



# **OUR HEALTH SYSTEM AND E-BIKE AND BIKE INJURIES**

**Key West City Commission Meeting  
October 2, 2019**

## PANEL:

**John Norris MD** – Chief of Staff, Lower Keys Med Center

**Eddie Perez** – Division Chief of EMS, Key West Fire Department

**Matthew Partrick MD** – Emergency Dept. Chief, Lower Keys Med Center

**Christopher Bensen MD** - Orthopedics, Lower Keys Med Center

# FACTORS RELATED TO INJURY

- Autos, pedestrians and cyclist make mistakes
- Factors involved include velocity, mass, distractions, weather and landscape
- Protection factors helmets, lights and maintenance

# KEY PHYSICS FORMULA

- Kinetic energy is a measure of impact energy

$$\text{Kinetic energy} = \text{mass} \times \text{velocity} \times \text{velocity} / 2$$

- Velocity is a major factor in potential for injury
- E-bike go up to 30 miles an hour ( $1 \times 30 \times 30 / 2 = 450$ )
- Bicycles challenged to reach 20 miles an hour ( $1 \times 15 \times 15 / 2 = 112.5$ )



# LANDSCAPE









EVEN WITH GEAR, LIGHTS AND NO DISTRACTIONS

