

# E-Bike Education for Youth and Adults: the Why and the How

# Introduction

Kevin Baross, San Diego County Bicycle  
Coalition

# WHAT ARE YOUR GOALS?

- Recognizing the e-bike as a viable form of transportation?
- Shorter pick up and drop off lines?
- More bikes in the bike racks?
- Fewer crashes?
- More helmets?
- Safer kids?
- Fun?



# CLASSES & Differences

## Three Major Classes:

1. Pedal assisted power. Power maxes out at 20mph.
2. Power controlled by a throttle. Power won't go faster than 20 mph.
3. Pedal power. Max assisted speed of 28mph. Age limit of 16 and up. Helmets required for all users all the time. No matter the age.



**No Pedals = Not an E-bike**

**SANDAG**

# POWER & Throttle

## EXPECTED SPEED

Speed limits vs relative speed. Always be aware.

## "ALWAYS ON" IS A WASTE

Use it to get up to relative speed. You can overheat the engine pretty easily.

## FASTEST WAY TO DRAIN A BATTERY

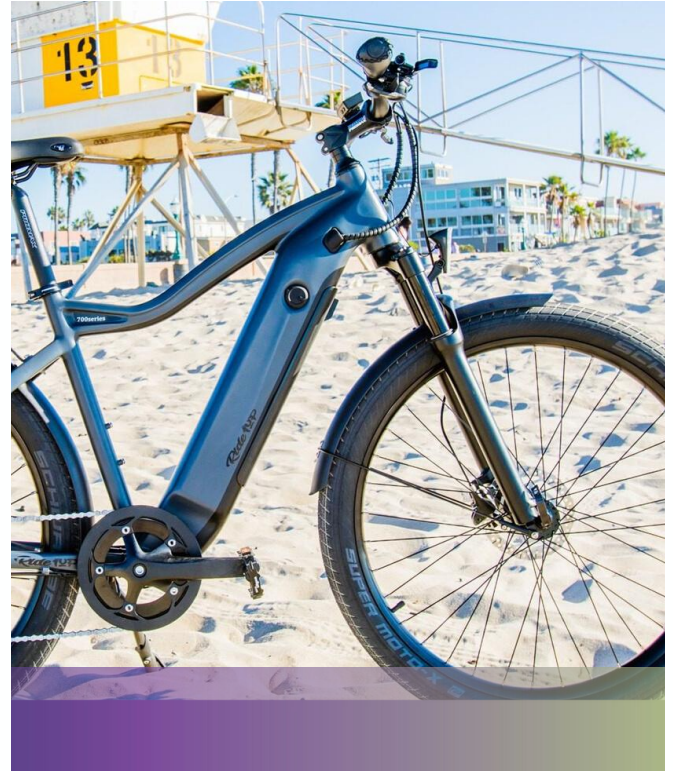
Keep it gradual. No one drives a car with the gas pedal pushed all the way to the floor.





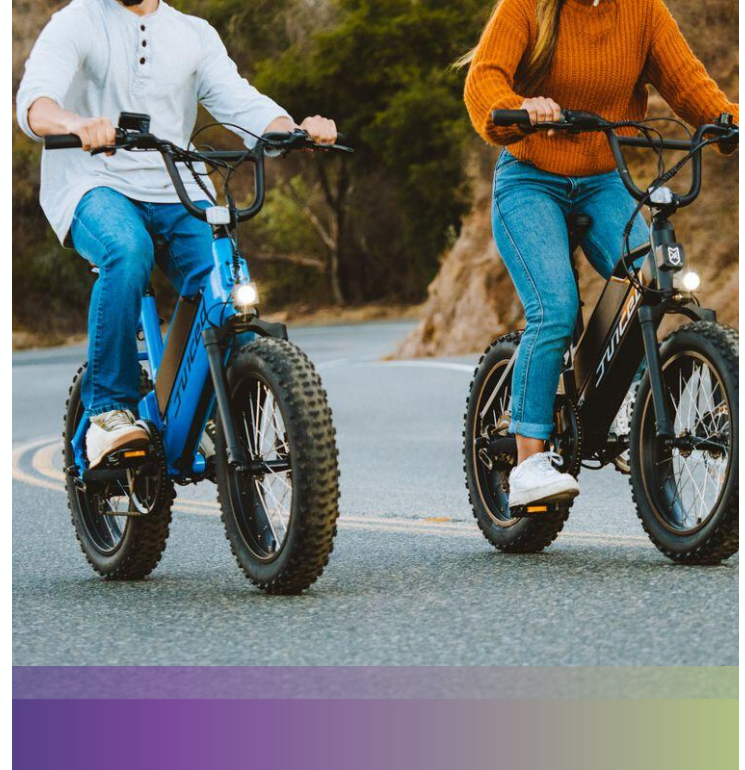
# WHERE TO RIDE: YOU'RE DRIVING A BIKE

- Riding in bike lanes is required as long as the bike lane is clear and safe to ride in.
- Some trails do not allow e-bikes so check trail markings before you ride.
- Type 3 e-bikes can't use bike paths. They're too fast.
- Predictability. Ride where others expect to see you.
- Sidewalks are for walking. Crosswalks are for walking.
- The rules of the road apply to all users of the road.



# WHERE TO RIDE: YOU'RE DRIVING A BIKE

- Do you want to play with a toy, or do you want to drive a vehicle?
- Do you want people to see you, or do you want to be invisible?
- How can we teach car drivers to be more aware?
- Who are the roads for?





# HELMETS

## MORE STYLES THAN EVER



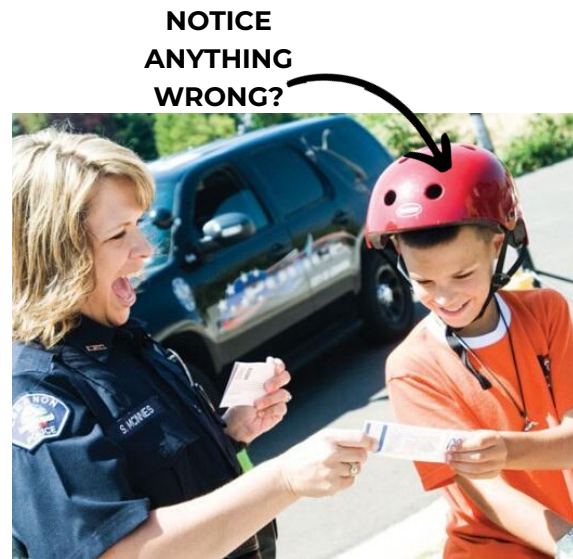
### 1. Makes you look super cool.

I mean, this one is obvious.



### 2. Makes your head safer.

Ever drop a watermelon on the ground?



### 3. It's the law.

Helmet laws are real laws. You can get a ticket.

Kristine Schindler, Community Advocate and  
LCI

# E-Bike Education for Youth and Adults: The Why and the How

> Kristine Schindler



# School Education and Outreach

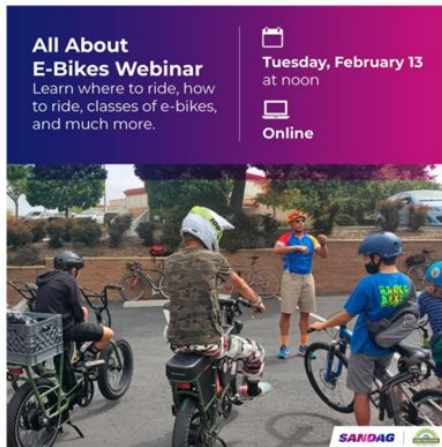
- Walk, Ride, and Roll Assembly:** A helmet-fitting demonstration and basics about walking and biking safely to school
- Bike Rodeo:** On-bike activity focusing on the importance of seeing, being seen, and always remaining in control while riding a bike
- All About E-Bikes:** Covers road rules for bikes with a focus on e-bikes: regulations and tips on how and where to ride safely and legally
- Bike-Friendly Driver Class:** Covers road rules so that bikes and new or soon-to-be drivers ride safely and legally
- Biking Together:** An evening class for families that covers e-bikes, road rules, roundabouts, street signs, signals, and more



**SANDAG**



**SANDAG Walk, Ride, and Roll** offers free bike education classes to K-12 schools and youth organizations in the San Diego region.



CALIFORNIA  
BICYCLE  
SUMMIT

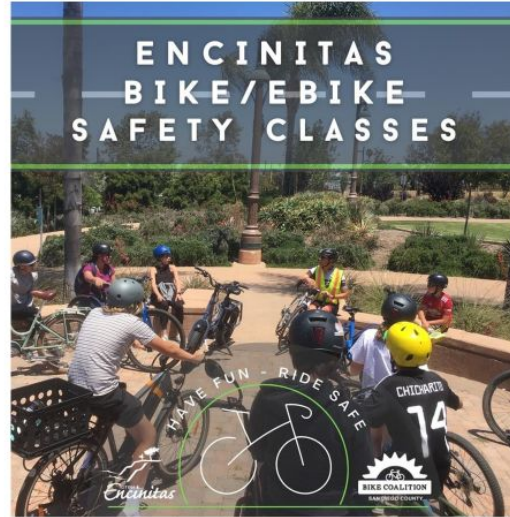




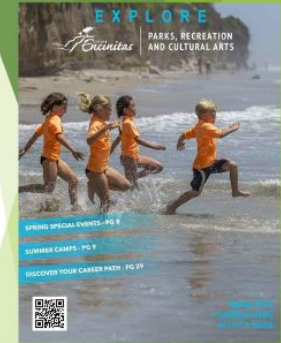
# Other Education Offered in San Diego



3 hr class session  
6 hr road session



1 hr class  
1 hr drills  
1 hr ride

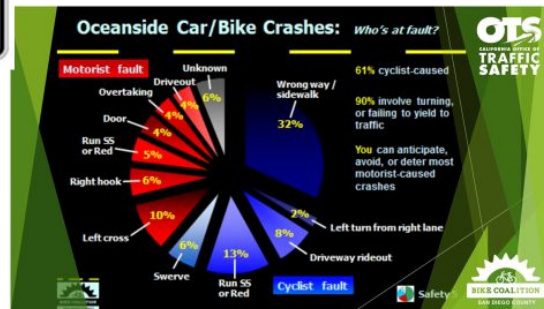
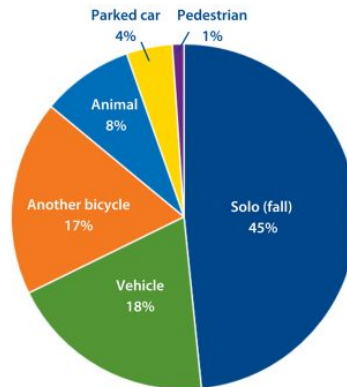
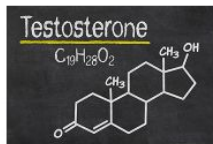


Promote via:  
Social media  
City webpage  
Parks & Rec Brochure  
Schools  
Word of Mouth



# City Cycling Education > Points Covered

- Crash statistics
- Rules of the Road
  - First come, first serve rule
  - Arrive same time, on right = right of way
  - Pass on left
- E-Bike Basics
  - Relative speed
  - Throttle - Pedal
  - Passengers
  - Vehicle vs Toy
- New CA Rules for 2023 and 2024
- Ride Right
- Door Zone
- Lane Positioning
  - Right hook, left cross
  - Left turn options
- Traffic control devices
  - Take a breath
  - Head on a swivel
- Visibility + Communication
- Route decisions + multi-modal options
- Road Types, including sharrows and roundabouts
- ABC Quick Check
- Helmet use, fitting, and replacement
- Tripping traffic signals



CALIFORNIA  
BICYCLE  
SUMMIT





# Education > Other Local Paths

**SAFER STREETS TOGETHER**  
**E-bike Rules**

**Information**

**What is an e-bike?**

An e-bike is a bicycle with an electric motor that provides assistance to the rider. The motor must be less than 750 watts and the bike must have a top speed of less than 20 mph. E-bikes are classified into three categories: Class 1, Class 2, and Class 3.

**Class 1**

- Motor: 750 watts or less
- Top speed: 20 mph or less
- Assistance: Pedal-assist only

**Class 2**

- Motor: 750 watts or less
- Top speed: 20 mph or less
- Assistance: Pedal-assist and throttle

**Class 3**

- Motor: 750 watts or less
- Top speed: 28 mph or less
- Assistance: Pedal-assist only

**All e-bikes**

- Must have a headlight, taillight, and reflectors
- Must have a bell or horn
- Must have a seat
- Must have a chain drive
- Must have a kickstand
- Must have a maximum weight of 300 lbs
- Must have a maximum height of 6'6"
- Must have a maximum age of 75

**Bicycle Safety**

**Check the A-B-C's (air, brakes and chain)**

- Air:** Tires have enough air
- Brakes:** Brakes are working
- Chain:** Chain is smooth

**Gear up**

- Front and rear lights on at night
- Well-fitting helmet
- Gloves with grips when it's cold

**On the road**

- Obey all traffic lights, signs and signals
- Remove distractions
- Stay alert of your surroundings



**Bike and e-bike safety class**

**SAFER TOGETHER CARLSBAD**

**Monday, July 10**

**Pick the time and location that work for you**

**Available times:**  
8 - 9 a.m. or 1 - 2 p.m.

**Available locations:**  
Poinsettia Elementary or Sage Creek High School

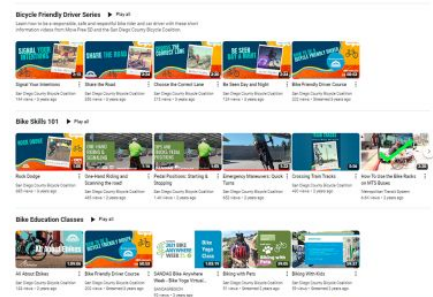
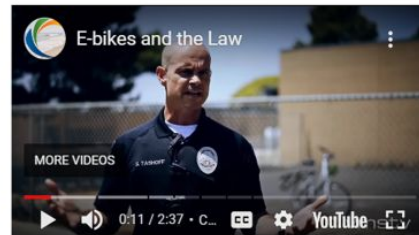
Learn from Carlsbad Police Officers:

- Tips for being safe on your bike or e-bike
- Rules of the road for bicyclists and drivers
- Carlsbad-specific e-bike laws

Certificates for school bike permit programs will be provided upon course completion. No registration needed.

[www.carlsbadca.gov/SaferStreets](http://www.carlsbadca.gov/SaferStreets)

**City of Carlsbad**



## ENCOURAGEMENT...Community Connections



Fun !!!

- More Education
  - More Conversations
  - More Advocacy
  - Planting More Seeds
- CAR-FREE Trips





# ENCOURAGEMENT...Planting Seeds



One day can be  
the start of a new  
and/or life-long  
healthy habit



# Build and Educate Advocates for Active Transportation and Safer Streets

- Reporting road hazards and areas for improvements
- Sharing praise with elected officials and staff
- Asking for more educational opportunities
- Going to community workshops
- Going to City Council and Mobility & Traffic Safety Commission meetings
- Building relationships and reaching out to City staff and Mayor + Councilmembers
- Support and share info for public awareness campaigns
- And on and on ....



## Youth Education: Key points not to miss

- > Young riders - fun and freedom
- > Teens - how best to teach ??? Our reality - peer pressure and decision making
- > Parents in the mix > learn + reinforce
- > Coming out of class - more confidence, sense of responsibility, knowledge AND embrace bikes as a life-long love
- > What else ???

We are still in the process of learning ourselves and tweaking as we go !!!



Pualani Vasquez, Injury Prevention  
Community Outreach Coordinator  
Scripps Mercy Hospital - Trauma Service



A person in a dark suit and white shirt is shown from the waist down, holding a brown leather satchel and a thick book. The background is a dark green wall with faint, glowing mathematical formulas and diagrams, including  $P=2l+2w$ ,  $a \times b$ , and  $|a \times b|$ .

# BIKE / EBIKE EDUCATION IS KEY

*Preventing Unintentional  
Injuries*

# Trauma Injury Prevention (IP)


Pualani Vazquez

Trauma Injury Prevention &  
Community Outreach Coordinator  
Scripps Mercy Hospital San Diego

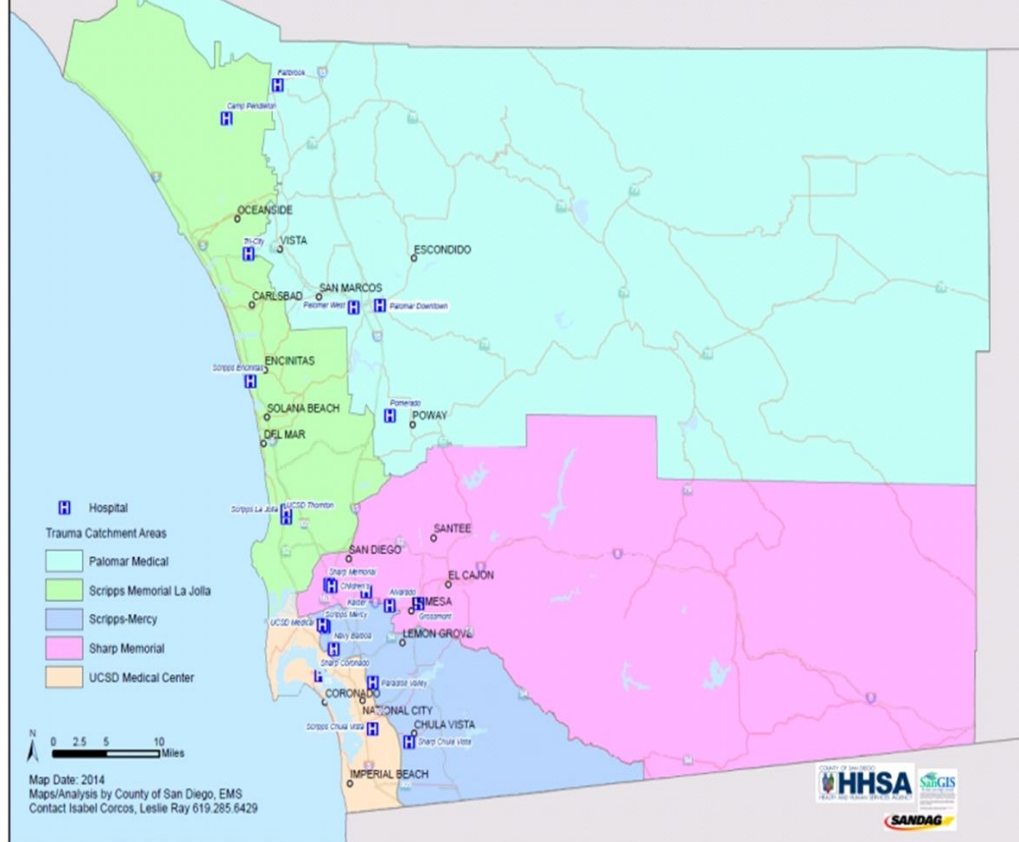
[Vazquez.Pualani@ScrippsHealth.org](mailto:Vazquez.Pualani@ScrippsHealth.org)

or

[InjuryPrevention@ScrippsHealth.org](mailto:InjuryPrevention@ScrippsHealth.org)

- 
- ☐ Injury Trends
  - ☐ Bikes vs. Ebikes
  - ☐ Ebike Trends
  - ☐ Applying a Safe Systems Approach

## Trauma Catchment Areas, Hospitals & Cities, San Diego County



# San Diego County Trauma Catchment System Catchment Areas

# Electric Bicycles & Safety Concerns

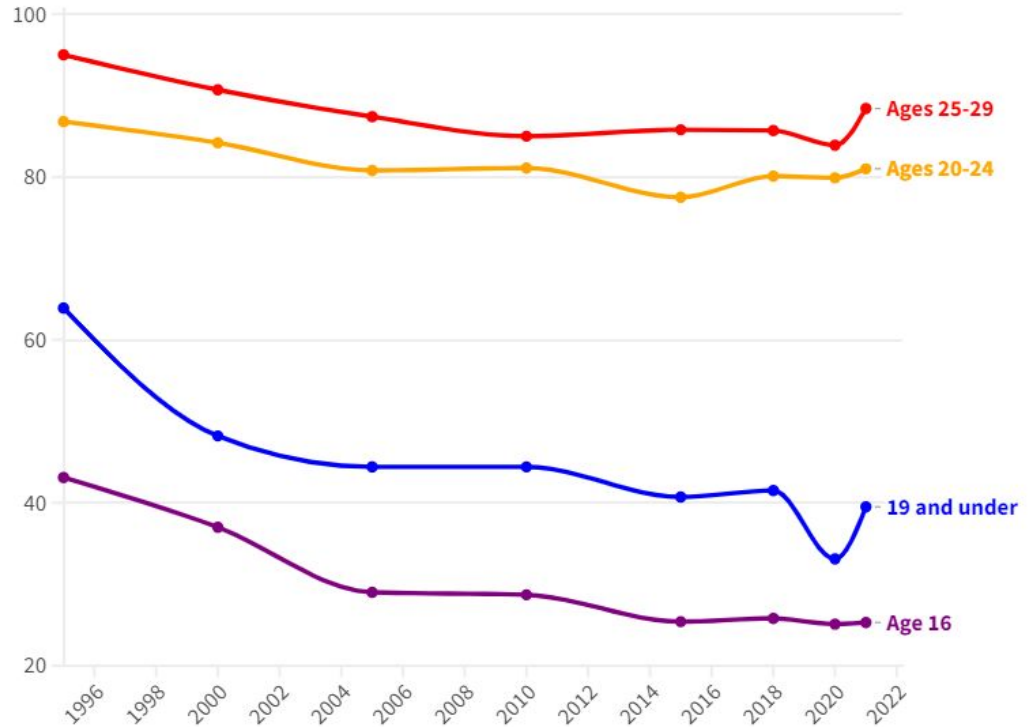
- E-Bikes are heavier and maneuver differently
- E-Bikes can go really FAST
- Higher speeds = increase injury severity
- Novice e-bike riders may be at a higher risk of sustaining or causing an injury





# Teens are driving less

Share of Americans with driver's licenses



Source: Federal Highway Administration

# WHAT WOULD MAKE CYCLING SAFER?

ACCORDING TO PEOPLE  
ON THE INTERNET

HELMETS



ACCORDING TO  
ACTUAL STATISTICS

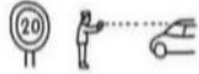
SEPARATING BIKES  
AND TRAFFIC



EDUCATING  
DRIVERS



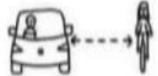
ENFORCING  
SPEED LIMITS



DEDICATED TRAFFIC-  
FREE ROUTES



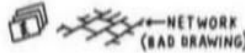
CLOSE PASS LAWS



DISQUALIFYING  
REPEAT OFFENDERS



INVESTMENT IN  
ACTIVE TRAVEL



GETTING PEOPLE  
OFF THEIR SOFAS



## HIERARCHY of CONTROLS

CONCEPT:



CONCEPT APPLIED TO STREETS:

BAN CARS

WALKING, BIKING, TRANSIT

CURBS, BOLLARDS, BARRIERS

SIGNS, EDUCATION, ENFORCEMENT

HELMETS, HI-VIZ, SHAMEFLAGS

NIOSH DIAGRAM REDRAWN AND AUGMENTED BY @GAGREENWAYS



# Thank you!

**Pualani Vazquez**

**Injury Prevention Community Outreach Coordinator**

**Scripps Mercy Hospital San Diego**

[Vazquez.Pualani@ScrippsHealth.org](mailto:Vazquez.Pualani@ScrippsHealth.org)

[InjuryPrevention@scrippshealth.org](mailto:InjuryPrevention@scrippshealth.org)

David Levinger, Sonoma County Bicycle  
Coalition

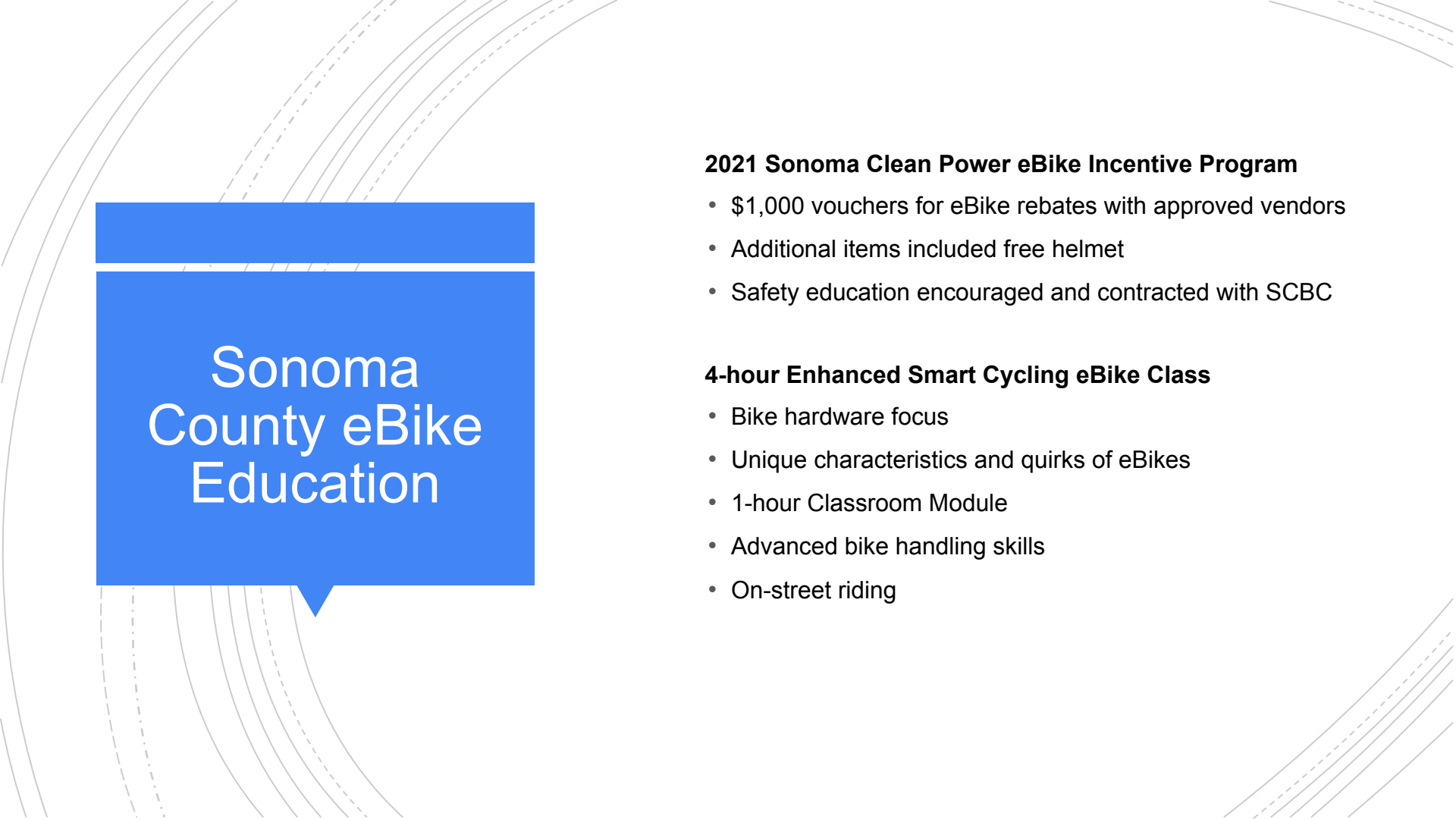
# eBike Education for Adults

David Levinger, LCI  
Sonoma County Bicycle Coalition Instructor

## Main Educational Concerns with eBikes

- Increased Speed & Corresponding Conflict Risks  
(Right Hook, Left Hook, Drive Out)
- Increased Weight and Higher Center of Gravity
- Differences in handling
- Passengers
- Maintenance
- Batteries
- Parking, Transit & Security

**AND:  
Novice Riders who Scare Everybody,  
including themselves.**

The background of the slide features several concentric, curved lines in a light gray color, some solid and some dashed, creating a sense of motion or a stylized path. On the left side, there is a blue rectangular area with a white border and a small white triangle pointing downwards at the bottom center, resembling a speech bubble or a callout box.

# Sonoma County eBike Education

## **2021 Sonoma Clean Power eBike Incentive Program**

- \$1,000 vouchers for eBike rebates with approved vendors
- Additional items included free helmet
- Safety education encouraged and contracted with SCBC

## **4-hour Enhanced Smart Cycling eBike Class**

- Bike hardware focus
- Unique characteristics and quirks of eBikes
- 1-hour Classroom Module
- Advanced bike handling skills
- On-street riding

The background of the slide features several thin, curved lines in shades of gray, some solid and some dashed, creating a sense of motion or a stylized globe. A blue speech bubble shape is positioned on the left side, containing the text 'Some Findings'.

## Some Findings

- Most new eBike riders do not ride faster than acoustic riders
- Many new eBike riders have not ridden in decades and this is their first bicycle in years or decades
- Our in-person classes have high satisfaction rates, but low enrollment rates



## Online e-Bike Education Options

- ABEA - Cycling Savvy  
<https://cyclingsavvy.org/ebike-safety-resources/>
- League of American Bicyclists with People for Bikes  
<https://www.ebikesmart.org>
- California Highway Patrol  
<https://www.chp.ca.gov/Programs-Services/Services-Information/Bike-and-Ped-Safety>
- eBike Incentive Project – Pedal Ahead San Diego  
<https://ebikeincentives.org/consumer-resources/>

The background of the slide features several concentric, curved lines in a light gray color, some solid and some dashed, creating a sense of motion or a circular path. On the left side, there is a blue rectangular box with a white border and a small white triangle pointing downwards at its bottom center, resembling a speech bubble or a callout box.

## Can eBikes Spur More Bike Education?

- Bike Ed is important and requires strong support and structure from pre-K to elementary to early teen to adulthood.
- Legislation should focus on achievement through regulatory mandates rather than through enforcement.
- eBike Ed for could be achieved as a module in mandatory driver education to great public benefit.

