



TOGETHER
**NORTH
JERSEY.**

TNJ Institute Webinar: **E-bikes in New Jersey**

Exploring Incentives for Micromobility

**Thursday, December 14
12 p.m. EST**



E-Bikes 101



Stromer ST3

- **What is an e-bike?**
- **Classes**



Gocycle GX Folding Ebike



Propella Ebike



Revo Ebike



Greyp G6.1

- **Advantages and disadvantages**
- **Safety**



Nireeka Prime



Trefecta Electric Bike



Revonte E-Bike



Fido D11 Folding Bike

- **Equity**



Oyo Ebike



Cowboy 3 E-Bike



Freicycle E-Bike



Byar Volta E-Bike



Calmus One E-Bike



Aventa E-Bike



Lekker X E-Bike

What is an E-Bike, legally?

Title 39:4-14.16 Low-speed electric bicycle:

“A two or three-wheeled vehicle with fully operable pedals and an electric motor of less than 750 watts, whose maximum speed on a paved level surface, when powered solely by a motor, while operated by a person weighing 170 pounds, is less than 20 miles per hour”

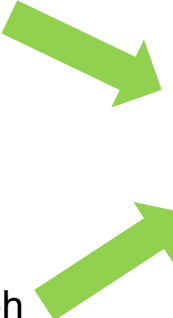



What is an E-Bike, actually?

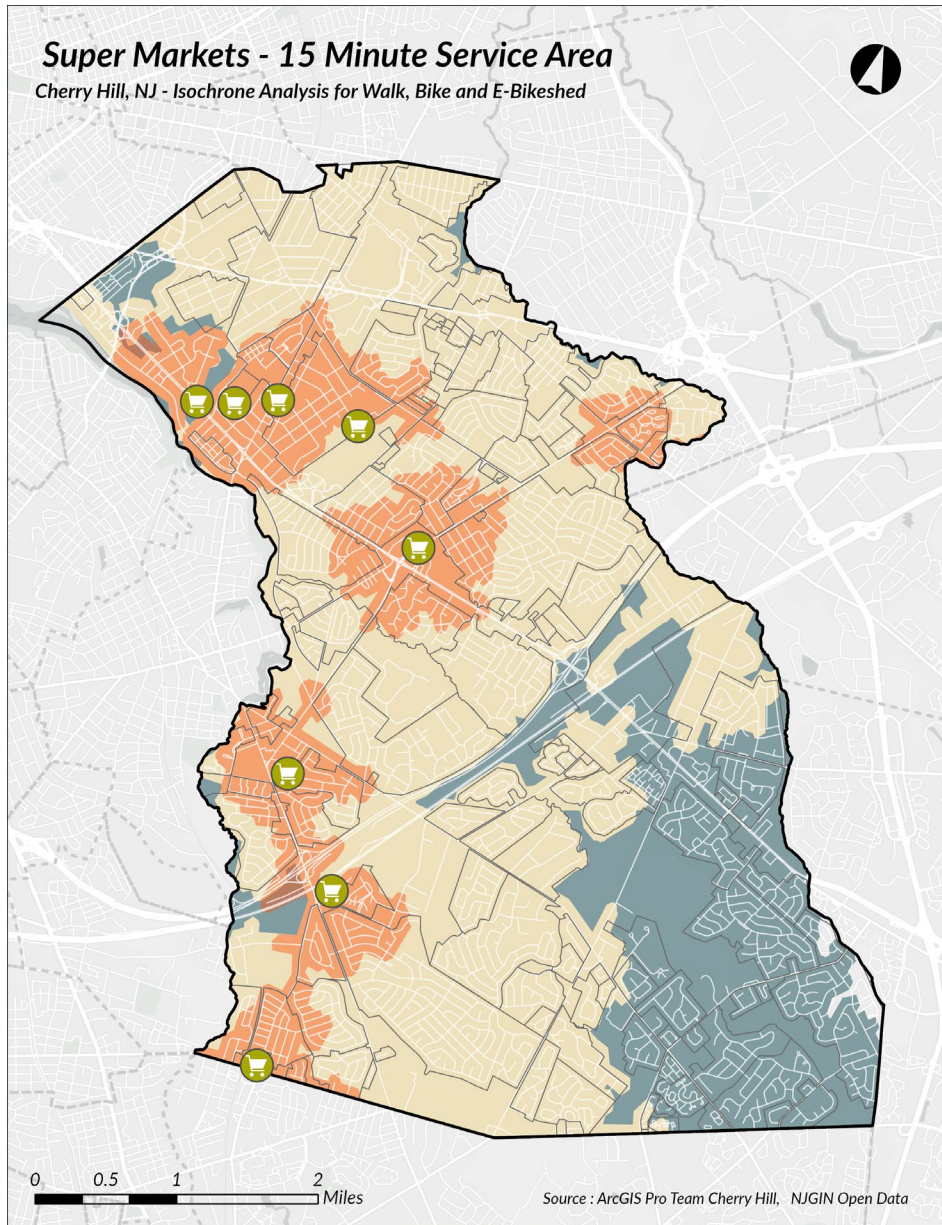
- A bicycle that makes pedaling easier
 - Pedal assist
 - Throttle
- Battery-powered
 - Plugs into a wall outlet directly on bike
 - Charge lasts 50 miles on average
 - 4-5 hours for a complete charge
 - 2 hours can charge from 0-50% or more
- Maintenance costs about \$400 per year for daily use:
 - \$30/year to charge battery
 - Higher wear and tear on brakes and tires
 - \$100 for parts
 - \$150 for service



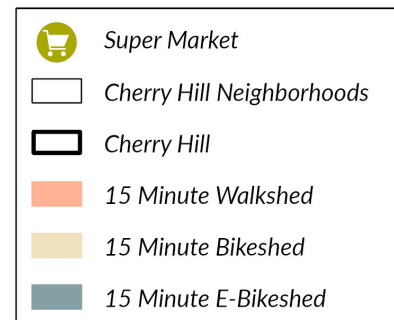
Classes

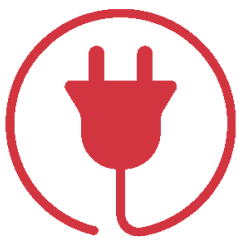
- Class 1
 - Low-speed electric bicycle
 - Pedal assist only
 - Pedal assist stops at 20mph
 - Class 2
 - Low-speed electric bicycle
 - Motor with throttle up to 20mph
 - Can use throttle without pedaling
 - Class 3
 - Motorized bicycle or moped
 - 15 year or older
 - Requires license
 - Requires helmet
 - Can still use bike lanes or bike routes
- 
- Subject to traditional bicycle laws
 - Helmet required only if 17 years or less
 - No license or registration
 - Can take on transit
 - Can park on sidewalk
- 
- NJMVC classifies Class 3 e-bikes as “Specialty Vehicles,” therefore not a bicycle

Advantages and Disadvantages






- Can ride longer distances with less effort
- Hills are much easier
- Cheaper than cars and motorcycles
- Higher cost than regular bicycle
- Heavy, usually over 50lbs
- Slightly higher maintenance





New Jersey's E-Bike & E-Scooter Law

VEHICLE TYPES	PROPULSION METHOD	POWER SOURCE	MAX ASSISTED SPEED (MPH)	LICENSE & REGISTRATION	HELMET	PARK ON THE SIDEWALK?	TAKE ON TRANSIT?
LOW-SPEED ELECTRIC SCOOTER 	Kickstart and throttle	Electric	19mph	No	Under 17 years old	If not blocking access	Yes*
LOW-SPEED ELECTRIC BICYCLE 	Pedal and/or throttle	Electric (<750W)	20mph	No	Under 17 years old	If not blocking access	Yes*
MOTORIZED BICYCLE 	Pedal and throttle	Gas or Electric (<50cc/<1.5BHP)	28mph	Required	Required	No	No

<http://njbikeped.org/new-law-legalized-e-bikes-and-e-scooters-in-new-jersey/>

* Restrictions may vary by agency. PATH and NJT restrict non-collapsible vehicles during peak travel times. Bus racks have limited availability and may not fit all bikes.

E-mobility devices make it easier to:

- Save on gas, parking, and rideshare costs.
- Access destinations without needing to walk or drive.
- Reduce carbon emissions.
- Make "first-mile" and "last-mile" connections for bus and train trips.
- Climb hills and keep up with traffic without getting sweaty.
- Help people with limitations due to age, physical fitness levels, or disabilities.

Low-speed e-bikes and e-scooters are regulated like bicycles. Drivers of low-speed e-bikes and e-scooters:

- Must ride in the same direction as traffic and obey all traffic lights, signs, and signals.
- Are advised to wear helmets to minimize potential head injury. Helmets are required in NJ for youth under age 17.
- Must park devices without blocking pedestrian and/or wheelchair access.
- Should not ride on sidewalks. Off-road trails generally do not allow motorized bicycles, but may allow e-bikes and e-scooters. Regulations vary by municipality and county. Check all local ordinances and policies. Ride slowly in areas with pedestrians.



RUTGERS

Edward J. Bloustein School of Planning and Public Policy



NEW JERSEY Safe Routes



For more information, visit the NJ Bicycle and Pedestrian Resource Center at njbikeped.org or the NJ Safe Routes Resource Center at saferoutesnj.org. 01.13.22

Source: <https://njbikeped.org/micromobility/>

Safety

- Longer distances > larger roads
- Inadequate infrastructure
- Conflicts with other road users
- Manufacturer's guide for charging
- Quick acceleration
- Helmets
- Existing local legislation in NJ

Highway Restrictions

Bicycle traffic is restricted by regulations on the following roads. These are the only roadways for which access restrictions for bicycle traffic have been officially publicized.

<u>Roadway</u>	<u>Location</u>
Garden State Parkway	Entire length
New Jersey Turnpike	Entire length
Atlantic City Expressway	Entire length
Route 1 Freeway	Trenton, Mercer County
Route 18 Freeway	Wall, Ocean County, Neptune City, Tinton Falls, Colts Neck, Freehold, and Marlboro, Monmouth County, Old Bridge, Middlesex County
Route 29 Freeway	Trenton, Mercer County
Route 52	Somers Point, Atlantic County, Ocean City, Cape May County
Route 208 Freeway	Fair Lawn, Glen Rock, Franklin Lakes, Wycoll and Oakland, Bergen County, Hawthorne Borough, Passaic County
Route 42 Freeway	Washington Township and Deptford, Gloucester County, Runnemede, Gloucester Township and Bellmawr, Camden County
Interstates	Various locations

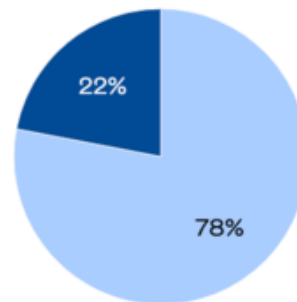
Equity Concerns

- Policing bicyclists of color – [Biking While Black](#)
- Bicycle infrastructure
- Location of high volume and/or dangerous roads
- Upfront cost
- Locating bikeshare programs

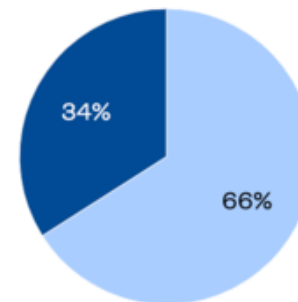
E-bikes Increase Indego Bikeshare Participation

A study for GeoJournal in 2019 found that the introduction of e-bikes into Indego's bikeshare fleet caused increased use in low-income areas.

■ Affluent neighborhoods
■ Low income neighborhoods



Bicycle usage



E-bike usage

Speakers



John MacArthur, Sustainable
Transportation Program Manager
Portland State University



Luke Jones, Ph.D., Professor of
Economics
Valdosta State University



Ash Lovell, Ph.D., Electric Bicycle
Policy and Campaign Director
People for Bikes