What are Greenways?

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- Greenway trail-users range in age from children to seniors and include pedestrians, runners, dog walkers, families with strollers, cyclists and skaters.
- Nashville's greenways are primarily based along our eight major water corridors: the Cumberland River, Browns Creek, Harpeth River, Stones River, Mill Creek, Richland Creek, Seven Mile Creek and Whites Creek.
- Urban greenways located in Nashville's downtown are part of the City Central Greenway, - a planned 35-mile urban greenway loop trail system encircling Nashville's core and connecting out into surrounding neighborhoods.

# What are Greenways?

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- Nashville's greenways are linear parks and trails that connect neighborhoods to schools, parks transportation, shopping and work.
- Often located along natural landscape features like streams, rivers and ridges, or along built features, such as railroad corridors and scenic highways, greenways provide valuable greenspace for conservation of natural resources including wetland, floodplains, plant and wildlife habitat, thereby improving air and water quality in our city.
- Greenways provide readily accessible recreational options in a natural setting, and alternative transportation routes.
- There are nearly 100 miles of greenway trails in the city's system today.

# Greenway Rules in Nashville

**Gr**  
Greenways

## TRAIL RULES

PAVED TRAILS ARE TWO-WAY AND MULTI-USE  
NO MOTORIZED VEHICLES ON THE TRAILS

OPEN DAWN TILL DUSK

**PLEASE FOLLOW THESE RULES**

- Maximum speed on trails is 15 mph
- Keep to the right, pass on the left
- Keep pets on leashes not exceeding six feet
- Bicyclists and skaters yield to pedestrians
- Give audible signal when passing
- Stay on designated trails
- Put trash in receptacles at trailheads

**SAFETY IS OUR HIGHEST PRIORITY**

- Enjoy the greenway with a friend
- Leave valuables at home
- Take car keys with you
- Trails and bridges may be slippery or uneven
- Trail is subject to flash flooding; exit the greenway immediately during heavy rains

**NOTICE**

- No Drugs and Alcohol
- No Horses
- No Hunting

**IMPORTANT PHONE NUMBERS**

- Metro Police 615-862-8600
- Emergency 911
- Metro Parks 615-862-8400

 METRO PARKS NASHVILLE

nashville.gov/greenways

 For ADA Accommodations, please contact 615-862-8400



# What are Electric Bicycles?

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- Electric bicycles, often called e-bikes, are bicycles with an integrated electric motor that does not exceed 750 watts of power.
- Class 1 e-bikes provide electrical assistance only while the rider is pedaling.
- Class 2 e-bikes provide electrical assistance regardless if the rider is pedaling or not.
- On both Class 1 and Class 2 e-bikes, electrical assistance stops if a bicycle reaches 20 mph.
- Class 3 e-bikes provide electrical assistance only while the rider is pedaling up to 28 mph. TN state law currently prohibits the use of Class 3 e-bikes on paths or trails such as Nashville's greenways.
- For more information see Tennessee Bicycle Laws: <https://www.tn.gov/tdot/multimodal-transportation-resources/bicycle-and-pedestrian-program/resources11/tennesse-bicycle-laws.html>
- In the interest of public safety, TN State Law allows a local government to regulate or prohibit Class 1 or Class 2 Electric Bicycles on paths or trails such as Nashville's greenways.

# Tennessee State Law for Electric Bicycles

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Tennessee State Law allows a local government to regulate or prohibit Class 1 or Class 2 Electric Bicycles on paths or trails such as Nashville's greenways.

## **T.C.A. § 55-8-306 Classes of electric bicycles; restrictions; offense**

(a)(1) A class 1 electric bicycle or a class 2 electric bicycle may be operated on any part of a street or highway where bicycles are authorized to travel, including a bicycle lane or other portion of a roadway designated for exclusive use by bicyclists, the shoulder or berm, and any path or trail intended for use by bicyclists.

(2) A local government or state agency having jurisdiction over any part of any path or trail where bicycles are authorized to travel may regulate or prohibit, by resolution or ordinance if a local government or by rule or policy if a state agency, the operation of a class 1 electric bicycle or class 2 electric bicycle on that path or trail, if the local government or state agency determines that the regulation or prohibition is necessary, in the interest of public safety.

(5) Any local resolution or ordinance or state agency rule or policy adopted in accordance with this subsection (a) shall use the definitions in this part for electric bicycle, class 1 electric bicycle, class 2 electric bicycle, or class 3 electric bicycle. References to motor vehicles in any local resolution or ordinance shall not be applicable to an electric bicycle.

# Request for Rule Change

In July 2021 the Metropolitan Board of Parks and Recreation received a request for a rule change that would allow Class 1 ebikes, with a top assist speed of 15 mph, on Metro Greenways.

The Metro Parks Board deferred the request for a rule change to the Greenways and Open Space Commission for a recommendation.

Metro Legal review of State law determined that the existing Metro Park rule prohibiting motorized vehicles on greenways does not prohibit electric bicycles as previously understood. Interpretation of State law indicates that Class 1 and Class 2 electric bikes are currently allowed anywhere that regular bicycles are allowed, including Metro's greenways.

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Greenways

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 METRO PARKS NASHVILLE

nashville.gov/greenways

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# Metro Council RS2021-1101

## Electric Bicycle Legislation

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On August 17, 2021 the Metro Council passed RS2021-1102. Section 1 of the legislation asked for:

*the Nashville Department of Transportation and Multimodal Infrastructure (NDOT), the Greenways and Open Space Commission of the Metropolitan Board of Parks and Recreation, and the Metro Legal Department to solicit input from the community regarding the use of electric assist bicycles (e-bikes) on greenways of the Metropolitan Government. Further, the Council requests that NDOT, the Greenways and Open Space Commission, and the Metro Legal Department gather and review data from peer cities related to e-bikes on greenways to determine whether it would be appropriate to consider regulations more restrictive than current state law. NDOT, the Greenways and Open Space Commission, and the Metro Legal Department should further work with organizations including Walk Bike Nashville and Greenways for Nashville when soliciting community input and gathering peer city data and other information relevant to this process. This community engagement and information gathering process should be completed by January 1, 2022.*

# Community Input

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- Stakeholder group: NDOT, Metro Parks, the Metro Transportation Licensing Commission, the Greenways and Open Space Commission, Greenways for Nashville, Walk Bike Nashville, the Downtown Partnership, the e-bike industry, the community and Council member Burkley Allen.
- Stakeholder meetings were facilitated by the Mayor's office.
- Stakeholder group determined the process for gathering community input and selected peer cities for review.
- Stakeholder group developed a survey to determine community opinions on the use of e-bikes on the greenways. HUB Nashville hosted the survey and created a QR code link.
- The community was invited to participate through highly visible signage placed at the 75+ trailheads on all the Metro Greenways; posters and flyers displayed at community centers, libraries, Centennial Sportsplex and bike shops; through promotion on social media, web sites, e-newsletters, and through an in-person community outreach held at four busy greenway trailheads.
- 2691 survey responses and over 15,000 individuals were reached through the Parks Department's social media platform. The online survey was open from October 29 through November 30, 2021.

What do you think about  
**GREENWAY  
E-BIKE ACCESS?**



**NDOT**

**Take our survey**  
<http://ebikesurvey.nashville.gov>





What do you think about

**GREENWAY**

**E-BIKE ACCESS?**

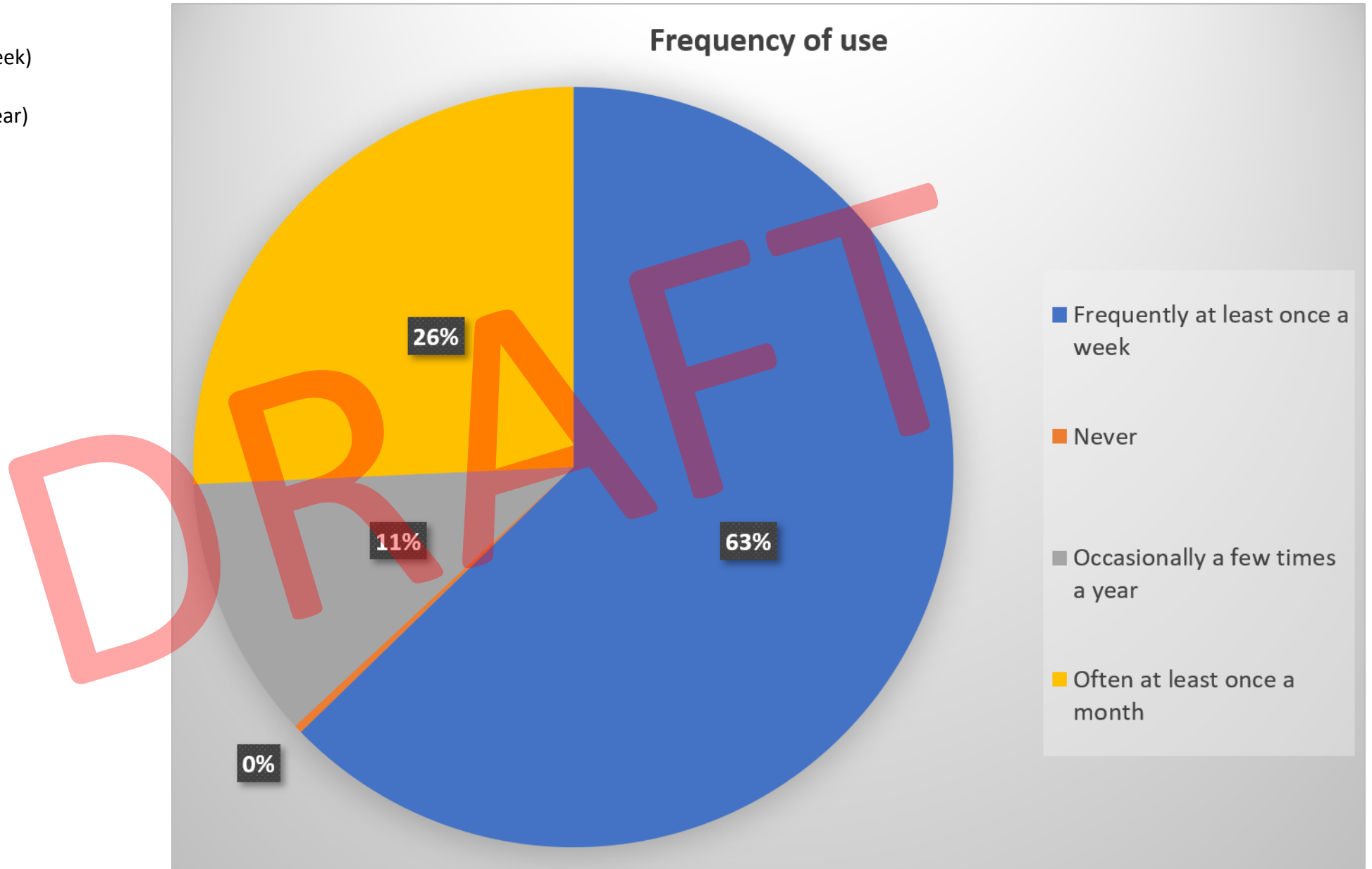
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Survey Results



**Q2. How often do you use the greenways in Nashville?**

- Frequently (at least once a week)
- Often (at least once a month)
- Occasionally (a few times a year)
- Never



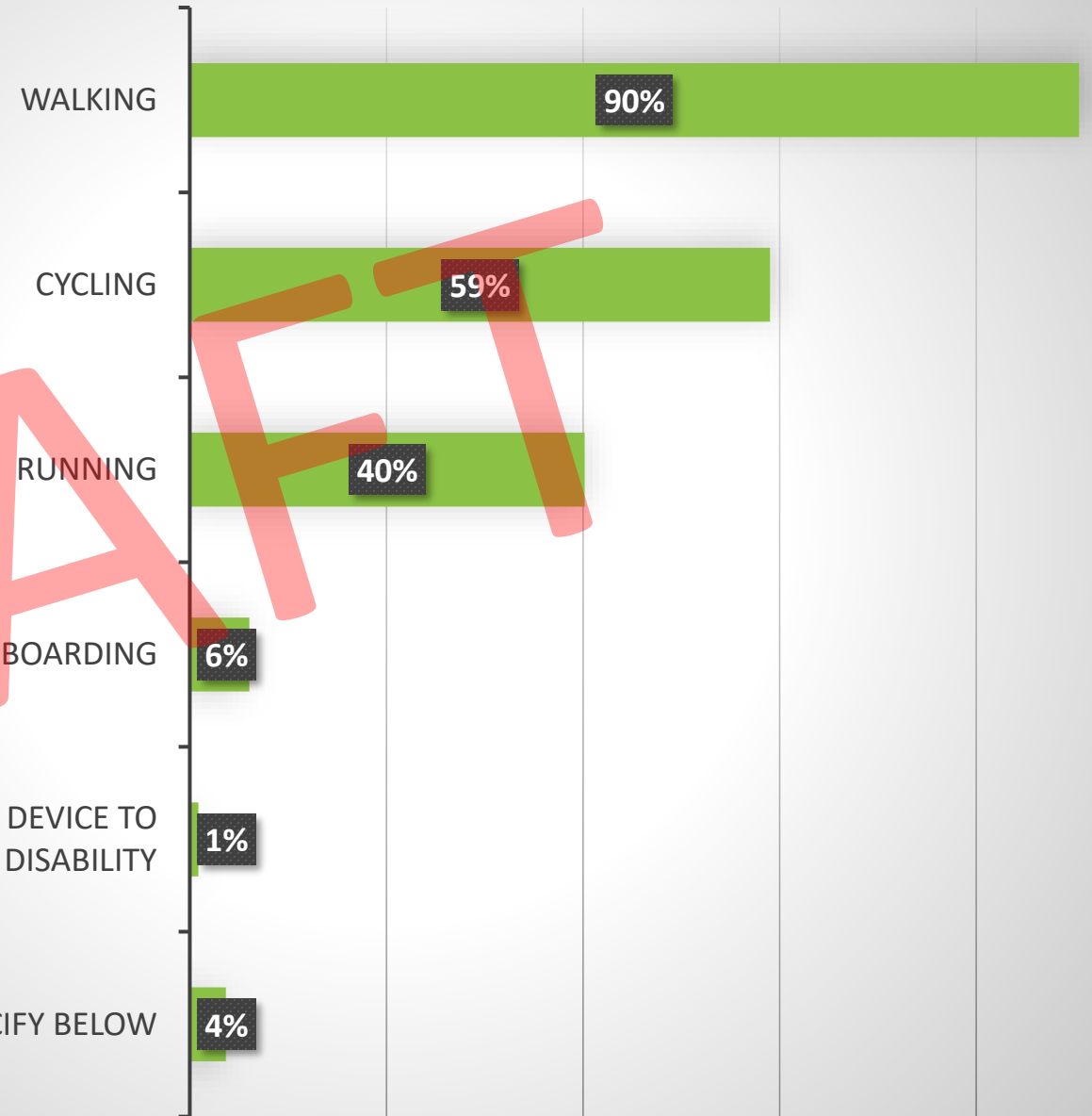


**Q3. Which of the following ways have you used Nashville's greenways in the past 12 months? (Check all that apply.)**

- Walking
- Running
- Cycling
- In-line skating/skateboarding
- In a wheelchair or other device to accommodate a mobility disability
- Other (please specify)

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### Ways of use

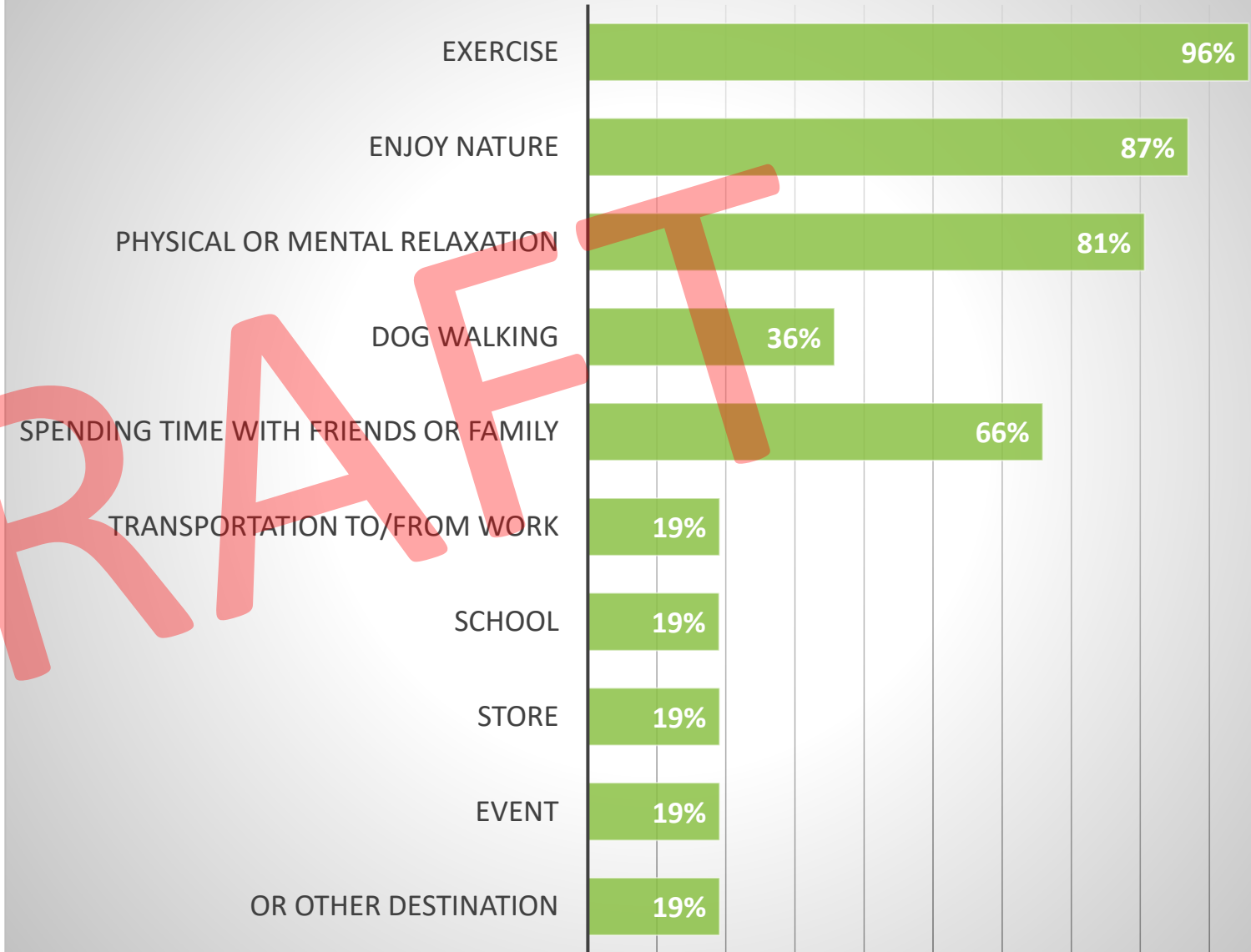


**Q4: For which of the following reasons have you used Nashville's greenways in the past 12 months? (Check all that apply)**

- Exercise
- Explore the city
- Enjoy nature
- Physical or mental relaxation
- Dog walking
- Spending time with friends or family
- Transportation to/from work, school, store, event, or other destination

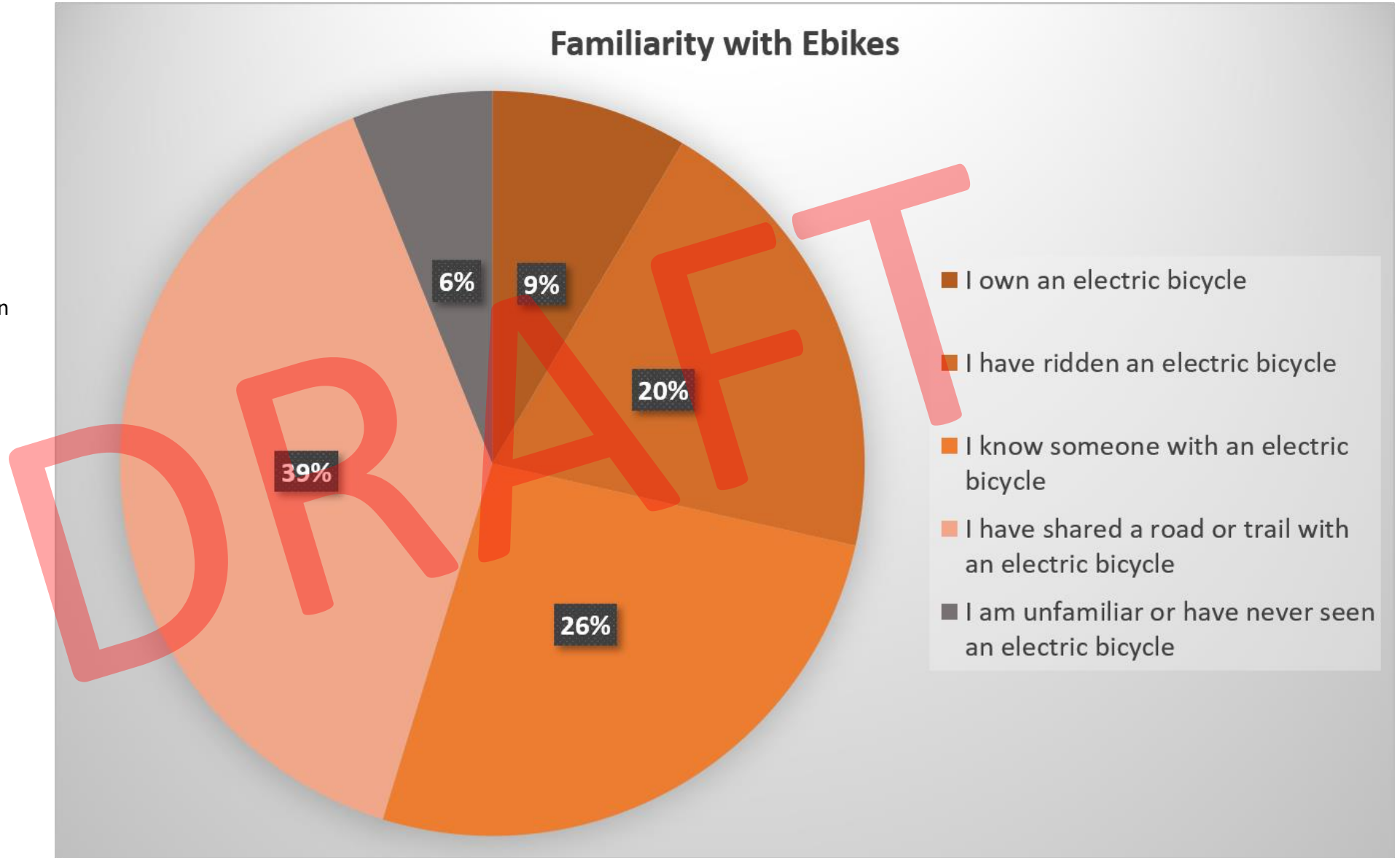
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### Reasons for use



**Q5: How familiar are you with electric bicycles?**

- I own an electric bicycle
- I have ridden an electric bicycle
- I know someone with an electric bicycle
- I have shared a road or trail with an electric bicycle
- I am unfamiliar or have never seen an electric bicycle



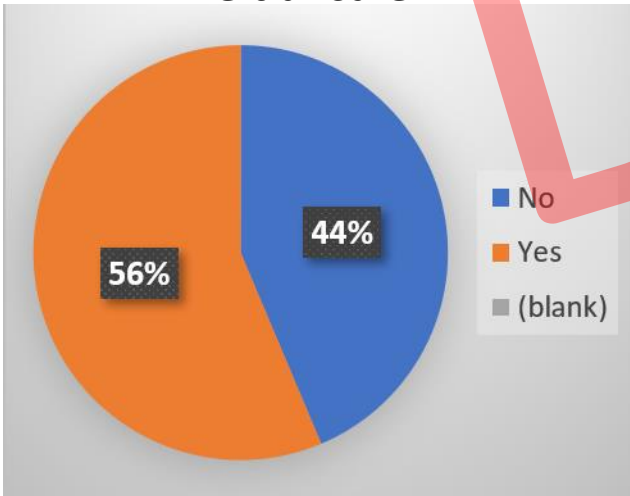
**Q6: Have you ever had a time(s) where you felt unsafe on a Nashville Greenway due to other users?**

- Yes
- No

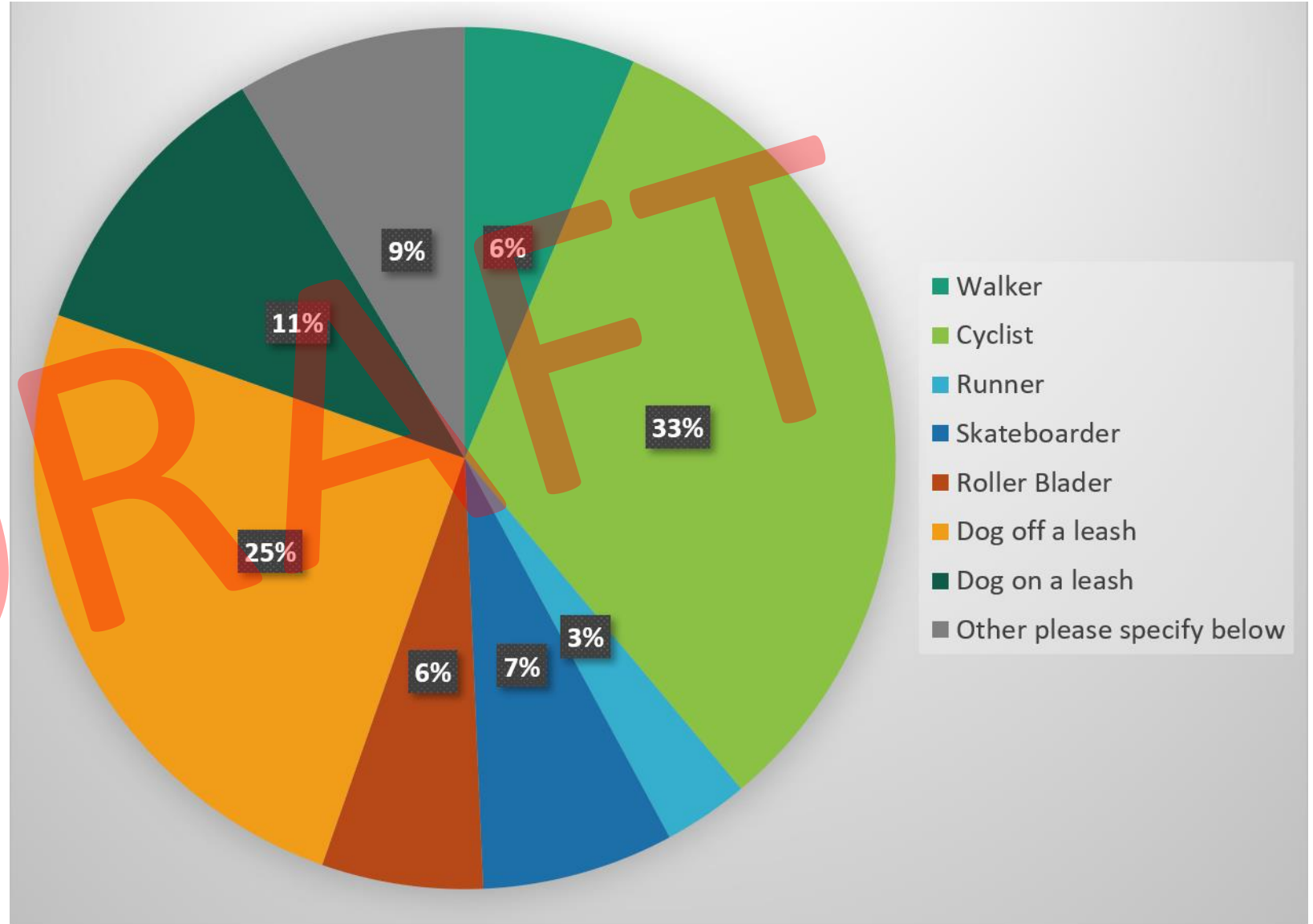
**Q7: If you felt unsafe, which of the following best describe the other greenway user**

- Walker
- Cyclist
- Runner
- Skateboarder
- Rollerblader
- Dog on a leash
- Dog off a leash
- Other please specify below

**Felt unsafe**



**Reasons for feeling unsafe**



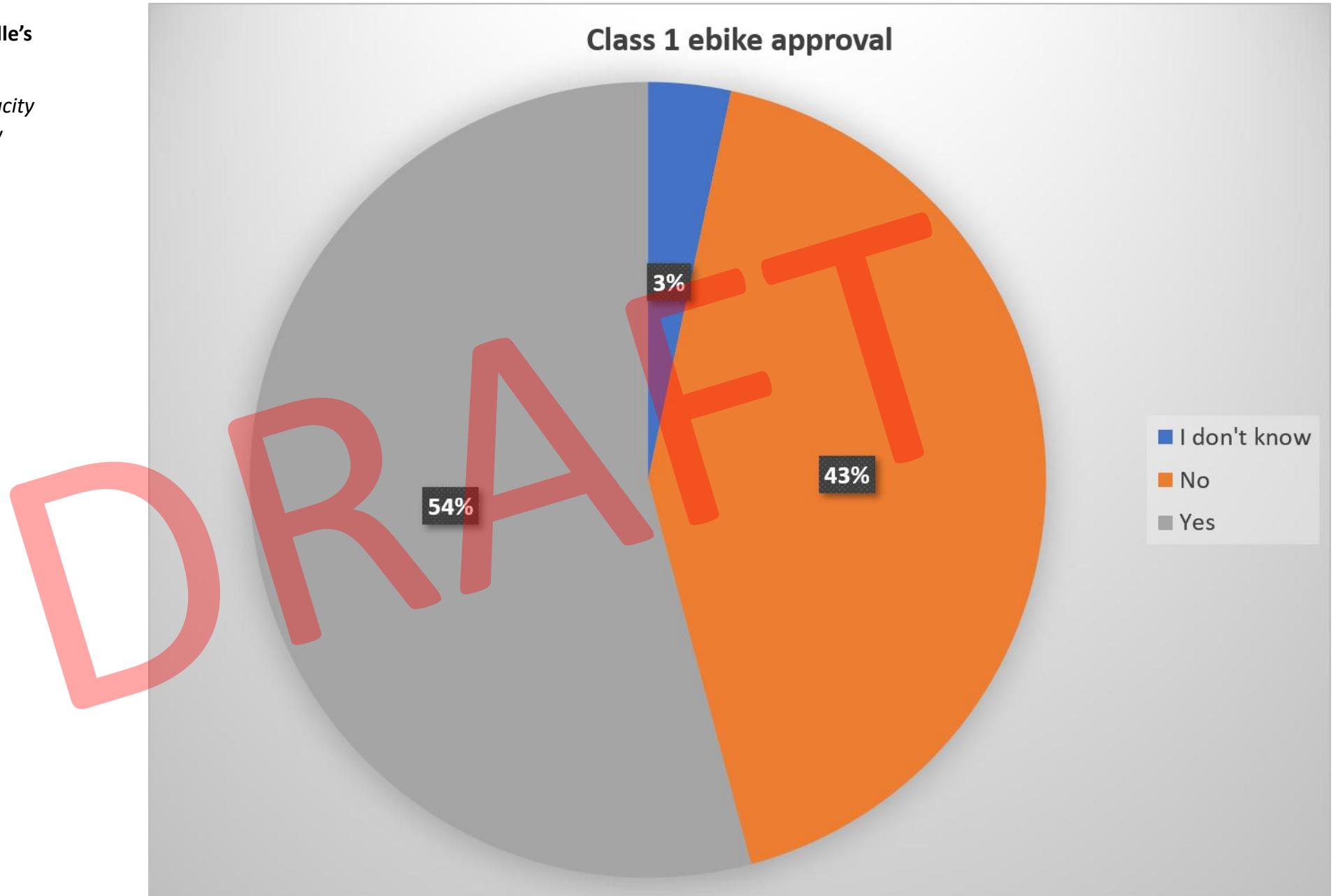
# WAYS OF USE VS REASONS FOR FEELING UNSAFE

	Walker	Cyclist	Runner	Skateboarder	Roller Blader	Dog off a leash	Dog on a leash	Other
Walking	27	1016	88	217	177	746	309	250
Cycling	163	488	68	144	110	501	274	190
Running	75	478	26	86	63	344	137	127
In-line skating/skateboarding	10	56	5	3	1	57	24	16
Wheelchair	1	7	1	5	5	11	4	1
Other	8	42	4	11	12	41	11	24

**Q8: Do you approve of the use of Class 1 Electric Bicycles on Nashville's greenways?**

*Class 1 Electric Bikes have the capacity to provide powered assistance only when pedaled up to 20 mph.*

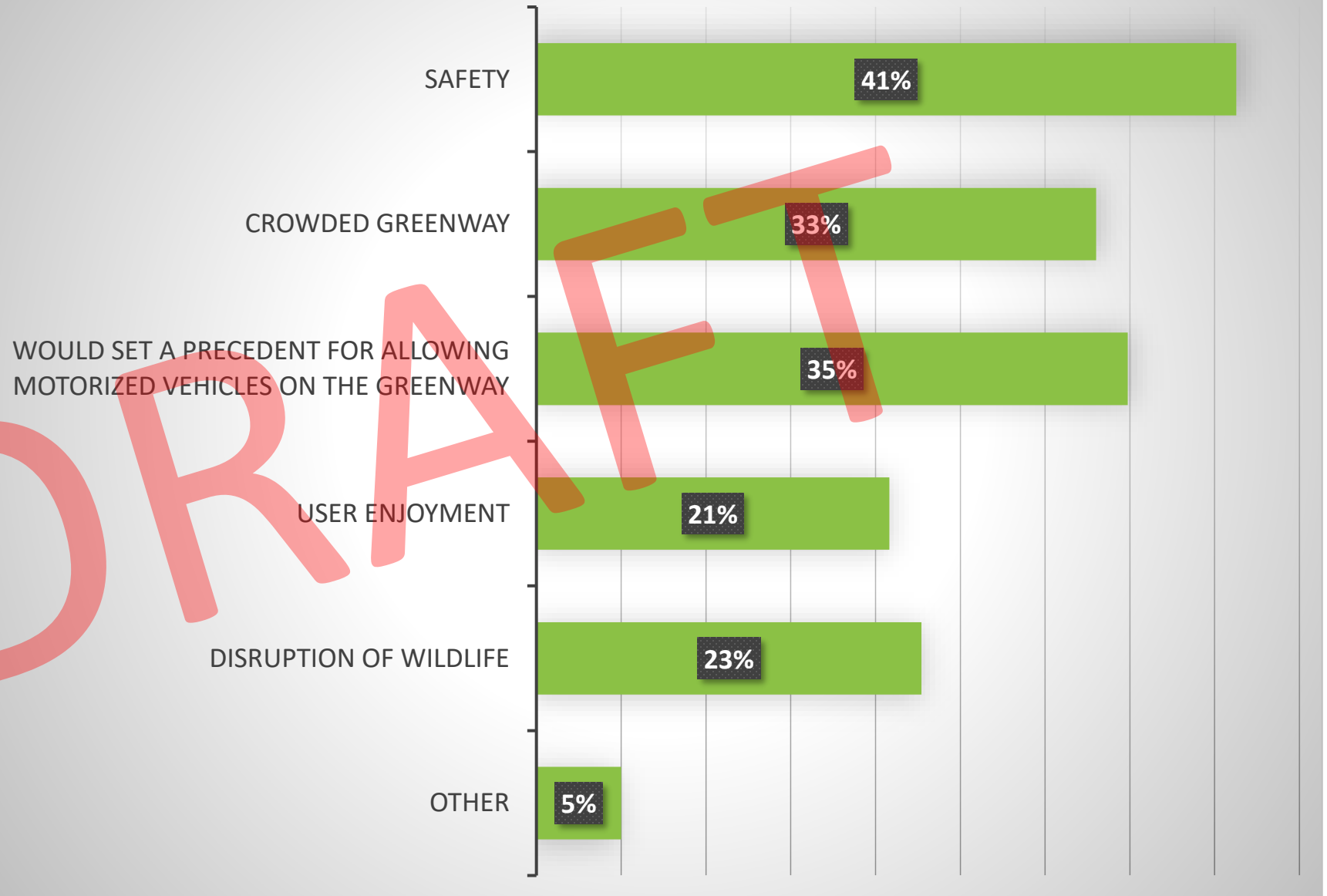
- Yes
- No
- I don't know



**If no, then check all that apply:**

- Safety
- Crowded greenway
- Would set a precedent for allowing motorized vehicles on the greenway
- User enjoyment
- Disruption of wildlife
- Other

**Class 1 e-bike-Reasons for disapproval**



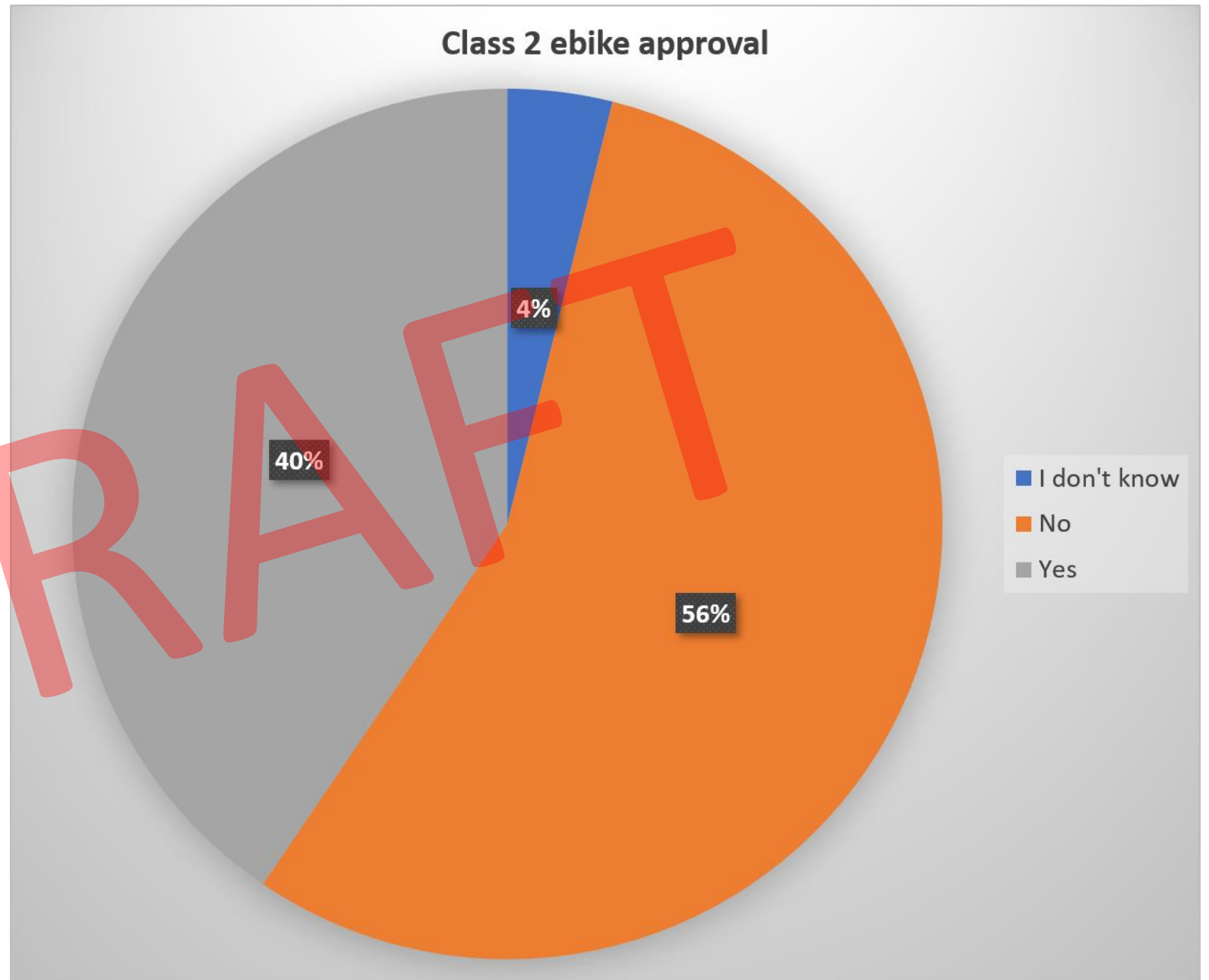
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**Q9: Do you approve of the use of Class 2 Electric Bikes on Nashville's greenways?**

*Class 2 Electric Bikes Class 2 e-bikes provide electrical assistance regardless if the rider is pedaling or not up to 20 mph.*

- Yes
- No
- I don't know

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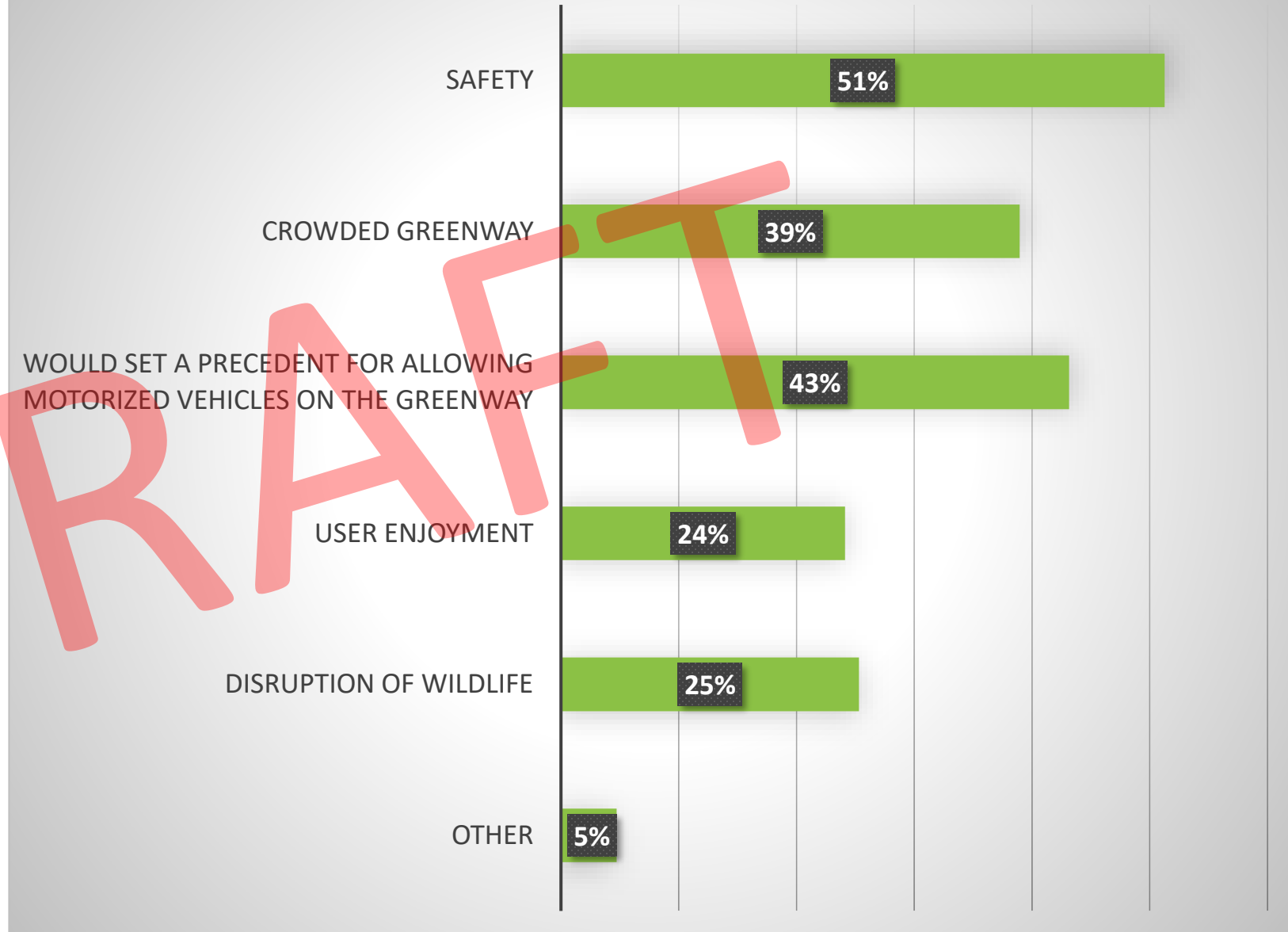




**If no, then check all that apply:**

- Safety
- Crowded greenway
- Would set a precedent for allowing motorized vehicles on the greenway
- User enjoyment
- Disruption of wildlife
- Other

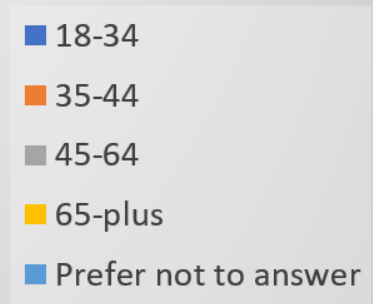
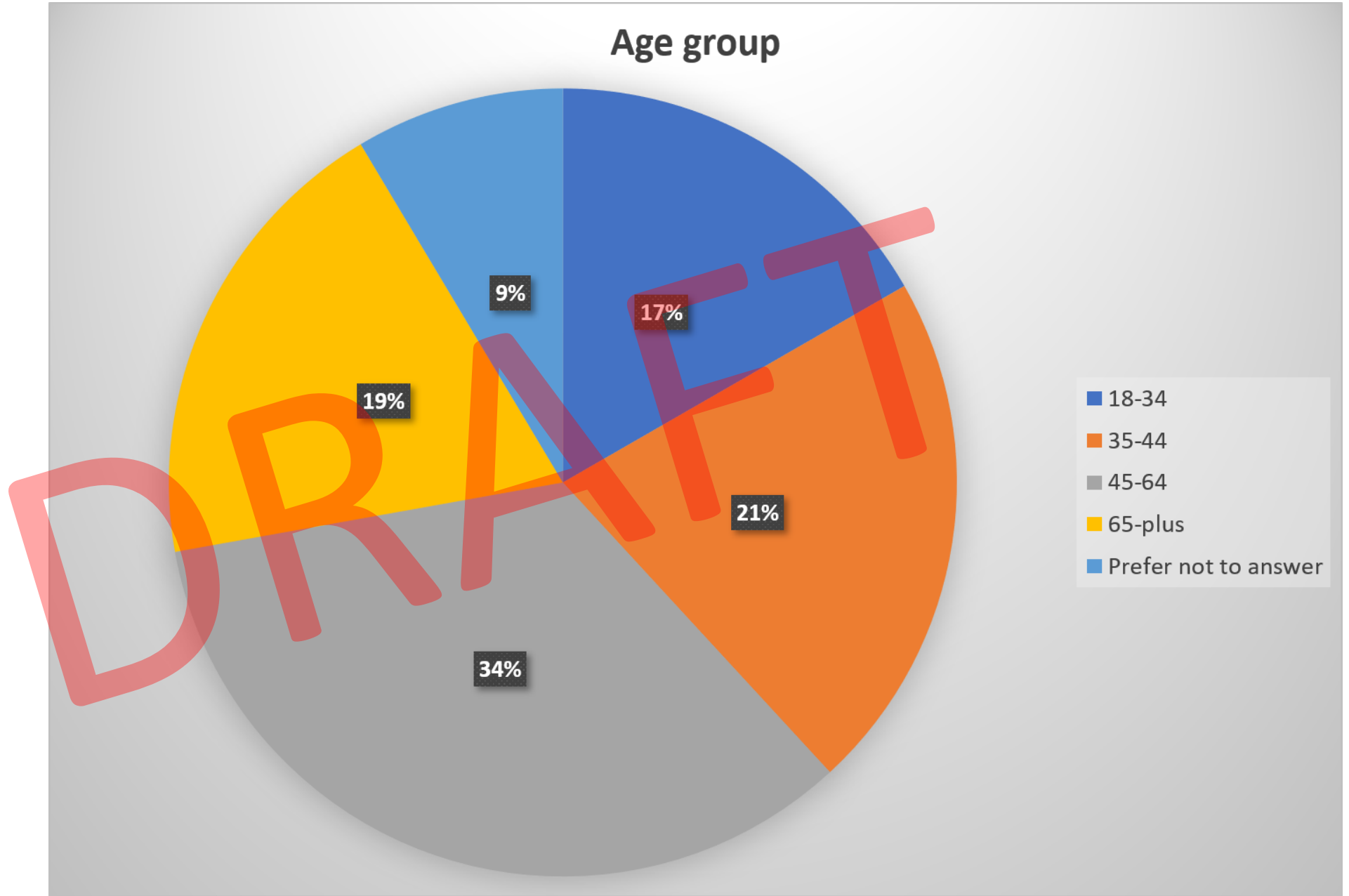
**Class 2 e-bike – Reasons for disapproval**



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What is your Age group?

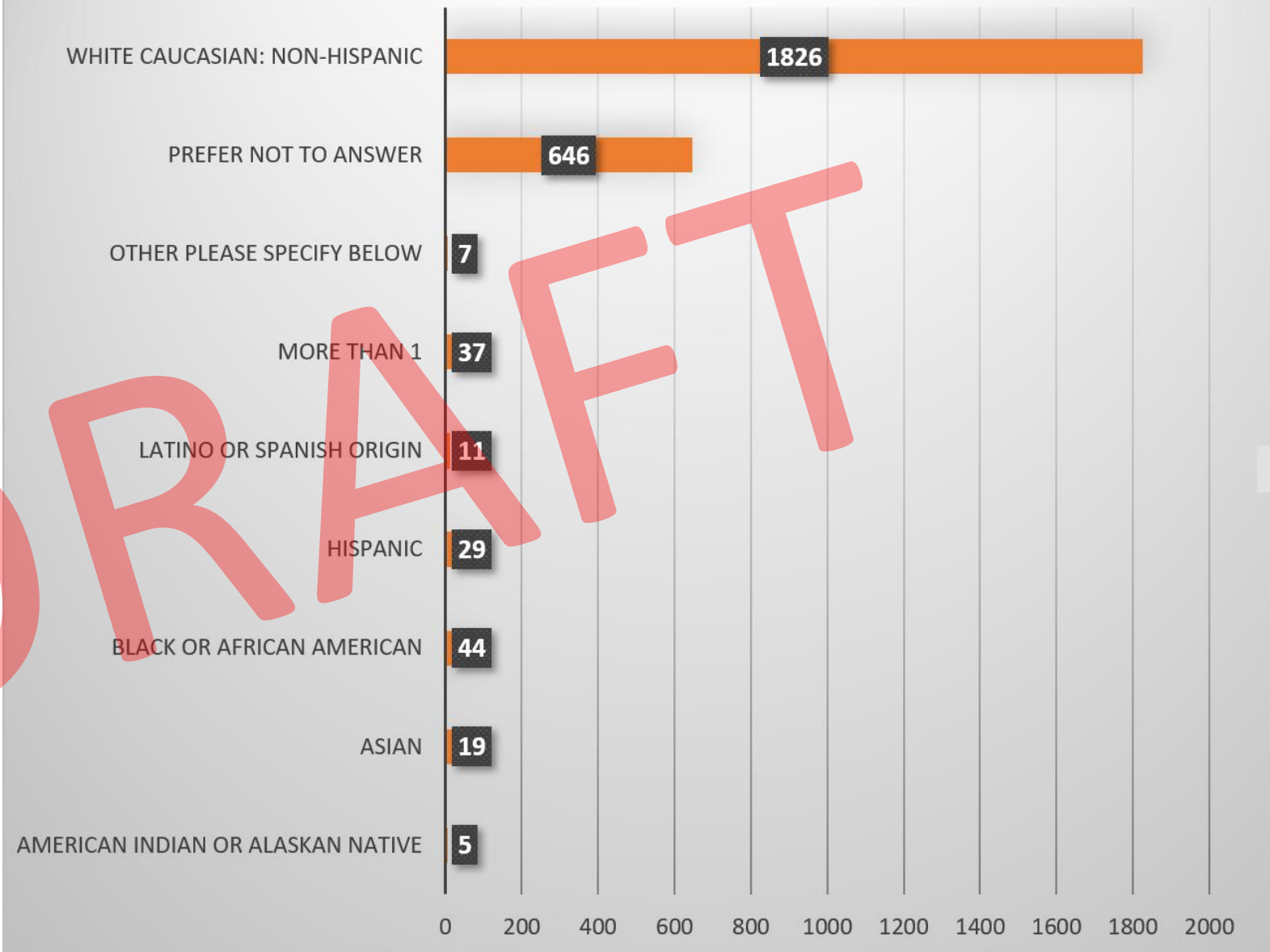
- 18-34
- 35 - 44
- 45-64
- 65-plus
- Prefer not to answer



**Which of the following best describes your racial or ethnic identity?**

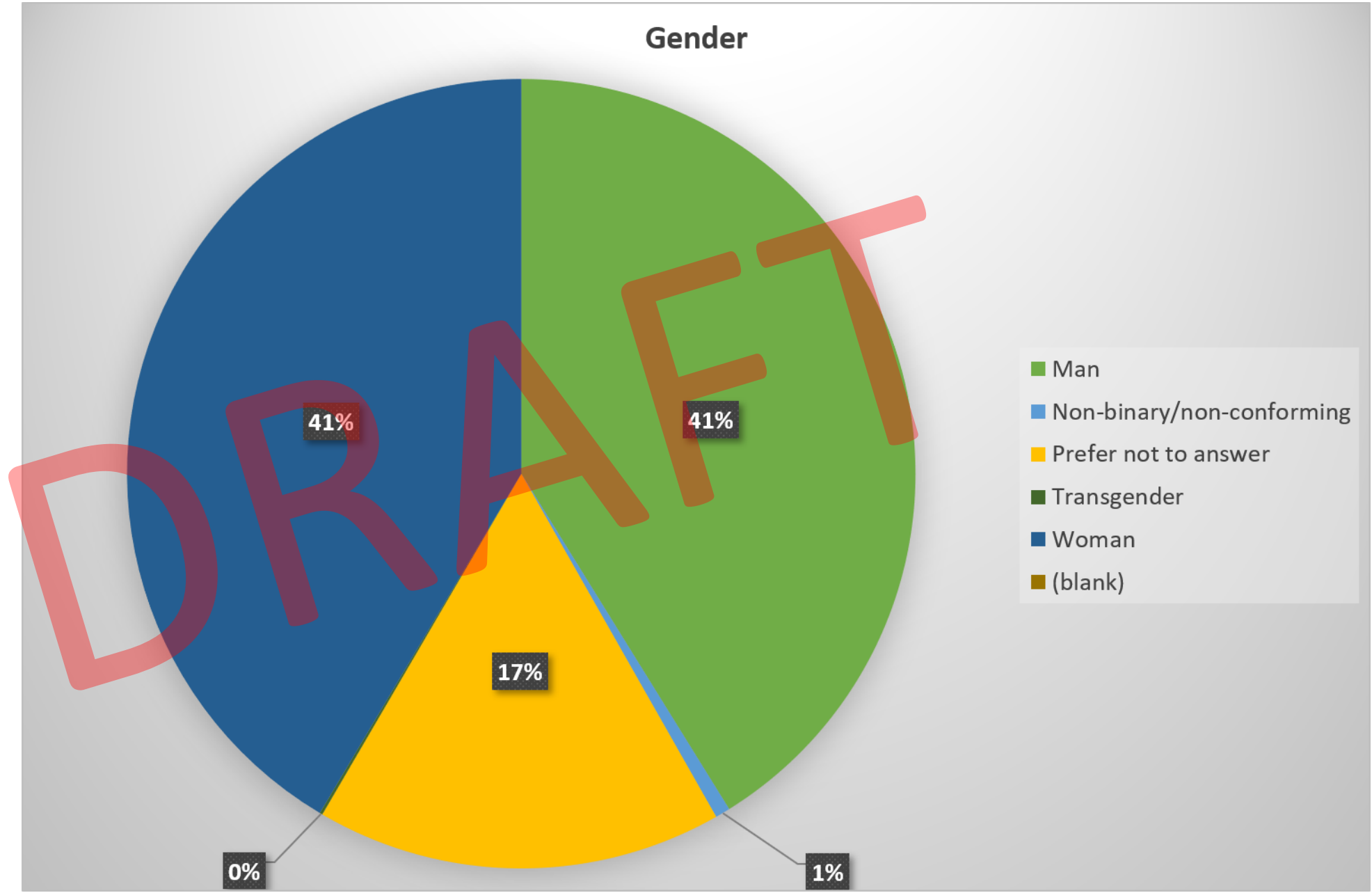
- American Indian or Alaskan Native
- Asian
- Black or African American
- Hispanic, Latino or Spanish Origin
- White (Caucasian: non-Hispanic)
- More than 1
- Prefer not to answer
- Other (please specify)

**Racial or Ethnic Identity**

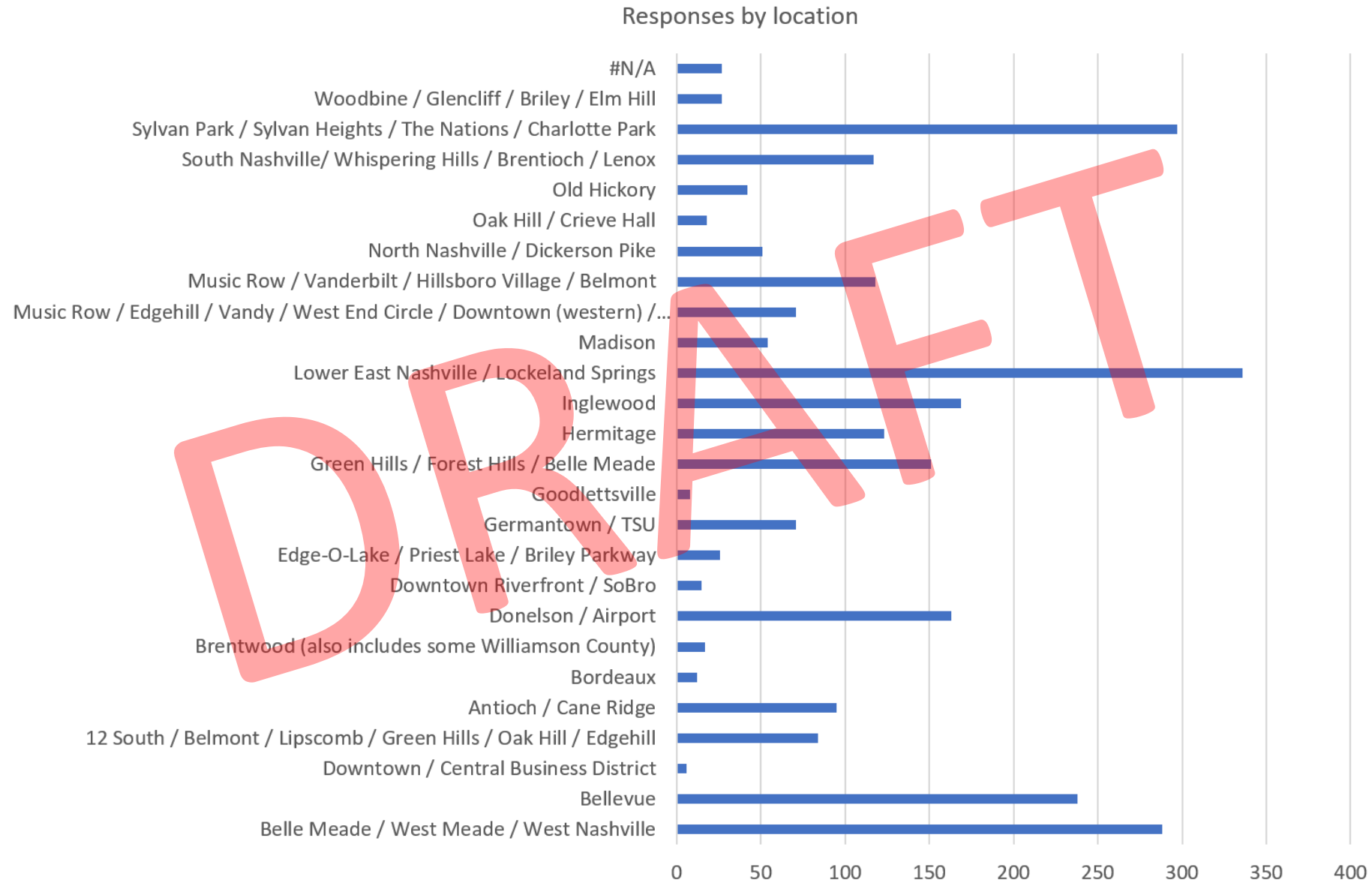


Which of the following best describes your gender identity?

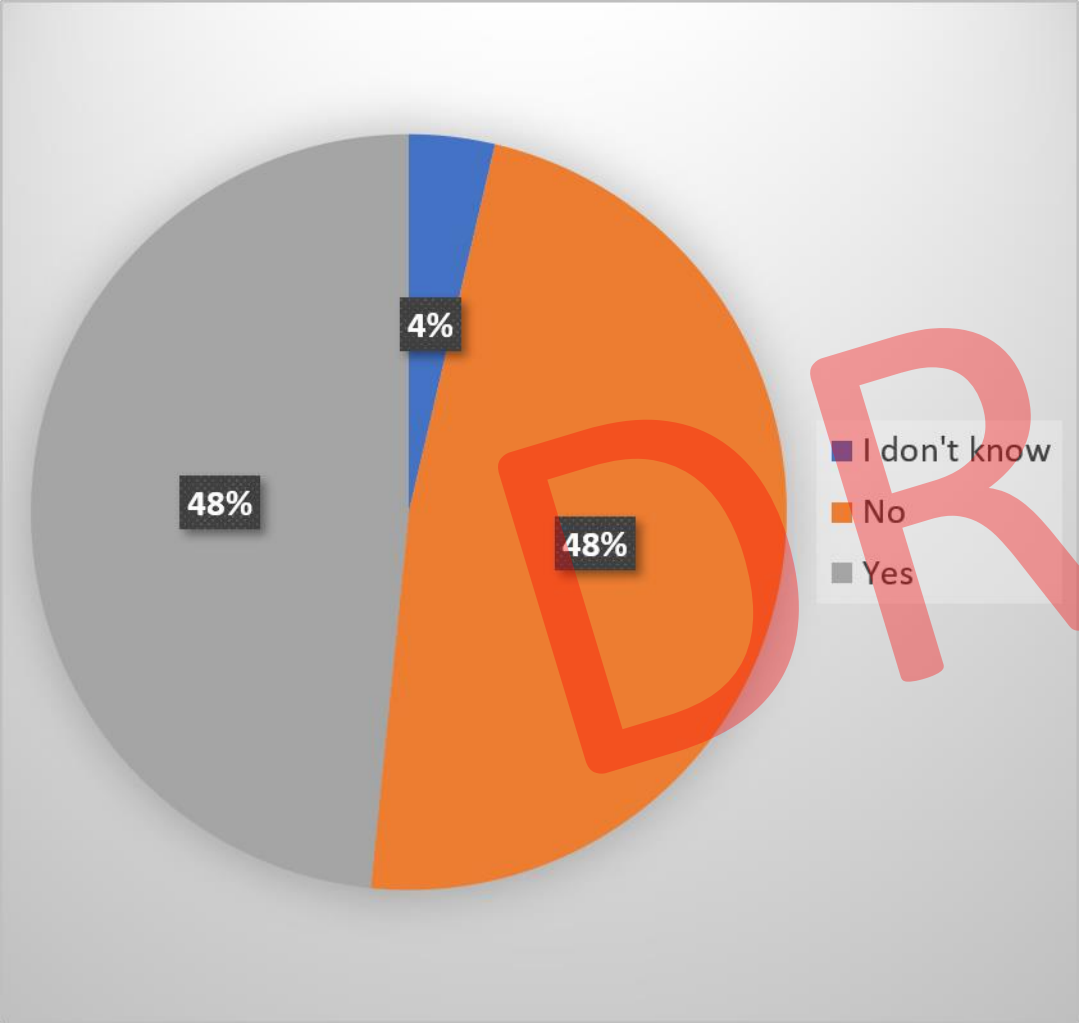
- Man
- Woman
- Non-binary/non-conforming
- Transgender
- Prefer not to answer



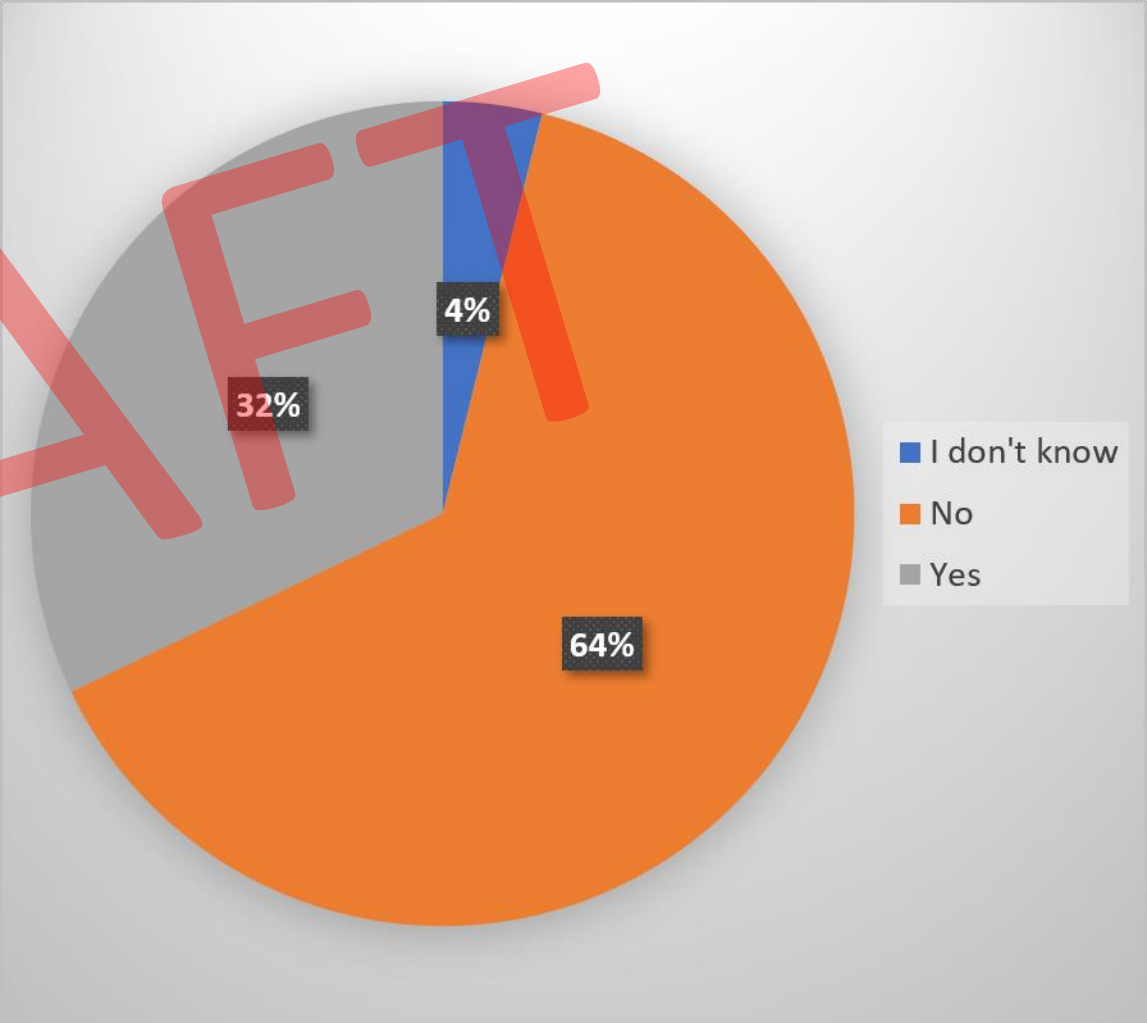
## Survey responses by location



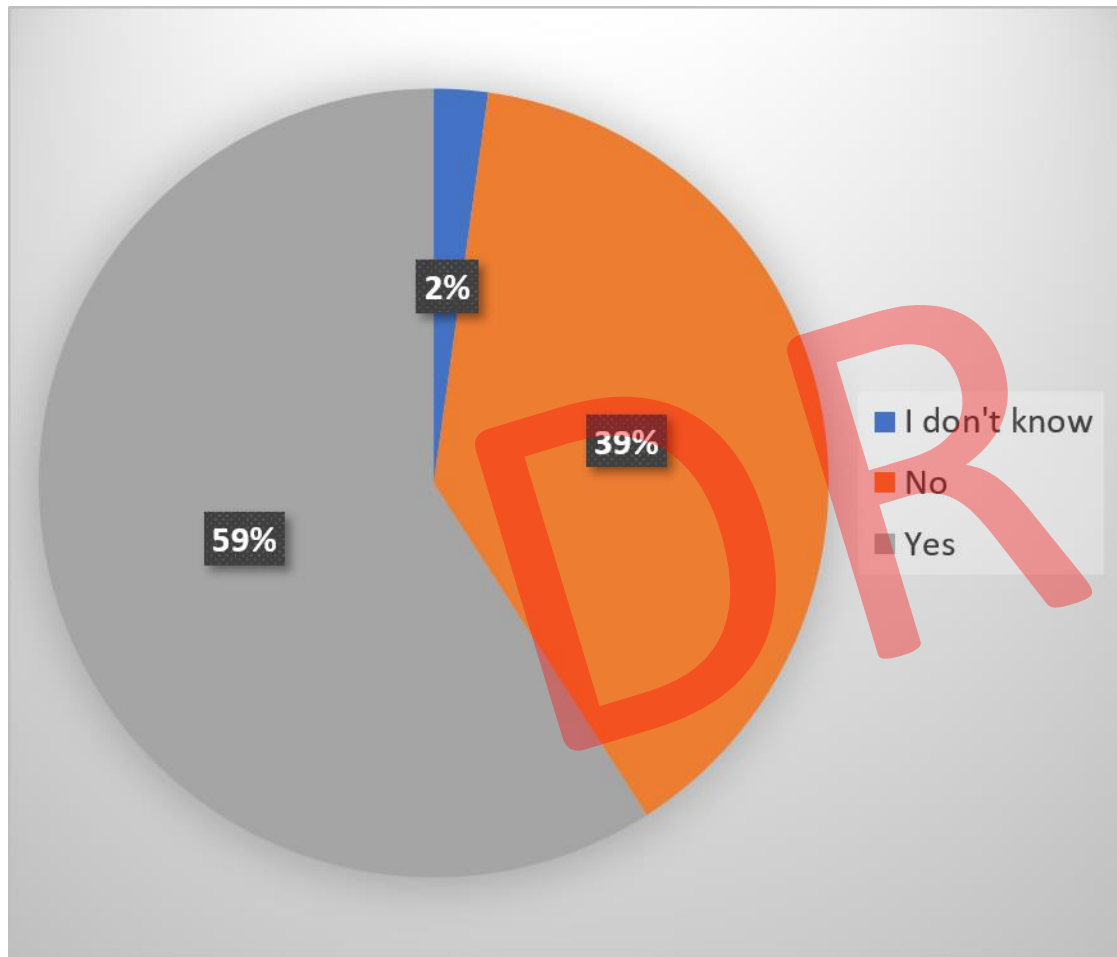
Approval for Class 1 e-bikes for age group 65+ and familiar with e-bikes



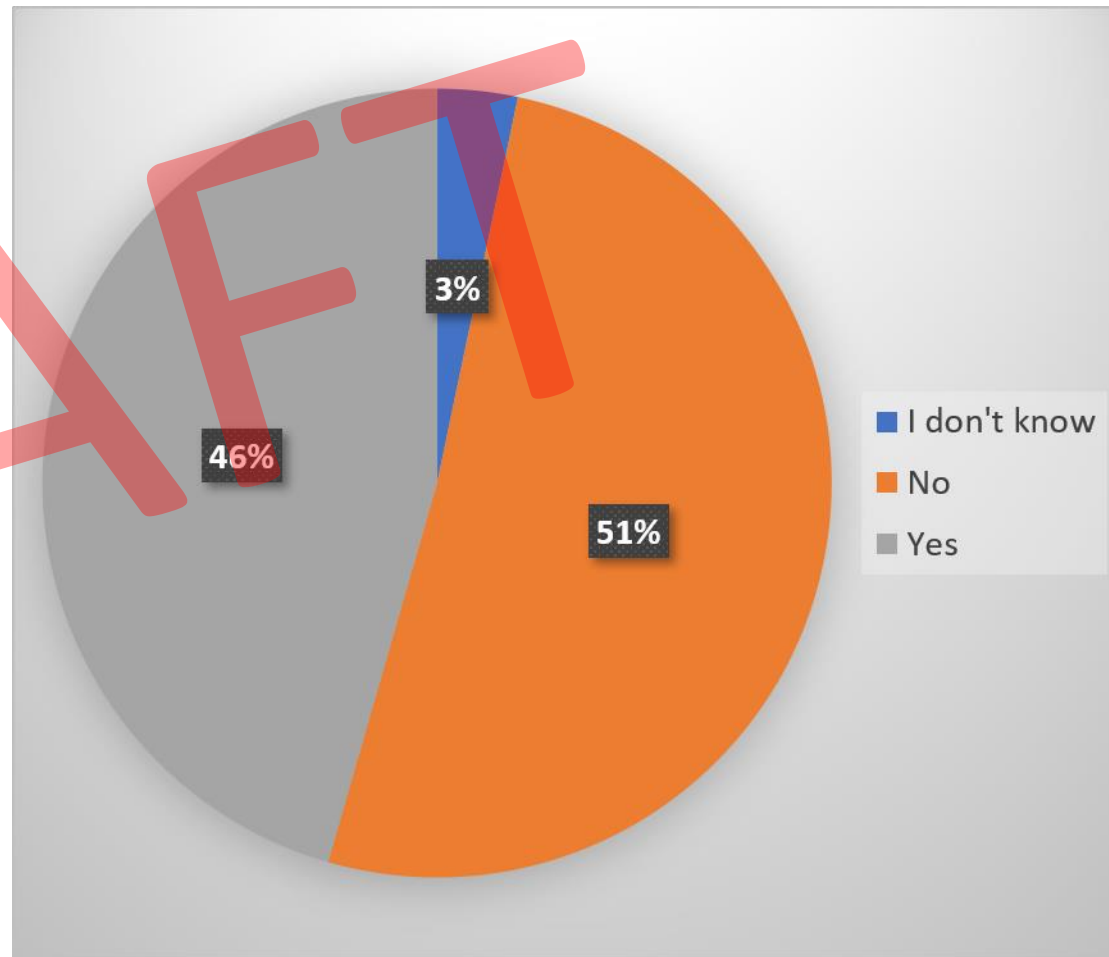
Approval for Class 2 e-bikes for age group 65+ and familiar with e-bikes



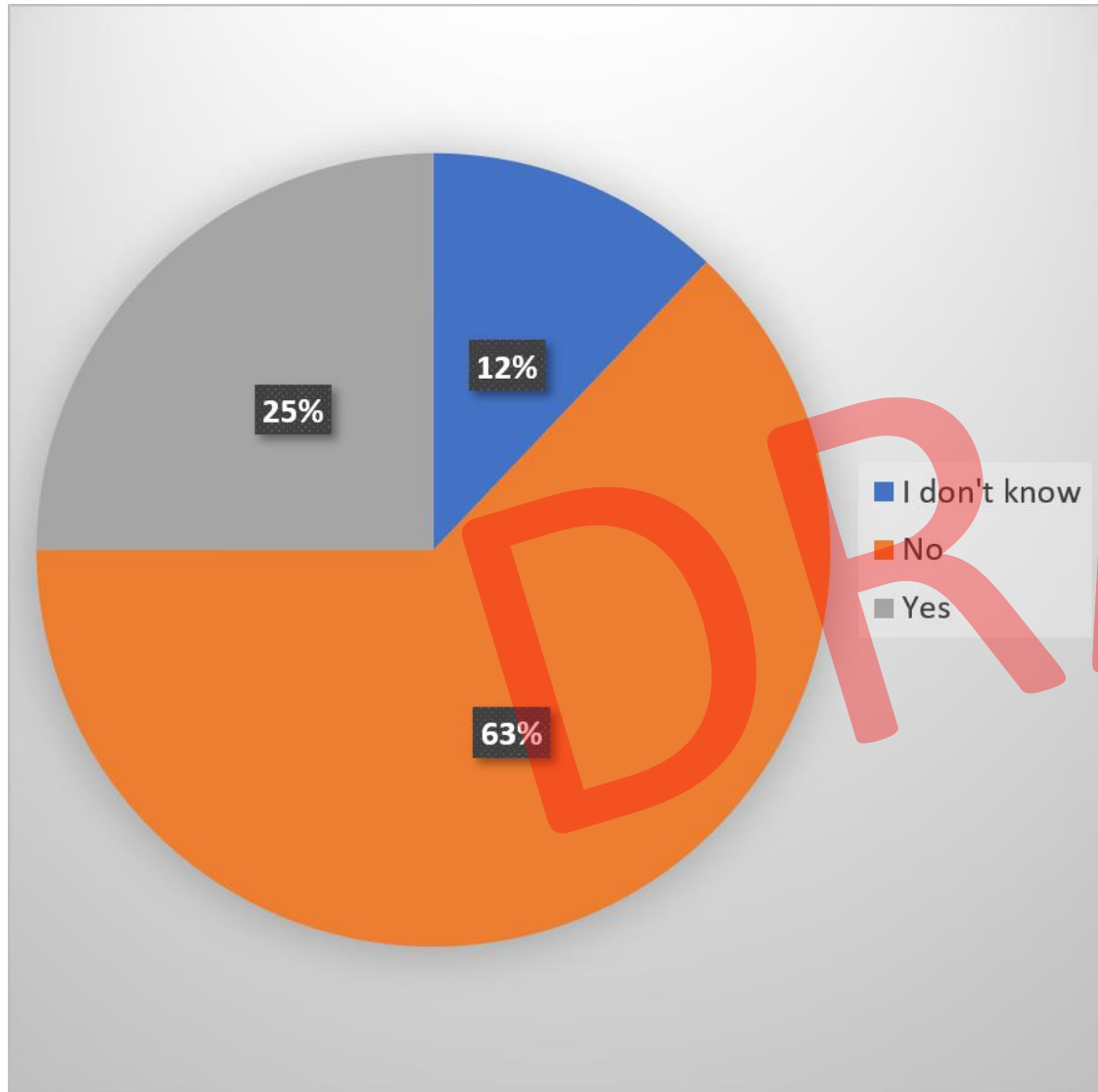
Approval for Class 1 e-bikes for age group under 65 and familiar with ebikes



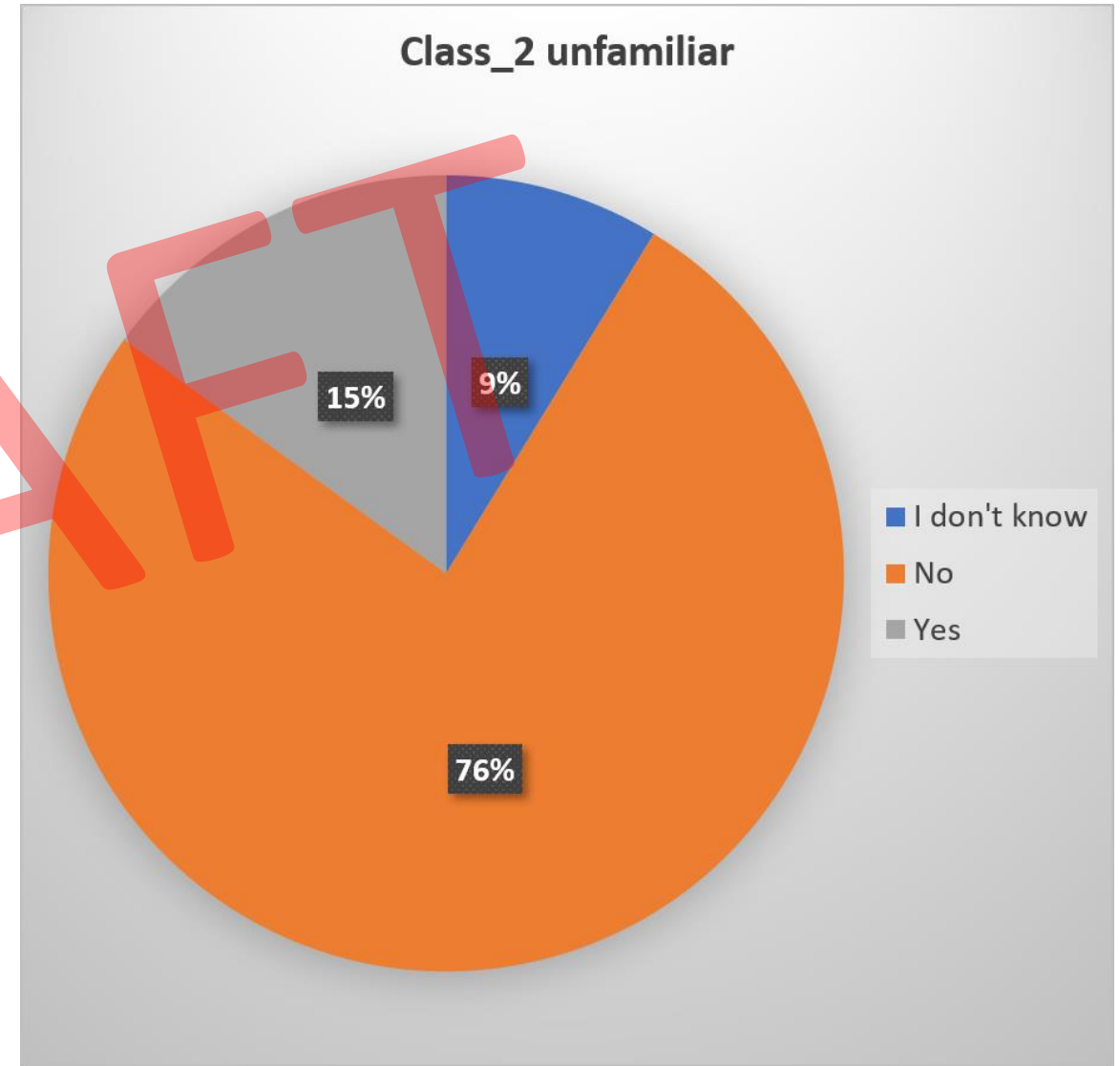
Approval for Class 2 e-bikes for age group under 65 and familiar with e-bikes



Approval for Class 1 e-bikes all ages, unfamiliar with ebikes



Approval for Class 2 e-bikes, all ages, unfamiliar with e-bikes





# Review of Peer City Ebike Laws

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# Austin, Texas E Bike Laws

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- The state of Texas defines e-bikes as an electric assisted bicycle equipped with a motor of less than 750w. Electric bikes are classified as:
  - Class 1: e-Bikes equipped with a pedal-assist only motor which stops when the bike reaches 20 mph.
  - Class 2: Electric bikes equipped with a motor that may be used exclusively to propel the bicycle and stop when the bike reaches the speed of 20 mph.
  - Class 3: Electric bicycles equipped with a motor that provides assistance only when the rider is pedaling and stops when the rider stops pedaling or when the bicycle reaches the speed of 28 mph.
- E bikes, Scooters, and other motorized devices are prohibited on **city trails** by law. Austin Code of Ordinances § 8-1-31 prohibits any “motor driven device in a public recreation area,” which includes park trails.
- Texas Parks and Wildlife Department is considering new regulations around e-bike access but does not currently allow e-bikes on non-motorized trails.

# Boulder, Colorado EBike Laws

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- On Nov. 8, 2018, the Board of County Commissioners approved a one-year pilot period starting Jan. 1, 2019, to allow e-bikes on certain trails, specifically the regional trails and the plains trails minus the Boulder Canyon Trail, the Coalton Trail, the Mayhoffer Singletree Trail north of Coal Creek Drive, and trails at Walden Ponds.
- The decision also called for staff to study the mechanism by which the county might make such a policy permanent if so decided at a later date following robust discussion with the public and the Planning Commission who will help design the pilot study in coordination with the Board of Commissioners in order to collect the data necessary for that decision.
- Boulder County conducted a **pilot study** and received public input and ultimately recommended to the Board of County Commissioners to allow class 1 and class 2 e-bikes. I've listed their rationale for recommending e-bikes below:
  - E-bikes are here and though they are a small portion of trail visitors today, their use will likely continue to increase as price points become more competitive combined with demographic trends of aging baby boomers. Acceptance of e-bikes is fairly high and will likely continue to grow. As the technology evolves, it will become more difficult to distinguish some e-bikes from conventional bikes.
  - The importance of enhancing trail connectivity among municipal neighborhoods, local open spaces, and regional trails is identified in the BOCC's 2019-2023 Land and Water Stewardship Strategic Priority. All municipalities within Boulder County allow e-bikes on either their multimodal trails (City of Boulder) or all trails that allow conventional bikes (all other municipalities).

# Boulder, Colorado EBike Laws

- The accessibility and sustainability benefits provided by class 1 and class 2 e-bikes outweigh the negatives that may result from crowding, conflict, and safety concerns. These trends are a result of increased recreational demand and use by all visitors, not just e-bikes, and should be broadly addressed.
- One lesson from the pilot study research is that the county can be more proactive in its trail maintenance, hazard signage, and education and outreach efforts regarding trail courtesy for all visitors and user types.
- On Nov. 13, 2019, the Board of County Commissioners (BOCC) approved allowing class 1 and class 2 e-bikes on Boulder County trails on the plains where regular bikes are allowed, including regional trails and trails on open space parks, with certain exceptions. Those exceptions include anywhere e-bikes are not allowed due to underlying existing land restriction and three trails requested by the City of Boulder: The Boulder Canyon Trail (due to prohibition of motorized uses on a parcel owned by City of Boulder), Coalton Trail and Mayhoffer-Singletree Trail (because these two county trails lead to city-owned trails where e-bikes are not allowed, and there is no option to leave the trail).
  - (Source: <https://www.bouldercounty.org/open-space/management/e-bikes/#:~:text=E%2Dbikes%20Approved%20by%20Commissioners&text=13%2C%202019%2C%20the%20Board%20of,space%20parks%2C%20with%20certain%20exceptions.> )
- Boulder County Parks and Open Space Memo to County Commission: <https://assets.bouldercounty.org/wp-content/uploads/2019/11/e-bikes-recommendation-bocc-11-13-2019.pdf>

# Charlotte, North Carolina Ebike Laws

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- The state of North Carolina (NC) defines an electric bike as a bicycle with a small helper motor with less than 750W and a maximum speed of 25mph on flat surfaces.
- Electric bicycles are permitted to ride on all public highways and roadways with a posted speed limit of less than 25mph, on sidewalks, in bike lanes and on bike paths. Operators of electric bikes must yield the right-of-way to pedestrian and human-powered devices.
- According to the North Carolina Division of Parks and Recreation, e-bikes are allowed access to designated bicycle trails and do not qualify as fully motorized.
- The City of Charlotte's Bicycle Program works to make bicycling in Charlotte safe, comfortable, and convenient for people of all ages, abilities, and neighborhoods. In recognition of its efforts to improve its bicycle environment, the City of Charlotte is recognized by the League of American Bicyclists as a bronze-level Bicycle Friendly Community.

# Colorado Springs, Colorado Ebike Laws

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- **E-bike use on Colorado Parks and Wildlife Lands**
  - 1 and 2 e-bikes are allowed the same access as road bikes and mountain bikes, while class 3 e-bikes are only to be allowed on roadways and in designated bike lanes.
- **E-bike use on State Park Lands**
  - Class 1 and 2 e-bikes are allowed on roadways and designated bike lanes and on multi-use trails and other areas (e.g., campgrounds) that are open to non-motorized biking.
  - Class 3 e-bikes are only allowed on designated roadways and designated bike lanes.
- **E-bike use on State Wildlife Areas**
  - In [State Wildlife Areas](#), e-bikes are allowed on designated roads and within designated camping or parking areas where motorized vehicles are allowed.
  - They are prohibited in all other areas.
- **E-bike use on State Trust Lands**
  - Public access on [State Trust Lands](#) is restricted to hunting, fishing and watchable wildlife activity. E-bikes are only allowed for use on designated roads when being used for these activities. Visitors to State Trust Lands are required to possess a proper and valid hunting or fishing license.
- A pilot program to expand e-bike access on city-owned and maintained trails has been postponed until further notice.
- Colorado Springs allows Class 1 e-bikes to operate on Urban Trails. These trails are typically described as local commuting and recreational trails which traverse neighborhoods and connect to the core of the City of Colorado Springs.
- At this time e-bikes are not to be operated on what is commonly known as multi-use trails. These trails are always soft surfaces and are part of large Regional Park or Open Space property infrastructure.

# Denver, Colorado Ebike Laws

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- Relevant state law information can be found in the Colorado Springs section.
- All Denver bike paths allow Class 1 and 2 eBikes with Class 3 allowable under certain circumstances.
- Like bike paths, Class 1 and 2 eBikes are allowed on all Denver and Colorado multi-use trails. Some multi-use trails allow Class 3 eBikes, but it depends on the individual trail. If Class 3 eBikes are not allowed there will be a signed indicator at trail entrances.
- Denver has one of the best bike trail systems in the country, and those trails are open to Class 1 and 2 eBikes without restriction and Class 3 if you follow the respective trail rules and speed limits. Denver encourages eBikes to stay in the road unless it's dangerous in which case you should ride carefully on sidewalks.

# Ft. Worth, Texas Ebike Laws

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- The state of Texas defines e-bikes as an electric assisted bicycle equipped with a motor of less than 750w. Electric bikes are classified as:
  - Class 1: e-Bikes equipped with a pedal-assist only motor which stops when the bike reaches 20 mph.
  - Class 2: Electric bikes equipped with a motor that may be used exclusively to propel the bicycle and stop when the bike reaches the speed of 20 mph.
  - Class 3: Electric bicycles equipped with a motor that provides assistance only when the rider is pedaling and stops when the rider stops pedaling or when the bicycle reaches the speed of 28 mph.
- Electric bicycles are permitted in Ft. Worth, but we are unable to locate city rules/ordinances about their permission to be in parks and on trails.



# New York City, New York Ebike Laws

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- New York City Electric Bikes Chart found here:  
<https://www1.nyc.gov/html/dot/downloads/pdf/ebikes-more-english.pdf>
- NYC park rules prohibit motor vehicles in a park, except on designated park roads, greenways, and parking areas. This includes all e-bikes, scooters, mopeds, and other motorized vehicles, as defined by the New York State Department of Motor Vehicle Code.
- While New York State's definition of a motor vehicle explicitly excludes all three classes of e-bikes, the same piece of legislation allows municipalities to pass their own regulations regarding the usage of e-bikes and other vehicles. It is therefore legal for the Parks Department to ban e-bikes and e-scooters from inside NYC parks.

# St. Louis, Missouri Ebike Laws

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- E-Bikes shall be Pedelec, meaning a bicycle with an electric motor which assists the rider but only while they are pedaling. The Consumer Product Safety Act regulates the use of low speed electric bicycles to “two-or three-wheeled vehicles with fully operable pedals and an electric motor of less than 750 watts (1 horse power), whose maximum speed on a paved level surface, when powered solely by such a motor while ridden by an operator, is less than 20 mph” (Source: <https://stlouiscountymo.gov/st-louis-county-departments/parks/about/departments-policies/bicycling-policy/#:~:text=%E2%9D%96%20E%2DBikes%20are%20allowed%20on%20all%20trails%20open%20to%20bicycles.>)

# St. Louis, Missouri Ebike Laws

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- The following rules are applied to the operation of E-Bikes:
  - E-Bikes shall have no more than one rider at a time.
  - The minimum age of an E-Bike operator is 16 years unless supervised by an adult.
  - E-Bikes must not be operated in a dangerous or reckless manner that may jeopardize the safety of the operator, employees, or the general public or that may cause damage to property.
  - The operator of the E-Bike must abide by all rules of the bicycling policy.
  - Saint Louis County Parks reserves the right to limit E-Bike use if such limitation is required to protect the public health, safety and welfare of park users.
  - Saint Louis County Parks accepts no responsibility for transporting the E-Bike to and from any trail.
  - The operator of the E-Bike is responsible for ensuring the device works properly, per manufacturer's instructions.
  - Saint Louis County Parks accepts no responsibility for providing battery or emergency retrieval of E-Bikes under any circumstances, including, but not limited to, failed power of the device.
  - Saint Louis County Parks accepts no liability for damages to the E-Bike or injury to the operator, whether caused by operator, another trail user or any other circumstance.
  - Saint Louis County Parks accepts no liability for damages caused by the operator of the E-Bike or injury to others caused by the operator of the E-Bike.
  - E-Bikes shall not exceed typical trail speeds based on existing trail conditions.
  - E-Bike operators shall obey all traffic laws.
  - E-Bikes are allowed on all trails open to bicycles.

Peer City and Data Review

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Peer City	E-Bike permitted on Trails	E-Bike share?	Type	Pilot Study?	Separated Bike Lanes on Greenway?	Equity solution?	Enforcement?	Speed Limit ?
Minneapolis, MN	Yes	Yes	Docked	No	Yes	Yes	Yes	10 mph
Memphis, TN	Yes	Yes	Docked	No	No	Yes	No	10 mph
Seattle, WA	Yes	Yes	Dockless	Yes	?	Yes	No	15 mph
Portland, OR	Yes	Yes	Dockless	No	No	Yes	No	15 mph
Chattanooga, TN	Yes	Yes	Docked. (Dockless prohibited by legislation)	No	No	Yes	No	20 mph
Denver, CO	Yes	Yes	Docked	Yes – 180 days	No	No	No*	15 mph
Charlotte, NC	Yes	Yes	Docked	No	No	No	No	15 mph
Raleigh, NC	Yes	Yes	Docked	No	No	Yes	Yes*	10 mph

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Peer City	E-Bike permitted on Trails	E-Bike share?	Type	Pilot Study?	Separated Bike Lanes on Greenway?	Equity solution?	Enforcement?	Speed Limit ?
Austin, TX	No	NA	NA	Yes – 9 months	NA	NA	NA	NA
Boulder, CO	Yes. Class 3 prohibited.	Yes	Docked?	Yes – 1 year	No			15 mph?
Colorado Springs, CO	Class 1 – only on urban trails	Yes	Docked?	Study postponed				
Ft. worth, TX	Not known							
New York	Yes. Not permitted on Hudson river Greenway	Yes	Docked/Dockless					
St. Louis, MN	Yes		Dockless			Yes		
Summit County, CO	Class 1 only			Public engagement	No			
Montgomery, Maryland	Pilot – Class 1 on hiker biker trails only			Yes				

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# Multi-focused Peer City Review

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# Statistics on Sales of Ebikes

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- Bicycle sales in US were up 65% between 2019 and 2020

- **Pedal Bikes:**

“Overall, industry sales of bicycles seem to be stable at around 15 to 20 million bicycle units annually, plus parts, accessories and service, which historically is a very healthy number for the industry.”

[https://bikehike.org/how-many-bicycles-sold-in-a-year-usa/#How many bikes sold 2019](https://bikehike.org/how-many-bicycles-sold-in-a-year-usa/#How%20many%20bikes%20sold%202019)

- E-bikes sales in US were up 145% between 2019 and 2020

- **E-bike numbers:**

“Edward Benjamin, managing director of eCycleElectric, tracks brick-and-mortar retail sales and counts the number of e-bikes sold directly to customers using import data from overseas e-bike and e-bike component suppliers. He estimates 437,000 were sold in 2020

Source: [https://www.washingtonpost.com/health/ebikes-calories-health-exercise/2021/09/24/09035020-17ec-11ec-b976-f4a43b740aeb\\_story.html](https://www.washingtonpost.com/health/ebikes-calories-health-exercise/2021/09/24/09035020-17ec-11ec-b976-f4a43b740aeb_story.html)



# Differences in Experience and Perceptions Between Ebike Users and Bicycle Users

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- Investigation of the differences of the cycling experience and perceptions between e-bike and conventional bicycle users, using samples drawn from independent bicycle dealer customers.
- The purpose of the survey is to understand the differences of cycling experiences and perceptions of e-bike and bicycle users, and future e-bike purchase inclination.
- A total of 806 respondents in the United States took the on-line survey, including 363 e-bike-owning respondents. The results show that e-bikes play a more important role in utilitarian travel, such as commuting and running errands, compared to a conventional bicycle.
- Conventional bicycle-owning respondents use their bicycles more for recreation and exercise.
- e-bike owners tend to bike longer distances and take more trips per week.
- Both e-bike respondents and bicycle respondents stated that improved health was a key factor for cycling,
- Millennials and Generation X respondents cycle to save time and improve the environment.
- An ordered logit model is proposed for evaluating factors that influence interest in future e-bike ownership.
- Travel purpose, e-bike familiarity, annual household income, and education level are statistically significant factors in the model.

# Minneapolis, Minnesota Parks and Recreation Dept.

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- Bikeshare program:
  - 3 types of bikes introduced - dockless, docked, and e-bike.
  - Now just docked and e-bikes – no dockless bikes after 2 seasons.
- Ebike usage in parks and greenways are governed by ordinance
  - Definition of bicycle,
  - Frame # required,
  - Impounding authorization and sales of impounded bikes
  - Restrictions on riding on sidewalks
  - Bicycle events
  - Liability insurance and contractor licenses required
  - Enforcement.

# Minneapolis, Minnesota Parks and Recreation Dept.

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- Separated pedestrian/bike path system
  - Anywhere there is a bike path there is a ped path.
  - Ped path usually hugs waterways and natural scenery.
  - 54+ miles of paths are separated.

## Enforcement

- Vendor responsibility
  - Traceable accounts
  - 311 has entire category dedicated to shared mobility.
- Equity
    - Each company has a "sliding scale" to meet economic needs
    - Empty kiosks in underserved areas are serviced first

# Minneapolis, Minnesota Parks and Recreation Dept.

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- Maintenance
  - Vendor collects bikes and recharges them
  - Issues are reported to the Vendor
  - Specific 311 category created for public to report issues
- Data Collection
  - Vendor collects data regarding service equity, safety, user demographics, etc.
  - Annual/bi-annual report to city.
- Pilot Projects
  - None. Introduced a slow rollout for e-bikes in waves of releases. Due to existing separated infrastructure the transition was very seamless.
- Trail Management
  - Minneapolis Parks Board Planning Division,

# Raleigh, North Carolina - Direct Conversation

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- Enforcement
  - Police department enforces speed on the greenway.
  - City Council created a greenway unit of 6 officers and a sergeant.
- Bikeshare
  - Bikes are electric assist
  - Top speed of around 12 mph on level ground
  - Heavy with a low center of gravity.
- Issues
  - Private rental issues in a neighboring jurisdiction where bikes have higher throttle speeds and don't have the mass/inertia of Raleigh's bikeshare bikes.
- Accessibility
  - Increased accessibility for people with injuries and older people.
  - Partnered with local advocacy group to help over age 55 riders learn to use the bikeshare system.

# Pilot Study-Focused

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# Austin, TX

## Electric Scooter and Bike Parkland Trail Pilot Program

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- Conducted Jan 2019 through September 2019
- Allowed electric scooters and electric bikes on certain parkland trails that were identified as contributing to the transportation network.
- Educational pop ups along the trail.
- Anecdotal data suggested that many micro-mobility users on the Butler Trail are visiting Austin.
- Park Rangers conducted 150 hours of speed monitoring
- Installed trail counters
- Data collected on the number and type of users

# Austin, TX

## Electric Scooter and Bike Parkland Trail Pilot Program

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- Installed trail etiquette signage
- Studied areas of limited capacity
- Studied areas with divided-use options
- Analysis of reports from 311 calls
- Analysis of on-line survey results
- Scooter speed the most reported behavior of concern
- Geofence was implemented in the final month. Limited the speed of rented electric bikes and scooters to less than 8mph on all prohibited parkland trails.



# Austin, TX Electric Scooter and Bike Parkland Trail Pilot Program

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## Recommendations

The Parks and Recreation Department has a responsibility to support the use of trails for recreational means in a comfortable setting.

The City of Austin has a goal to be compact and connected and there is strong evidence that parkland trails play an important role in this goal.

Revise city code to clarify that electric scooters are allowed on identified paved parkland trails that were part of the pilot and address potential future additions to the rented micromobility device offerings.

Ann and Roy Butler Trail will continue to be for pedestrian and bike traffic only

Continue geofence and review effectiveness to include not allowing scooters to operate within geofenced area.

Create a culture of shared trails with an improved and comprehensive etiquette campaign

# Austin, TX Electric Scooter and Bike Parkland Trail Pilot Program

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## Recommendations

Work with partners at the Austin Transportation Department to create concession opportunities for rented electric bikes and scooters staging in identified parking areas.

Codify trail speed limits and work with APD on implementation of the enforcement of codified speed limit.

Recommendations have been presented to the Parks and Recreation Board and the Urban Transportation Commission.

Continuing need to manage, evaluate and adjust rules to ensure that all trail users have a safe and enjoyable experience including the top two reasons cited for using parkland trails (1)exercise and (2)enjoying nature by being outside

Update state and local laws to clarify where ebikes are permitted (restrictions apply)

Geofence restricted areas

# Boulder County, Colorado

## Ebike Regulations

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- Passive recreation is a foundation of Boulder County Parks and Open Space since its inception
- 1978 Definition of Passive recreation was codified in part as non-motorized outdoor recreation and motorized recreation was not allowed on Boulder County Open Space
- 2017 State law changed the definition of ebikes to non-motorized
- 2018 Boulder County prohibited ebikes on bike paths. Followed by a year of public outreach and input
- Staff recommended a 1-year pilot study allowing Class 1 and Class 2 ebikes on county open space trails on the plains beginning on January 1, 2019
- Pilot study - 3 goals developed based on public input:
  - Study the visitor and trail impacts of ebikes
  - Work with Planning Commission to explore options for updating passive recreation definition as a means for allowing ebikes on certain trails
  - Robust public engagement process
- Class 1 and 2 E-bikes are allowed on designated regional and open space trails in the plains. E-bikes are prohibited on all other county open space trails.
- Individuals with mobility disabilities are allowed to use Other Power-Driven Mobility devices (OPDMDs), which can include e-bikes, on all trails open for pedestrian use unless a particular trail has been designated as inappropriate for use by OPDMDs
- Boulder has a Mountain Bike Patrol and Volunteer Ranger Corps.

# Colorado Springs, Colorado

## Year-long Ebike Pilot Program Put on Hold

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- Bikes limited to commuter paths since 2018
- Results of pilot program would help determine the long-term management of e-bikes.
- Pilot put on hold due to discrepancy in ebike definitions in different sections of city code and debate over a city ordinance that directed portions of sales tax revenue to recreation land acquisition and upkeep and its mandate for "no motorized vehicles, other than those necessary for maintenance, emergencies or safety."
- Another provision of the ordinance allows the city to adopt rules and regulations that would align with state and federal regulations.

# Colorado Springs, Colorado

## Ebike Pilot Program Put on Hold

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Recent city survey results revealed a conflict between creating outdoor access for older citizens vs precedent for further changing an already-crowded recreation landscape.

### **Support for ebikes included:**

- Helping riders overcome age, injuries and physical challenges
- Helping older riders exercise and enjoy the outdoors in ways they wouldn't be able to otherwise
- Served as a bridge to ride with younger or fitter relatives and friends.
- Replacing car trips and reducing their carbon footprint.

### **Opposition included:**

- Speed
- Damage to trails
- User-conflicts

# Montgomery, Maryland Pilot Study

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- Six-month pilot program to allow Class I e-bikes and battery-powered e-scooters to study the impact on 5 hard surface trails and hiker-biker park trails was launched June 1, 2019.
- Phase 1 allowed personal e-bikes, phase 2 Parks commenced contractual agreements with vendors to allow commercial e-scooters and e-bikes
- Parks conducted its own pilot because park trail users' travel patterns are different than traditional transportation trips, and often involve going the length of trails rather than staying focused within a commercial core. In addition, Parks will first test the use of e-bikes and e-scooters on certain hiker-biker trails before potentially expanding their use to busier, hard-surface trails that have a higher potential for user conflict.
- The use of these trails requires more careful planning which can be accommodated with lessons learned from Parks pilot program.
- The following aspects are examples of data that will be analyzed to evaluate the pilot:
  - Conflicts with existing user groups
  - Safety
  - Infractions, violations, theft, and/or other observations by Park Police and Parks staff
  - Operational challenges and logistics
  - Differences between personal users and commercial users
  - Public input on items in addition to those listed above

# Summit County, Colorado Community Input

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- Summit County maintains an extensive paved multi-use Recreation Pathway System, known as the Recpath,
- Over 200,000 trips are taken on the Recpath each year between May and October
- A new Colorado law took effect on Aug. 9, 2017, authorizing the operation of Class 1 or Class 2 e-bikes on bike or pedestrian paths where bicycles are authorized to travel. However, the bill also stipulates that local authorities can regulate the use of e-bikes in their own jurisdictions.
- Summit County and the towns of Breckenridge, Dillon, Frisco, and Silverthorne maintain and manage their respective sections of Recpath. Each jurisdiction is considering its own rules and regulations related to ebikes, but are working toward a shared vision for the Recpath system that preserves a seamless experience for Summit County residents and visitors.

# Summit County, Colorado Community Input

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- Prior to the Summit County Board of County Commissioners BOCC's adoption of a new resolution on April 23, 2019, all e-bikes were prohibited on the Recpath, except for use by persons with disabilities as defined by the Americans with Disabilities Act. Recpath Regulations stated that no person shall operate a motorized vehicle on the Recpath, and motorized vehicles include every vehicle that is self-propelled, including e-bikes.
- Electric Assisted Bike (EAB) device is a vehicle with two wheels, operable pedals, an electric motor not exceeding 750 watts, with a top speed of 20 miles per hour.
- On the Recpath persons with a mobility disability may use any EAB (Electric Assisted Bike) that has maximum power-driven speed equal or less than 20 mph, is no wider than 36 inches, and has brakes that enable the operator to make the wheels skid on dry, level and clean pavement.
- No 'Other Power Driven Mobility Devices (OPDMD) may be used, including but not limited to any gas or combustible fuel powered devices, ATV's, golf carts, or motorcycles. Wheelchairs and manually-powered mobility aids are allowed.



# Summit County, Colorado Community Input

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- Summit County conducted a public-input process on whether to allow electric bicycles on the Summit County Recreational Pathway System.
- Summit County hosted an open house February 28, 2018, to obtain input about the use of e-bikes on the Recpath.
- Summit County Open Space and Trails department conducted a simple 7-question online survey from February 20 through March 19, 2018 to obtain public input regarding e-bikes on the Recpath. The survey took about five minutes to complete and had over 1,000 responses.
- The (BOCC) received numerous comments both for and against allowing e-bikes on the Recpath. In response, the BOCC tasked the Open Space & Trails Department with gathering more feedback from the public about e-bikes to determine whether this use might be appropriate on all, or portions, of the Recpath system.
- On April 23, 2019, at a public hearing, the BOCC **approved a resolution to allow Class 1 e-bikes** on the Recpath, which is a paved pathway. All Class 2, Class 3 and unclassified e-bikes are prohibited on the Recpath.
- E-bikes are not permitted on natural surface trails dedicated as non-motorized.

# Seattle, Washington – Pilot program

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- A one year pilot study was conducted across 5 multi use trails to allow Class 1 and Class 2 electric bicycles.
- Data collected via bike counters, field observations and on-site surveys, stakeholder focus groups, and public feedback through an online survey, emails and correspondence
- 65% supported the 15-mph speed limit and 74% supported allowing Class 1 and 2 e-bikes on these recreational trails.
- Private e-bikes are little faster than road bikes, but not by much.
- Average speed for trail users is just under 15 mph.
- Bike shares are not going very fast.
- E-skateboarders, e-scooters and other powered users are increasing.
- Most users share the trail respectfully.
- Each trail is distinct in patterns.
- Study recommended in favor of allowing Class 1 and Class 2 e-bikes.
- Education and awareness are critical to success.

# Seattle, Washington Direct Conversation

From Todd Burley, City of Seattle

Seattle did a pilot program, studied it carefully, then adopted a new policy that allowed ebikes and micromobility devices, see Seattle Dept. Park and Recreation "Multi-Use Trail" Policy and memo "Staff recommendation following...multi-use trail policy pilot." The study of the pilot program included counts and speed measurements and found that ebike riders rode at similar speeds to pedal bike riders and on average bike share riders rode at slower speeds than private bike riders.

Safety-Focused

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# Ebike Safety Prepared for People for Bikes 2019

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- Analysis of the survey results indicate that there has been little change in the primary reasons individuals are motivated to purchase an e-bike, and they tend to be related to various barriers which deter individuals from riding a standard bicycle; reducing physical exertion, challenging topography and replacing car trips continue to reign as a few
- “The resultant approximate annual injury rate is 1.4 injuries per 1,000 e-bikes.” (2016) United States
- “The approximate annual injury rate per active bicycle is about 10 injuries per year per 1,000 conventional bicycles”. (2019) United States
- “There are many complicating factors in comparing these two categories of bicycles. E-bikes are most often used for urban utilitarian riding (though gravel and mountain e-bikes are a growing segment), whereas conventional bicycle sales are driven by mountain bike sales in recent years. Baseline safety exposure data is difficult to gather in comparable ways.” ( United States)
- Full study attached in appendix

# Northern Virginia Regional Park Authority

- "Research indicates that E-bikes pose no significant safety concerns when compared with regular bicycles"
- E-bikes make cycling more accessible and attractive to a larger segment of the population.
- E-bikes may help attract cyclists that are less able-bodied and more utilitarian in their cycling preferences, which could help explain why many studies seem to show a decrease in potentially risky behavior when E-cyclists are around other vulnerable road users.
- " TDG [Toole] recommends that the NVRPA follow guidance provided in the model legislation and explicitly allow E-bikes that fall under the Class I and Class II designations, while forbidding the use of Class III E-bikes.
- prepared this memorandum to inform NVRPA policy regarding the use of electric bicycles (E-bikes) on the NVRPA path system,
- TDG has conducted a literature review of existing E-bike popularity, usage, safety, policy, and legislation.
- Due to their relatively recent increase in popularity, many trail agencies across the United States have yet to adopt formal policies regarding the use of E-bikes on their trail networks. T
- Note article was written in 2017, prior to Tennessee State legislation regarding ebikes.
- Per research conducted by Langford et. al., E-bike riders exhibit nearly identical safety behaviors as standard bicycle riders.<sup>7</sup> Research was conducted by tracking bicycle movements on a bikeshare program that included standard bicycles and E-bikes. Of the 4 safety statistics measured, e-bikes and traditional bicycles has similar infraction rates for wrong-way riding, stopping at STOP signs, and stopping at red lights. The last metric observed was bicycle speed. E-bikes were observed to travel slightly faster than standard bicycles when traveling on roadways (13.3kph vs. 10.4kph), however E-bike speeds were observed to be lower than standard bicycle speeds on shared-use paths (11.0kph vs. 12.6kph).
- Paper notes that many municipalities establish speed limits for all vehicle types along with signage.
- Study state that there is limited user-survey information regarding ebieks on multi-use paths.
- TDG recommends that the NVRPA adopt short term policies to facilitate the use E-bikes on their trail system

# New York City – Hudson River Greenway

Connie Fishman, Executive Director, Hudson River Park Friends

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- Hudson River Greenway prohibits ebikes for safety of other bikers and pedestrians
- Excessive speed and running stops create unsafe conditions for pedestrians and other cyclists
- Carriers are a big problem – time is money for them

# New York City Banned Ebikes From Upper West Side Bike Lanes June, 2021

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- A growing number of New Yorkers are calling for a ban on e-bikes and scooters in bike lanes and public spaces
- E-bike fatalities surged 233 percent from just six in 2019 to 20 in 2020, according to city Department of Transportation data. As of June 2021, there had been eight fatalities including at least two pedestrians.
- An Upper West Side Community Board committee voted to ban electric bikes from bike lanes in that area.
- First, the board conducted a vote on an amendment to widen bike lanes so that slow and fast bikes could ride separately, but that resolution failed



# New York City –PATH Train Banned Ebikes

## June, 2021

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- Port Authority's PATH trains between Manhattan and New Jersey banned E-bikes due to claims about dangerous lithium batteries.
- New policy expands on an existing 2018 ban on other forms of electric mobility including scooters and skateboards.
- According to Lyft, 4000 of their e-bikes have gone nearly 15.7 million miles in total without a single fire or explosion
- NYC MTA does not ban e-bikes on any of its rail systems (only requirement is \$5 permit)

# Safety and Injuries

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# Ebikes show distinct pattern of severe injury

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- Data collected 2000 to 2017 by the United States Consumer Product Safety Commission's National Electronic Injury Surveillance System (NEISS), on injuries involving all three types of vehicles.
- E-bike injuries three times as likely to involve a collision with a pedestrian than either scooter or traditional bike injuries
- Injuries from e-bikes were found to be more serious, said DiMaggio, who directs the injury research program in the division of trauma and surgical critical care at NYU Langone Health in New York City.
- Of more than 245 million injuries reported in the study period, 130,797 involved powered-scooter accidents, accounting for 5.3 per 10,000 U.S. emergency department injuries. There were 3,075 e-bike injuries, or 0.13 per 10,000. In addition, about 9.4 million pedal bicycle injuries accounted for 385.4 per 10,000 of all emergency department injuries.
- Largest proportion of people involved in e-bike accidents were in the 18-44 and 45-64 age groups, the authors note. Ten-to-14-year-olds made up the largest group of those injured with powered scooters.
- 17% of e-bike accident victims suffered internal injuries compared to about 7.5% for both powered scooters and pedal bikes.
- Speed and lack of proper biking infrastructure may be reason why e-bike injuries can be more serious
- Need exists to introduce ebikes in a safe and responsible manner, asking questions about possible need for urban design and built environment modifications like docking stations or dedicated lanes, policy changes mandating helmets and education initiatives."

# Review of Injury Studies

## Doug Terry, Vanderbilt University Medical Center

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- Injuries to head and extremities common are in both conventional bikes and electric bikes.
- Overall injury severity is low in both groups.
- Compared to conventional bikes, electric bikes (ebikes or EB) have
  - Slightly higher injury severity / comorbidities, and more likely to need treatment at Emergency Dept.
  - When a head injury occurs, it's more likely to be a mod-severe TBI in ebikers compared to conventional. However, overall TBI rates are likely the same. Wearing a helmet drastically reduces TBI risk.
  - Certain injury types more common, like pelvic injuries, more common in ebikes.
  - Also more common to have an accident when mounting/dismounting ebike and on curves.
- Ebike injuries look more like conventional bike injuries than motorcycle injuries.
- Related to following the rules of the road - riders of e-bike behave very similarly to riders of bicycles. Violation rates were very high for both vehicles. Riders of regular bicycles and e-bikes both ride wrong-way on 45% and 44% of segments, respectively. We find that average on-road speeds of e-bike riders (13.3 kph) were higher than regular bicyclists (10.4 kph) but shared use path (greenway) speeds of e-bike riders (11.0 kph) were lower than regular bicyclists (12.6 kph). At stop control intersections, both bicycle and e-bike riders violate the stop signs at the similar rate with bicycles violating stop signs at a slightly higher rate at low speed thresholds (80% violations at 6 kph, 40% violations at 11 kph). Bicycles and e-bikes violate traffic signals at similar rates

# Litigation and Legislation

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# Southern Environmental Law Center

## Review of Ebike Litigation and Legislation

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### QUESTION PRESENTED

- What are the most prevalent issues regarding recent litigation and legislation involving electric bicycles?

### BRIEF ANSWER

- Because much litigation regarding electric bicycles is likely taking place in trial courts over personal injury issues, it is difficult to discern via Westlaw database searches the most prominent practical issues arising out of the increasing prevalence of electric bicycles. However, one can look to both state legislation and a few federal civil cases to discern that many environmental groups are worried about danger to trail pedestrians, bikers, and equestrians, potential wildlife disturbance, and trail erosion or damage.

### CONCLUSION

- There is not currently enough available litigation to make a comprehensive survey of litigated issues regarding electric bicycles. However, the ongoing litigation against federal agencies by community groups outlined in this memo present an interesting example of legal challenges mounted against e-bikes.
- Complete report included in appendix.

# "PEER Sues to Overturn Extended Ebike Access in National Parks"

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PEER – Public Employees for Environmental Responsibility

Mission: "PEER protects public employees who protect our environment. We are a service organization for environmental and public health professionals, land managers, scientists, enforcement officers and other civil servants dedicated to upholding environmental laws and values. We work with current and former federal, state, local and tribal employees.

- PEER filed a lawsuit to overturn the Interior Department's 2019 move to expand e-Bike access in the National Park System
- Suit claims that NPS violated federal regulations governing procedure for how new NPS policies are implemented
- Claim that lack of public comment/ participation is in violation of federal and park regulations
- The policy change came without public disclosure and without an opportunity for the public to comment on it before it was implemented.
- 2 years later, national park superintendents were given the discretion to allow ebikes or not and if they have allowed ebikes, that they should reconsider their decision.

# Equity, Bikeshare and Bike Rental

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- **Minneapolis, MN:**

- Each company has a “sliding scale” to meet economic needs – certain people can pay less. Empty kiosks in underdeveloped areas are serviced first

- **Memphis, TN:**

- Required operators to have certain % of fleet available to the equity “zones.” About 10 zones established, they need to have about 20% of the overall fleet available to these areas. More required for scooters, bikeshare does good job by themselves.

- **Seattle, WA:**

- In 2019 and 2020 the city had a goal of 10% deployment in equity areas. These areas have been referred to as “equity focus areas” in the micro-mobility permit applications and represent neighborhoods with limited access to opportunity and low bike share usage during the 2018 bike-share pilot

- **Chattanooga**

- Expansion of stations in low-income areas.
- Promo events in those low-income areas and give out free annual memberships.
- Low \$50.00 annual membership rates . Option for multiple lower payments for low-income members.
- Won a state multimodal access grant to expand bike share in a traditionally minority and lower income community in our city (Avondale, Boyce Station, East Chattanooga).

- **Raleigh**

- 25% of stations are in equity zones.



# BIKE SHARE VS BIKE RENTAL<sup>1</sup>

## An Equity and Accessibility Review

### **Bike Share**

For short, 30-minute rides to:

- Get you across town
- Get to the bus
- Run errands
- Get to an event
- Skip parking and traffic

### **Bike Rental**

For longer rides to:

- Explore town
- Enjoy the scenic trails
- Get outside as a family
- Make the most of your vacation

# BIKE SHARE VS BIKE RENTAL<sup>1</sup>

## An Equity and Accessibility Review

- **BIKE SHARE EQUITY AND ACCESSIBILITY**

- Two key elements of successful bike share programs are **station location** and **reduced fare programs for qualified groups**.

- **STATION LOCATION:**

- Extensive research by NACTO and others shows that ensuring that bike share stations are placed within an easy, 3-5 minute walking distance of one another throughout a contiguous program area is paramount to successful, sustainable, equitable bike share. Meaningful participation by residents, community and civic groups, businesses, and elected officials plays a significant role in the public acceptance of a bike share program.<sup>2</sup>

# BIKE SHARE VS BIKE RENTAL<sup>1</sup>

## An Equity and Accessibility Review

### Bike Share Pricing Samples

- **Boston's BLUEbikes:**
  - Standard Single Trip: \$2.95 for the first 30 minutes and \$2.50 for each additional 30-minute
  - Annual Membership: \$109/unlimited 45-minute rides, then \$2.50 per additional 30 minutes
  - Income-Eligible Program: \$5/month for unlimited 60-minute trips
- **LA's Metro Bike Share:**
  - Standard Single Trip: \$1.75/30-minutes
  - Annual Membership: \$150/unlimited 30 minute rides, then \$1.75 per additional 30 minutes
  - Reduced Fare Program for 62+, Students, Persons with Disabilities and low income: \$5/month for unlimited 30-minute trips
- **D.C.'s Capital Bikeshare:**
  - Annual Membership: \$95/unlimited 45-minute rides, then \$0.05 /minute for classic bike and \$0.010/ minute for ebike
  - Standard Single Trip: \$1 to unlock, then \$1.50/30-minutes
  - Qualified Individuals can pay \$5/year membership for unlimited 60-minute trips
- **Aspen's We-cycle:**
  - Standard Single Trip: Free 30-minute rides, then \$1.50/30 minutes

### Nashville Bike Rentals Near Greenways Pricing Examples

- **Bike the Greenway, mobile bike rental in Shelby Park:**
  - \$30/2 hours or \$45/4 hours
- **Shelby Ave Bicycle Co.:**
  - \$45/day
- **Green Fleet Bikes:**
  - \$45/day
- **Nashville BCycle (Operated by Trek Bicycle Corporation):**
  - Standard Single Trip: \$5/30-minutes
  - Annual Pass: \$120/unlimited 120-minute trips, then \$3.00 per additional 30 minutes

# BIKE SHARE VS BIKE RENTAL<sup>1</sup>

## An Equity and Accessibility Review

- REFERENCES:

- <sup>1</sup> [www.we-cycle.org/how-it-works/](http://www.we-cycle.org/how-it-works/)
- <sup>2</sup>**The National Association of City Transportation Officials' 2016 *Bike Share Station Siting Guide*** provides high-level guidance on physical bike share station siting types and principles. Selecting good individual station locations while maintaining walkable distances between stations throughout the system can maximize ridership and increase safety.
  - [https://nacto.org/wp-content/uploads/2016/04/NACTO-Bike-Share-Siting-Guide\\_FINAL.pdf](https://nacto.org/wp-content/uploads/2016/04/NACTO-Bike-Share-Siting-Guide_FINAL.pdf)
  -
- **The Better Bike Share Partnership** is a collaboration funded by The JPB Foundation to build equitable and replicable shared micromobility systems. The partners include The City of Philadelphia, the National Association of City Transportation Officials (NACTO) and the PeopleForBikes Foundation. Initially funded in 2014 for a three-year period, The JPB Foundation has continued to support the program, most recently in 2020 for an additional three years.: <https://betterbikeshare.org/>

# Bike Share Station Siting Guide

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## NACTO Bike Share Siting Guide <sup>1</sup>

- NACTO's Bike Share Station Siting Guide highlights best practices in station siting from around the United States and provides guidance on bike share station typologies and principles. Shows multiple examples of a variety of siting types that show how bike share stations can be situated in the street scape.
- Extensive research by NACTO and others shows that ensuring that bike share stations are placed within an easy, 3-5 minute walking distance of one another throughout a contiguous program area is paramount to successful, sustainable, equitable bike share. Meaningful participation by residents, community and civic groups, businesses, and elected officials plays a significant role in the public acceptance of a bike share program
- **Station typologies covered in this guide:** Stations in the street, stations on the sidewalk, and stations in Open space.
- **Bike share siting goals:**
  - Accessible and convenient. Designed for Safety. Operationally Feasible. Enhance the pedestrian realm. Part of the streetscape hierarchy.
  - Bike share stations are the most visible components of a bike share system. As a result, station placement is one of the most public and challenging aspects of the bike share planning process.

# Bike Share Station Siting Guide

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- **Stations in the street:**

- Next to curb, next to curb flipped, stations in median, stations offset/floating in parking lanes, case study for Austin, TX

- **Stations in Open Spaces: Parks, plazas, parking lots, case study for New York, NY**

- “When placing stations in parks, it is important to consider the type and size of the park and the intensity of its uses and attractions.”
- Stations are best placed when adjacent to main entrances and large attractions. Parks without large-scale attractions are better placing the stations in the periphery where they can be easily reached by park-goers and non-park-goers alike, regardless of time of day.
- When selecting locations within parks, avoid locations that are isolated, especially in off-peak hours. Special attention should be paid to park uses and pedestrian volumes to ensure that stations will be used and useable at all times.
- Designers should pay additional attention to ensuring that stations are accessible by operations vehicles (rebalancing and maintenance), especially in parks or places with unpaved paths and free flowing pedestrian activity.

# Bike Share Station Siting Guide

## Materials and Design elements

- On-street stations are typically protected from moving vehicles by a variety of traffic control treatments including parking regulations, paint and striping, reflective delineators, wheelstops, and other physical barriers
- Flexible delineators, thermoplastic striping, wheel stops, blocks, planters, bollards, concrete curbs, and fencing are all great for separating and protecting bikers as well as the stations that support them.
- **Surfaces**
  - Asphalt, concrete, brick, cobblestones, or permeable pavers. Bike share stations need a hard surface that will not sink under the weight of the station or degrade or erode with heavy use. Ensuring that rebalancing and maintenance vehicles can reach the station without damaging lawns or getting stuck in the mud is essential.
- **Utility Points and loading access**
  - It is common industry practice to allow the bikes to sit on utility points, drainage covers, and tree grates. Most cities leave a small amount of room—ranging from a few inches to about a foot between station plates and utility access points. Stations may need to be temporarily deactivated or relocated to accommodate major utility projects.
  - Conflict areas, such as loading zones or service entrances, can be address by adding blank plates (standard plates without docks attached) to create gaps in stations in front of loading bay doors.
- <sup>1</sup>The National Association of City Transpiration Officials' 2016 *Bike Share Station Siting Guide* provides high-level guidance on physical bike share station siting types and principles. Selecting good individual station locations while maintaining walkable distances between stations throughout the system can maximize ridership and increase safety.
- [https://nacto.org/wp-content/uploads/2016/04/NACTO-Bike-Share-Siting-Guide\\_FINAL.pdf](https://nacto.org/wp-content/uploads/2016/04/NACTO-Bike-Share-Siting-Guide_FINAL.pdf)

# Enforcement

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- How are safety issues handled and rules enforced? What is your process for the public to report issues with ebikes?
- **Memphis:**
  - Depends on the trail. Some trails have co-management agreement with another organization.
  - Shelby farm greenline has Memphis Police Control, county sherriff, parks rangers, etc.
  - Educational signs have been posted at trail heads about the introduction of e-bikes and the safety guidelines for them
- **Seattle:**
  - Seattle Police had to tighten enforcement of biking on the sidewalk, but that is the majority of the enforcement.
- **Portland:**
  - ORS 814.410 - Unsafe operation of bicycle on sidewalk; class D traffic violation for anyone unsafe driving on a sidewalk. Illegal to drive on sidewalk downtown, certain areas.



# Enforcement

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- **Denver**

- During pilot project phase, Park ranger was stationed on the trail not just to catch speeders, but to observe and tell people about the new rules (Source: <https://denverite.com/2019/05/16/electric-bikes-and-scooters-are-now-kosher-on-denvers-park-trails-so-are-speed-traps-still/> and interview)

- **Raleigh**

- Recently created a greenway unit of 6 sworn officers and a sergeant. (Source : interview)

- **Minneapolis:**

- Ordinance 2018-015: definition of bicycle, frame # required, impounding authorization, sales of impounded bikes, riding on sidewalks, bicycle events, public liability insurance, contractor or license required, and enforcement.
- Try to put enforcement on vendors.
- Measures to identify who is responsible for things like vandalism and abandoned bikes with traceable accounts and GPS.
- Outreach via educational campaign for trail rules and social media posts to raise awareness.
- 311 has entire category for shared mobility

# Draft Considerations from Peer City Reviews

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## One year pilot study of Ebikes on Greenways

- Parks to determine which greenway(s)
- Conducted by consultant
- Funded in operating budget
- Data collection
  - Who
  - What
  - When
  - Why
  - How
  - Speed
- In-person intercepts to gather data on user conflicts and incident reports
- All electric bikes should have sticker that labels class (currently required by state law).
- Educational campaign- safety, etiquette, trash, dogs, call out, ears open, yield right of way to pedestrians, move over, 'slow and say hello'- type slogan, etc.
- Traffic calming recommendations – striping, signage, landscaping, trail separation, etc
- Licensing – owner identification?
- Plan for expansion
  - Future uses
  - Size limits
  - Courier uses

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# Draft Considerations from Peer City Reviews

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## Commercial Fleet Management

- Vendor contracts through competitive bid process- managed by Parks Department and NDOT?
- Parks Department creates rules and manages fleets on greenways and in parks?
- Partner with NDOT in the future when street-based biking infrastructure is built?
- Mixed fleet – pedal and ebike to meet percentages from community input – 50/50?
- Reduced fees in lower income areas?
- Different payment methods – annual memberships, pay monthly option, etc.?
- Docked fleets only?
- Dockless ebikes should continue to be geofenced off the greenways?
- Ebike fleets restricted assist to max. 15mph; restrict to lower speed during high volume hours (determined as part of pilot)?

# Draft Considerations from Peer City Reviews

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## Rule enforcement

- Codify Speed limit?
- Codify which ebikes are permitted on greenways -both private and fleet?
- Dedicated trail officers?
- Cameras?
- Rules for couriers and delivery services?
- Restrictions on size of bikes and passenger capacity?

# Appendix

- Pdf documents
- Links to online studies and data

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