



April 10, 2023

TO:

Alex Crowley
Director, Economic & Sustainable Development Department
crowleya@bloomington.in.gov

WITH COPIES TO:

Mike Rouker
City Attorney
roukerm@bloomington.in.gov

Jeffrey Jackson
Transportation Demand Manager
jeffrey.jackson@bloomington.in.gov

Hank Duncan
Bicycle and Pedestrian Coordinator
hank.duncan@bloomington.in.gov

Kyla Cox Deckard
Board of Public Works, Member
public.works@bloomington.in.gov

Elizabeth Karon
Board of Public Works, Member
public.works@bloomington.in.gov

Jennifer Lloyd
Board of Public Works, Member
public.works@bloomington.in.gov

FROM: Lime

RE: City of Bloomington Micro-Mobility Recommendations

Dear Mr. Crowley,

Throughout all stages of the shared standing scooter micromobility business, Lime has remained cooperative in its partnership with the City of Bloomington. Lime has remained compliant and in close contact with City officials, and has been made aware of the City's interest in implementing restrictive rules that would negatively impact the commercial sustainability of our operation of shared standing scooter micromobility business in the City. The City has shared the attached reports on which it relies upon to differentiate between curfews for seated and standing scooters (A Comprehensive Evaluation of E-Scooter Safety, "Report #1," and Cosmo Seated Scooter Deep Dive "Report #2"). While one of those reports has been prepared for marketing pitch purposes by an overtly biased competing party who is incentivized to make a differentiation between our vehicle models for their financial gain, both reports are supplied in furtherance of private commercial interest.

We find the integrity of the data in these reports to be incredulous and seriously question the City's reliance on unverified data to implement an entirely new regulatory framework. The



foundational data in Report #1 is unreliable; it lacks appropriate citations, includes references from crowd-sourced sites such as Wikipedia, is not limited to official studies or expert opinions and ultimately leaps to unfounded conclusions which are baseless. Report #1 includes screen-shots of Google searches, homemade graphs, and lacks causation or corroboration for the idea it intends to prove.

In a more targeted display of misinformation, pages 25-29 of Report #1 make harmful and false allegations about the certification by Lime of its equipment causing irreparable damage to its reputation. Lime holds high standards for its procurement process and performs its due diligence in vetting its vendors. Our local operations team in Bloomington periodically distributes free helmets to the community as a requirement of our operating agreement. Those helmets were procured from a vetted vendor with proper certifications. The inclusion of these defamatory claims against Lime in materials circulated to decision makers creates unfair bias and irreparable damage to Lime.

Lime implores the City of Bloomington to immediately cease circulation of any materials perpetuating these unfounded claims against Lime and urges the City of Bloomington to reconsider its reliance on this biased, unsubstantiated and defamatory evaluation to avoid both legal and commercial liabilities for all parties involved.

As always, we remain open to discuss this matter further at any time and look forward to hearing from you.

Sincerely,

Pierce Winters

Pierce Winters
Lime, Legal Counsel



A Comprehensive Evaluation of E-scooter Safety

Injury Rates Across Vehicles

[E-scooter, e-bike and bicycle injuries in the same period-A prospective analysis of a level 1 trauma center]

- Study analyzed the data of all accidents involving e-scooters, e-bikes, and bicycles presented in the university emergency room of a level 1 trauma center between June 15th, 2018 and October 31st, 2020.
- **Significantly more e-scooter riders had an ISS (Injury Severity Score) of 16 or higher compared to e-bike riders and cyclists.**
- Only 1.5% of e-scooter riders wore a helmet, compared to 52.9% for e-bike riders and 53.3% for cyclists.
- The study also notes that only 11.8% of e-scooter accidents were recorded by police, accounting for the vast difference between injuries reported by the police and injuries reported by hospitals.
- Taking into consideration the cost of healthcare, limitations to access, and injuries treated in doctor's offices instead of EDs, there are likely significantly more e-scooter injuries than hospitals report as well.

Injury Rates Across Vehicles

Injury Burden of Introducing E-Scooters: A Review of E-Scooter Injury Studies Using Retrospective Review of Emergency Department Records, 2015–2019

- Data examined from 18 articles published before November 2019
- Three surveillance studies report an injury rate of 20–25 ED visits per 100,000 trips
- Article reiterates that helmet usage among e-scooter riders is rare and the incidence of head injury is high.
- **One study from New Zealand states that for every (e-scooter) crash that results in an ED visit, two more crashes result in a visit to a physician in an office setting**
- Article warns to be cautious when equating e-scooters to e-bikes in regulation guidelines.

Injury Rates Across Vehicles

E-scooter related injuries: Using natural language processing to rapidly search 36 million medical notes

Kimon L H Ioannides ^{1 2 3}, Pin-Chieh Wang ^{4 5}, Kamran Kowsari ⁵, Vu Vu ⁵, Noah Kojima ⁴, Dayna Clayton ⁴, Charles Liu ^{2 6}, Tarak K Trivedi ^{3 6}, David L Schriger ³, Joann G Elmore ^{2 4}

- Study analyzed e-scooter injuries across patient data from 180 clinics and 2 hospitals in Los Angeles between January 1, 2014 and May 14, 2020
- 1,354 e-scooter injuries were identified. 30% were seen in more than one clinical setting, 29% needed advanced imaging, 6% required inpatient admission, and 2 patients died.
- The study found an estimate of 115 injuries per million e-scooter trips. This was noted to likely be an underestimate.

Walking	Cars	Bicycles	Motorcycles	E-scooters
2 injuries per million trips	8 injuries per million trips	15 injuries per million trips	104 injuries per million trips	115 injuries per million trips

Analysis of Current E-Scooter Safety Regulation in a Large U.S. City Using Epidemiological Components as a Framework

[Liliana Salas-Niño](#)   [View all authors and affiliations](#)

[Volume 2676, Issue 10](#) | <https://doi.org/10.1177/03611981221088771>

Abstract

E-scooters have been promoted as a solution to environmental and last-mile issues. However, physicians have reported an unusual increase in injured e-scooter riders, calling it an “epidemic.” An epidemiological investigation of e-scooter safety carried out in 2018 characterized injuries associated with e-scooter riders in Austin, TX for a period of 87 days. However, the effectiveness of the city’s current regulation on micromobility devices has not been discussed to determine whether it addresses the risk factors identified in this epidemiological investigation. To address this gap, this paper presents an analysis of the legal framework on micromobility devices from the components of the epidemiology triangle (agent, host, and environment) used by traffic authorities in the 1960s to curtail motor vehicle crashes. This analysis revealed that the current micromobility regulation does not offer practical provisions to tackle safety concerns efficiently. Furthermore, based on the number of motor vehicle crashes reported in Austin for 2018, it was found that if e-scooter riders were to travel the same distance in miles as motor vehicle drivers, there would be approximately 3,700,000 injuries compared with 15,133 motor vehicles injuries. Furthermore, this hypothetical figure does not consider the potential underreporting of e-scooter crashes, meaning that the number of injured people per 100,000 mi traveled on e-scooters could be even higher. At least 108 more injured riders were identified than was initially calculated in the 2018 epidemiological investigation. Overall, this study should encourage local authorities around the world to enact appropriate regulations to tackle safety issues surrounding micromobility devices.

Major trauma among E-Scooter and bicycle users: a nationwide cohort study

 Richard Alexander Clough ¹, Esther Platt ¹, Elaine Cole ², Mark Wilson ³, Christopher Aylwin ²

Correspondence to Dr Christopher Aylwin, Centre for Trauma Sciences, Queen Mary University of London, London, London, UK;
c.aylwin@qmul.ac.uk

Nationwide study conducted by Centre for Trauma Sciences at Queen Mary University of London.
Published by British Medical Journal

- An E-Scooter trauma injuries review panel was established at Imperial College Healthcare NHS
- Data collected from Trauma Audit and Research Network (TARN) between January and December of 2021
- Found that E-scooter riders were **more likely to be admitted to a major trauma center** or a critical care unit than cyclists: 60% vs. 47%
- E-scooter riders were also found to be **younger** than the cyclists

Inherent Lack of Stability in E-scooters

There are multiple factors that influence the stability of any micromobility device.

WHEEL TYPE	
Bicycles <ul style="list-style-type: none">● Large (14-19 inch diameter)● Inflated	E-scooters <ul style="list-style-type: none">● Small (8.5 inch diameter)● Typically Airless

Larger wheels allow for more ease and stability in traversing bumps and obstacles in the road. Smaller wheels significantly increase the risk of falling when encountering these same things.

Inflated tires contribute to stability by improving suspension. E-scooter companies typically opt for airless tires even though they are a worse option for safety, as they are easier and cheaper to maintain.

Inherent Lack of Stability in E-scooters

There are multiple factors that influence the stability of any micromobility device.

RIDER POSITION	
Bicycles <ul style="list-style-type: none">● Seated● Minimal variation	E-scooters <ul style="list-style-type: none">● Standing● Lots of variation

Staying seated keeps the gravity of center low, improving stability. The structure and relatively fixed rider position of bicycles keeps the majority of the weight low and to the ground. This is what reduces the risk of falling forwards, over the handlebar. If a fall occurs, a lateral fall is more likely. This is ideal because it increases the odds of first contact with the ground being made by an arm or leg.

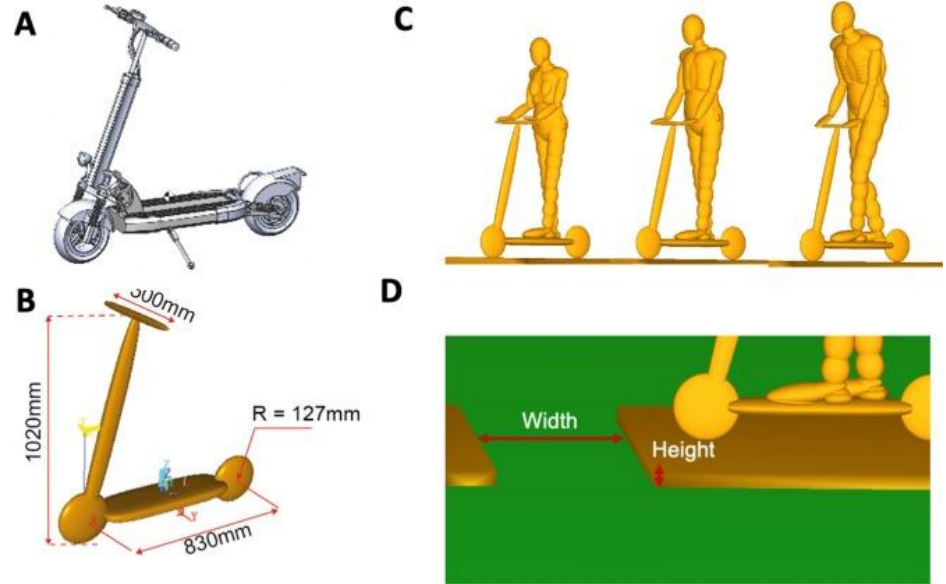
Standing keeps the gravity of center higher, significantly reducing stability. The odds of falling forwards, over the handlebar, is exceedingly high. Additionally, there have been studies that note lots of variation in riding position. Different people place their feet differently, and not every position has the same level of stability. The risk of falling is heightened. The odds of the head and shoulders making first contact with the ground is more much more likely.

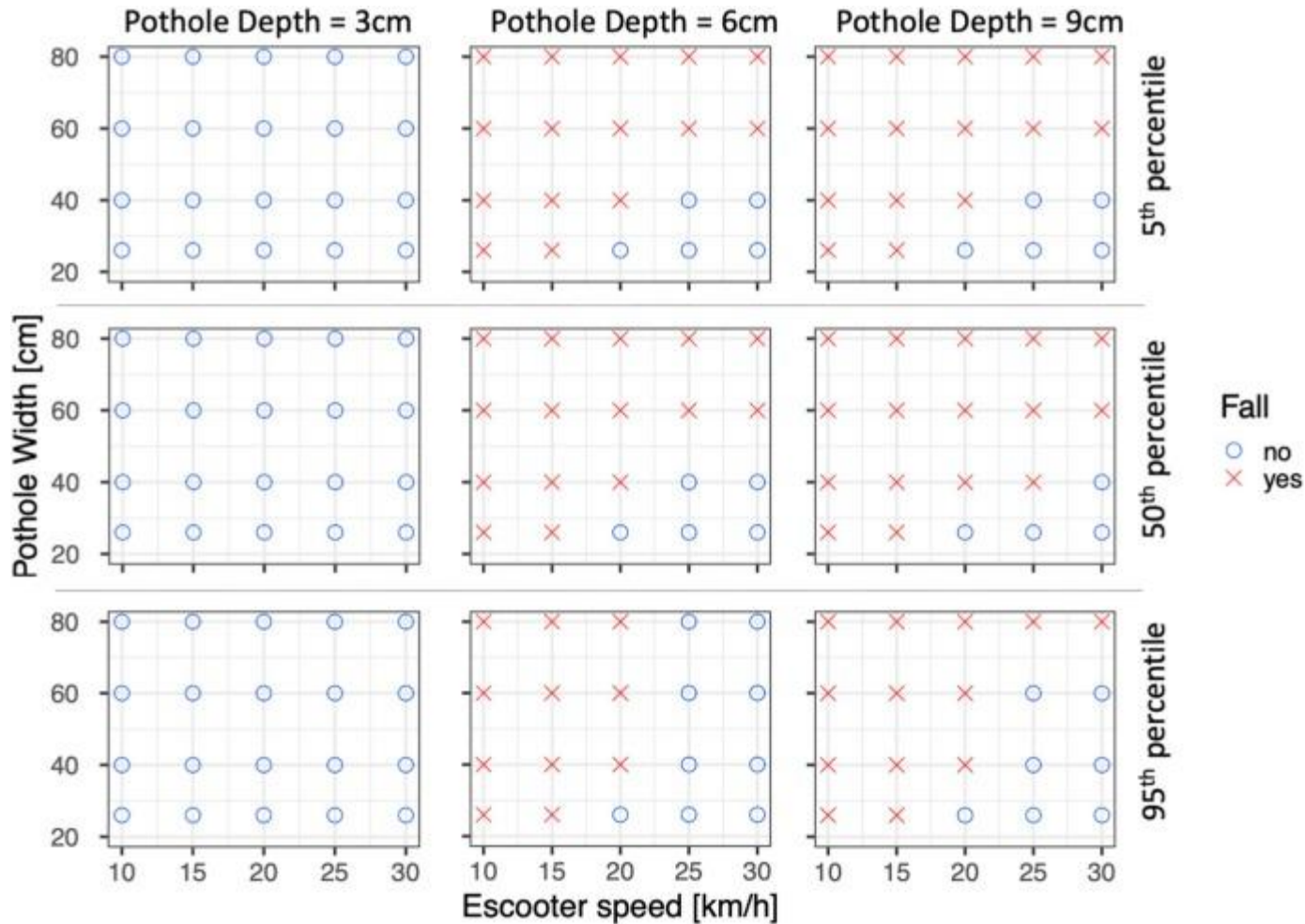
Inherent Lack of Stability in E-scooters

- Study (published in March 2022) used multi-body dynamics approach to model a commercially available e-scooter and simulate 180 falls using human body models.
- Different dimensions of potholes, different speeds, and different body models were taken into account.

Computational prediction of head-ground impact kinematics in e-scooter falls

Pasinee Posirisuk¹, Claire Baker¹, Mazdak Ghajari²



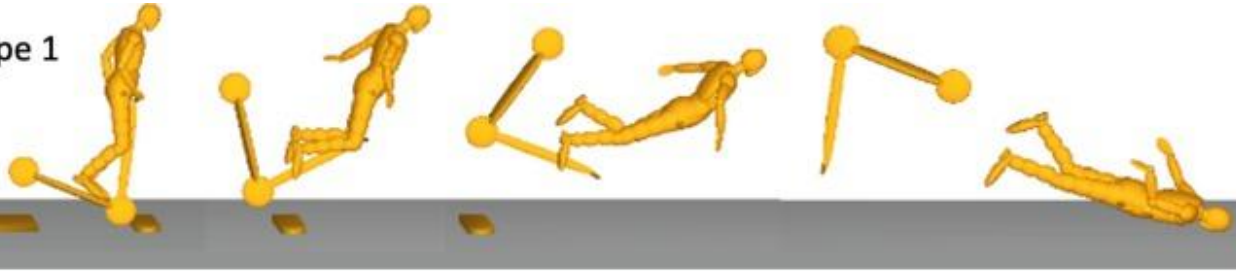


Sudden increase in falls when pothole depth goes from 3cm to 6cm

Speed is a large contributing factor

Fall Kinematics

Type 1



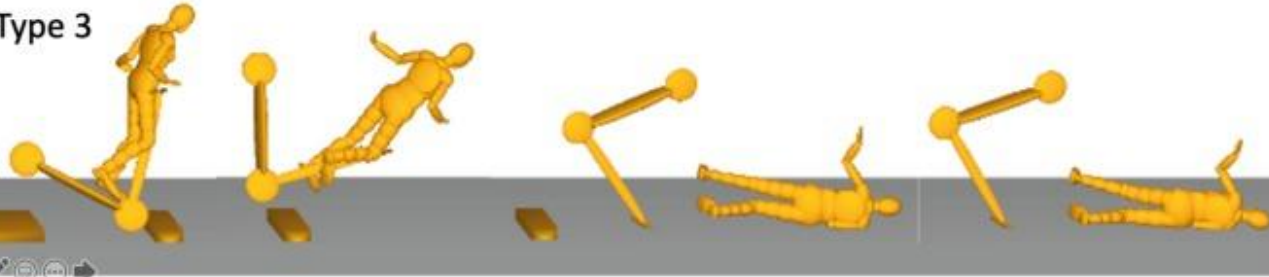
Type 1: the rider is discharged from the e-scooter and the head contacts the ground first. (28%)

Type 2



Type 2: the rider is discharged from the e-scooter and before the head contacts the ground, another body part contacts the ground. (66%)

Type 3



Type 3: the rider is discharged from the e-scooter and the body rotates to the side before impacting the ground on the side followed by head-ground impact. (6%)

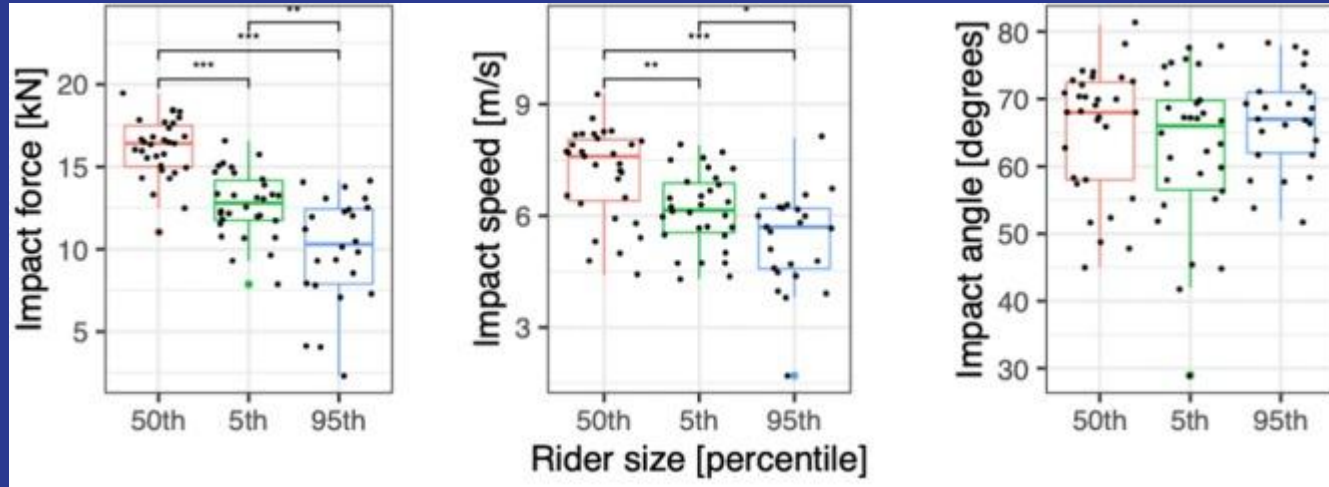
AVERAGE HEAD-GROUND IMPACT OF

13.2 ± 3.4kN

This is significantly larger than skull-fracture thresholds:

4.8–5.8 kN for the frontal bone and **3.5–3.6 kN** for the temporoparietal area of the skull

RIDER SIZE INFLUENCES HEAD-GROUND IMPACT



The median male has the largest predicted impact at **16kN**

Small Female: 12kN

Large Male: 8.5kN

HEAD-GROUND IMPACT SPEED

The average head-ground impact speed at travel speeds of 15.5 mph and 18.6 were 7.2 and 8 m/s

This is comparable to **motorcycle helmet testing standards**
(7.5m/s for vertical impacts and 8m/s for horizontal impacts)

Scooters in the City of Bloomington are authorized to go 15mph

Furthermore, the average impact angle was $65 \pm 10^\circ$. This is larger than the impact angle tested for under current bike and motorcycle helmet standards, 45°

OVER 50% OF IMPACTS WERE TO THE CRANIUM

The next largest impact category was the face.

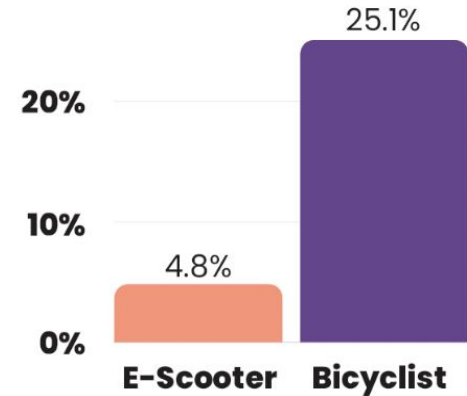
**Only full/closed face helmets can protect both the
cranium and the face.**

Helmet Safety

- There is no law requiring helmets when riding e-scooters.
- Scooter companies have the technology to detect if a rider is wearing a helmet. They use this to create a discount incentive rather than a requirement.
- Helmet usage in e-scooters is remarkably low across all studies.

Helmet usage compared to other categories

How many injured riders wore a helmet?

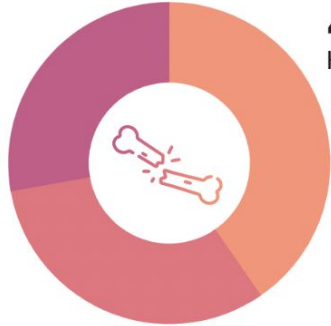


Takeaway: Far too many e-scooter riders don't wear a helmet. It is effectively shown to substantially reduce the risk and severity of head injuries.

Most common injuries

27.7%

Cuts & bruises



40.2%

Head trauma

31.7%

Bone fractures

Summary: The most common type of e-scooter injury is head trauma. All the noted major head injuries involved (5) happened to riders without helmets.

Takeaway: Always wear a helmet when riding on an e-scooter.

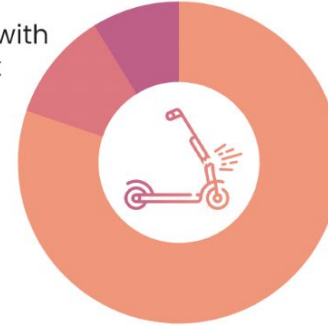
Most common accidents

8.8%

Hit by vehicle

11%

Collision with an object



80.2%

Fall

Summary: The vast majority of e-scooter accidents involved a fall - often indicating the rider is at fault.

Takeaway: Always keep your eyes on the road and both hands on the e-scooter. Slow down before looking over your shoulder or turning.

E-SCOOTER HELMET SELECTION GUIDE

Created by ERideHero.com

MINIMAL PROTECTION



Below are our bare minimum protection e-scooter helmet suggestions. The selections are based on how fast your electric scooter is able to go. Even at low speeds, you should always use a bike helmet at the very least.



OPTIMAL PROTECTION

Bike helmets will protect your skull but they leave your jaw and face exposed. If you want optimal protection, we recommend using a downhill helmet for anything below 25 MPH and a motorcycle helmet for anything above due to high speeds.



It should be noted that the helmets that e-scooter companies sometimes give away are commuter helmets.

They are more similar to skate helmets than typical bicycle helmets.

Skate helmets rank lower in protection than typical bicycle helmets, and far lower than downhill helmets.



A helmet from a BIRD giveaway

Head-ground impact conditions and helmet performance in E-scooter falls

Accident Analysis & Prevention

Volume 181, March 2023, 106935



[Wei Wei](#)^{a b}  , [Yvan Petit](#)^{a b c}, [Pierre-Jean Arnoux](#)^{a b}, [Nicolas Bailly](#)^{a b}

This study's calculated e-scooter head injury metrics exceeded severe head injury thresholds **even with a helmet**. This is largely due to the angular nature of the fall combined with the sheer impact force. It notes that E-scooter falls always resulted in an oblique head-ground impact, with 78% on the forehead.

Notable sections from the study:

“The helmet significantly ($p < 0.1$) reduced the head linear acceleration, angular velocity, HIC₃₆, and BrIC, **but not the angular acceleration**. However, even with the helmet, the head injury metrics were mostly above the thresholds of severe head injuries.”

“Typical E-scooter falls might cause severe head injuries. **The bicycle helmet was efficient to reduce head injury metrics but not to prevent severe head injuries**. Future helmet standard evaluations should involve higher impact energy and the angular acceleration assessment in oblique impacts.”

The U.S. Consumer Product Safety Commission



UNITED STATES OF AMERICA
CONSUMER PRODUCT
SAFETY COMMISSION

Established in 1972 to “protect the public against unreasonable risks of injury or death from consumer products through education, safety standards activities, regulation, and enforcement”

HR 727 amendment of the Consumer Product Safety Act was passed to apply the same set of regulations to:

“low-speed bicycles,” and

“two- or three-wheeled vehicle with fully operable pedals and an electric motor of fewer than 750 watts, whose maximum speed on a paved level surface, when powered solely by such a motor while ridden by an operator who weighs 170 pounds, less than 20 mph.

The CPSC is behind the Consumer Product Safety Act, which details these rules and regulations. The current amendment of the CPSA that is applicable to e-scooters was written back in 2001 **with the intent of allowing electric bicycles to be subject to the same standards as regular bicycles.** This means then HR 727 was written and passed with the intent to regulate bicycles, and electric bicycles. Electric scooters were not taken into consideration whatsoever. E-scooters fit under the definitions listed in HR 727 **on a technicality.** This *does not mean* the legislation has been analyzed and deemed appropriate for e-scooters.

Knowing how different e-scooter are from bicycles, it is common sense that they should not be regulated the same way.

New Specification for Commercial Electric-Powered Scooters for Adults

The US CPSC has partnered with the ASTM to create new guidelines tailored to e-scooters.

ASTM WK70724

Subcommittee: F15.58

The subcommittee was initiated in 2019.

The new guidelines have not been completed and released yet.



ASTM INTERNATIONAL
Helping our world work better

Research shows that e-scooters are far more dangerous than bicycles or e-bikes. They should be held to higher standards, but they currently are not.

Restriction Attempts

The Effect of Nighttime Rental Restrictions on E-Scooter Injuries at a Large Urban Tertiary Care Center

[Bjorn Anderson](#),¹ [Jonathan D. Rupp](#),^{2,3,*} [Tim P. Moran](#),² [Lauren A. Hudak](#),² and [Daniel T. Wu](#)^{2,4}

- Study reviewed medical records at Grady Memorial Hospital from between June 2018 and August 2020.
- Data was then analyzed to identify trends related to the implementation of a Atlanta's nighttime scooter ban.
 - Scooters did not operate between 9pm and 4am
- **Study found no significant effect**
- Study noted greater correlation between helmet usage than time of ride

Decrease in number of injuries involving electric scooters reported in Oslo

TOPICS: Electric Scooters In Oslo

- Oslo implemented e-scooter restrictions in the form of restricted hours (no scooter operations between 11pm and 5am) as well as reducing their fleet from up to 20,000 scooters to a limit of 2,667 scooters per company (with a limit of 3 companies)
- This resulted in a decrease of e-scooter injuries by almost 50%

Lime Helmet Giveaways

Home / Lime / Accessories / Hats



Lime offers no details about their helmets anywhere online.

Moon Helmet MTV 12

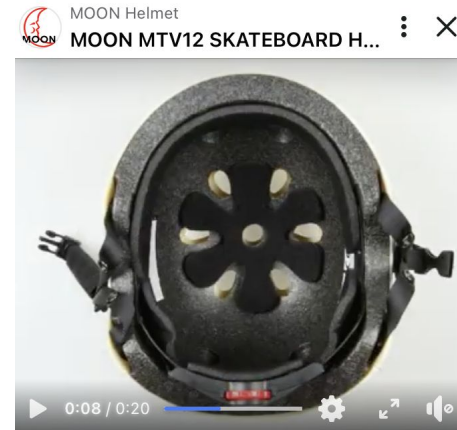
- In September 2022, NEUTRON HOLDINGS (Lime) received a shipment of helmets from MOON HELMET INTERNATIONAL.



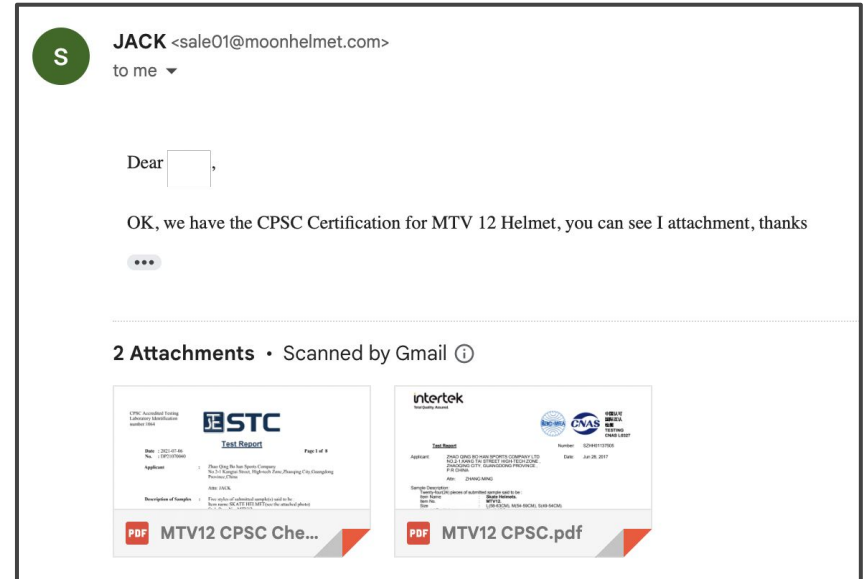
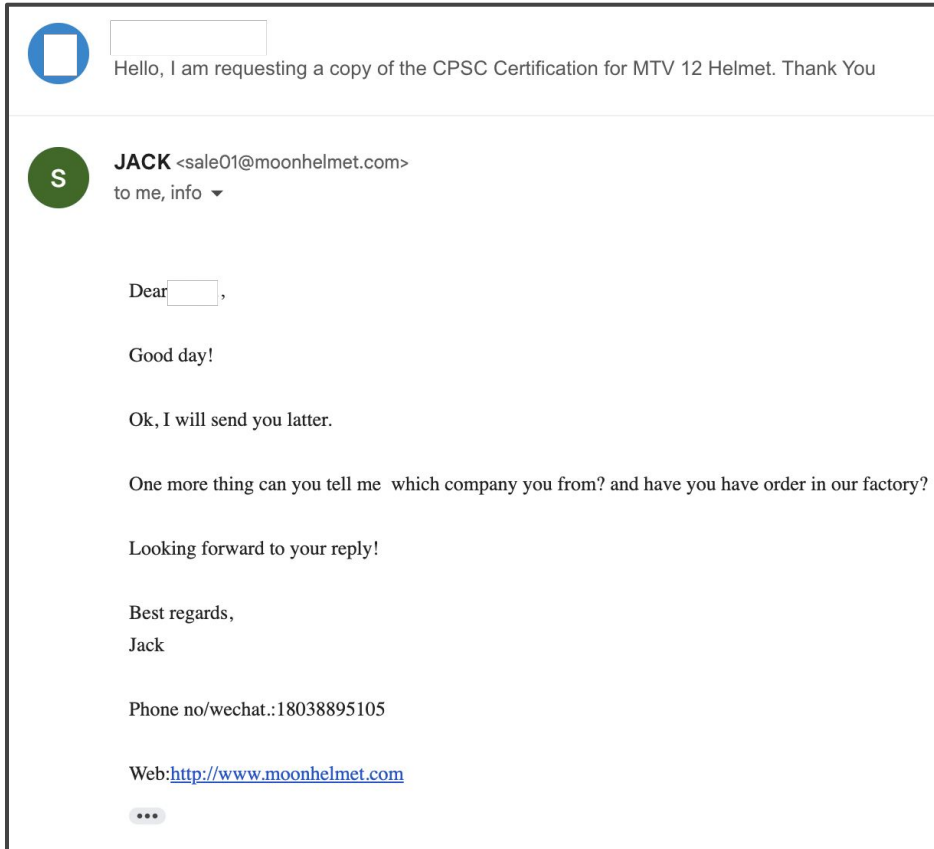
Lime Helmet VS Moon Helmet MTV 12

The holes on the top, front, and back all match up. The shape matches up. The bottom of the helmet matches up. The red dial on both helmets are **identical**.

- Upon visiting the website, a helmet model (MTV 12) identical to the Lime helmet can be found.
- Moon Helmet has copies of safety certificates on their website. There is only one CPSC Certificate visible, and it is for a *completely different model*.



The “Certificate” Provided By Moon Helmets



When contacted by email, Moon Helmets provided pdfs of “CPSC Certificates” for the MTV 12



Test Report

Number: SZHH01137505

Applicant: ZHAO QING BO HAN SPORTS COMPANY LTD
NO.2-1,KANG TAI STREET HIGH-TECH ZONE,
ZHAOQING CITY, GUANGDONG PROVINCE,
P.R CHINA

Date: Jun 28, 2017

Attn: ZHANG MING

Sample Description:
Twenty-four(24) pieces of submitted sample said to be :
Item Name : Skate Helmets.
Item No. : MTV12.
Size : L(58-63CM), M(54-59CM), S(49-54CM).
Material For Helmet : Shell ABS
Liner EPS.
Manufacture : Shunde Moon Helmet Co., Ltd.
Date Manufactured : March 23, 2017.
Date Sample Received : Mar 28, 2017.

Tests conducted:
As requested by the applicant, refer to attached page(s) for details.

Conclusion:	Tested sample	Standard	Result
	Submitted bicycle helmets	16 CFR 1203: safety standard for bicycle helmets	Pass

Authorized by:
For Intertek Testing Services
Shenzhen Ltd.



Victor Wang Tie Jun
Title: Asst. General Manager
CNAS Approved Signatory



- The document provided appears to be a genuine certification from Intertek, a well established company with testing laboratories internationally.
- The CPSC Accredited Labs List lists several Intertek laboratories. **None of them match the address on the pdf.**
- When checking Intertek's official website, **no location matches the address on this pdf.**

301A, 302B, 6/F. 7/F Shekou Technology Main Bldg.
and Room 1E of Nanshan Building, Nanshan Ave.,
Nanshan District, Shenzhen, China
深圳市南山区南海大道科技大厦 301A、302B、六层、
七层、南山大厦 1楼 1E房(518067)

About 278 results (0.61 seconds)

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<http://sds.staples.com> > msds [PDF](#) 

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301A, 302B, 6/F. 7/F Shekou Technology Main Bldg. and Room 1E of Nanshan Building,.
Nanhai Ave., Nanshan District, Shenzhen, China.

When the address on the document is looked up, **multiple pdfs with Intertek certification formatting can be found.**

None of them are from recognizable websites.

They provide **easy bases** for **photoshopping a safety certificate.**

**THE HELMETS
BEING GIVEN OUT
BY LIME ARE NOT
CPSC CERTIFIED.**

It is a prohibited act under Section 19 of the CPSA to offer for sale, distribute in commerce, or import into the United States a bicycle helmet that does not meet one of the interim standards under 16 CFR 1203

It is **not** legal for Lime to give away these helmets because they **are not CPSC certified bike helmets.**

A Summary of The Problems

- E-scooters can not traverse potholes, bumps, or other common obstacles, safely.
- E-scooter riders are more prone to face, head, and shoulder injuries due to the structure of the scooter itself.
- E-scooter riders are more prone to critical/traumatic injuries due to the structure of the scooter itself.
- Skate and bicycle helmets do not provide adequate protection for e-scooter riders. This comes in addition to the fact that e-scooter riders rarely/almost never wear helmets.
- The majority of e-scooter riders are young college students.

What Next?

The following slides are suggestions for the City of Bloomington.

E-bikes

The end of e-scooters does not necessarily mean the end of micromobility. Safety AND the environment can both be prioritized by instituting an e-bike bikeshare program.

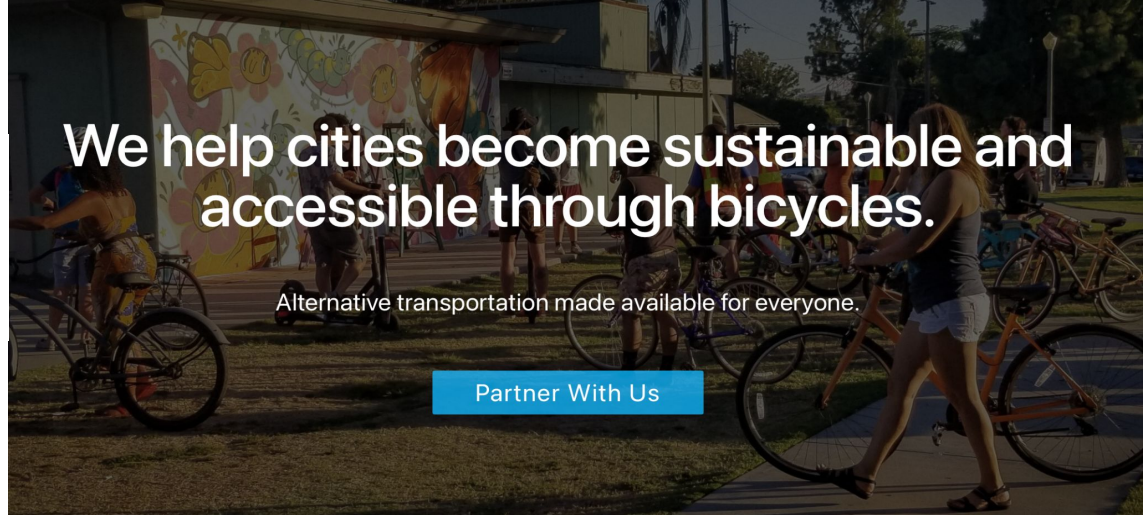
- Research shows that e-bikes have lower injury rates and injury severity scores than e-scooters. A bikeshare program would **significantly lessen the amount of IU students ending up in the ER.**
- **E-bikes have docking stations.** In order to end the ride, the bikes must be docked at one of the charging stations. This would **eliminate sidewalk clutter**, making the streets of Bloomington fully accessible to all its citizens, particularly those with disabilities whose mobility has been severely impacted by e-scooter clutter.
- **Helmet usage is much higher with e-bikes.** Because e-scooters end up all over the place, students often ride them because they happen to see one. Situations like this do not allow for planning, which means they likely will not wear a helmet because they are not carrying one. E-bikes, however, are only located at one of many marked docking stations. Most students who ride an e-bike plan it in advance. This gives them the chance to bring their own helmet.

- **Bicycle helmets offer enough protection for e-bike riding.** The recommended helmet for e-scooters, however, is a downhill motorcycle helmet. College students typically do not own motorcycle helmets.
- Placing e-bike docks strategically along busy streets downtown and at hot spots around campus would provide **a framework for people to safely get around the city and for students to get to classes on campus.**
- There would be **no need for “parking enforcement” employees.**
- There would be **no need for a “scooter safety task force”.**
- Microbility options would still remain. **People would be safe.**

Starting a bikeshare program

Many cities across America have successful bikeshare programs. This includes Indianapolis. In a college city like Bloomington, starting a bikeshare program would not only be easier, it would also provide a desperately needed transportation option for a large percentage of constituents: college students.

Many Companies Offer Services To Plan And Implement These Programs



Working with us is simple.

1

Consultation

We identify your unique transportation challenges.

2

Solution

We create a specifically tailored, equitable, and strategic solution for your community.

3

Implementation

We monitor, adapt, and improve your transportation network so your community thrives.

What The People Want

The City Council is already aware of the numerous complaints about scooters. This encompasses everything from safety concerns to accessibility issues. **The point of micromobility is to *improve* mobility, not hinder it.** It *can* be done safely and effectively. Just not with e-scooters.

An e-bike bikeshare program would provide all the same benefits of e-scooters with none of the same problems.

Negative backlash against e-scooter restrictions is mainly from people who **do not live in Bloomington.**

The majority of it started with a tweet from a man who does not live in Bloomington.

Most people do not know how dangerous e-scooters are. If they did, no reasonable person would object.



veo

VEO X

COSMO

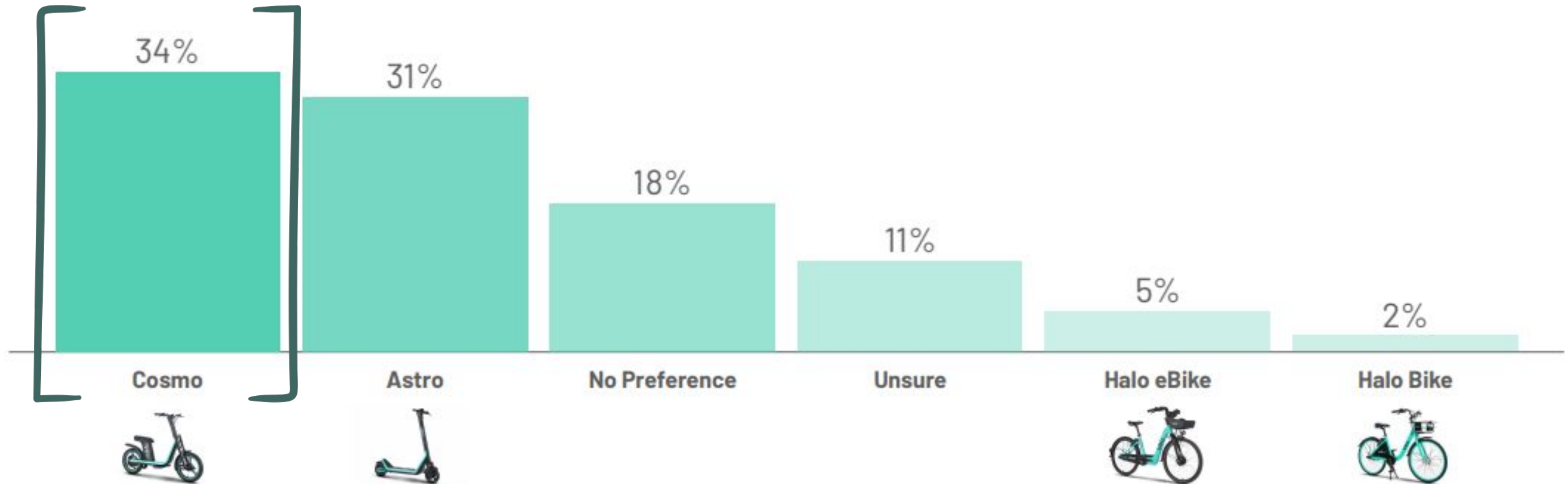
*An overview of rolling
out the Cosmo*

**What does it look like to
introduce the Cosmo
seated scooter to a city?**

Case Study from Fayetteville, AR

- In November 2021, Veo conducted two public demo days in Fayetteville, Arkansas to gauge public opinion and collect feedback from residents about our Cosmo seated scooters
 - 45% of respondents were 36+ years of age
 - 56% of respondents preferred the Cosmo seated scooter
 - 73% of respondents **felt safer** on the Cosmo seated scooter
 - 82% of respondents shared they hoped to see Cosmos added to Fayetteville's mobility options long-term
- Based on positive feedback, **Veo launched a Cosmo Pilot program in April 2022** with an initial fleet of 50 vehicles
- Over the following weeks, an additional 50 Cosmos were deployed, bringing the total to 100 vehicles (20% of the total fleet in Fayetteville)

Favorite Products in Mixed Fleet Markets



Case Study from Fayetteville, AR

Over the course of the first six months of deployment, there were over **26,000 rides** on seated scooters– that's over 25% of all rides.

- Cosmo seated scooters made up 10% of the fleet in April and part of May, receiving 2.8 rides per vehicle per day (well above the stand-up scooter average of 1.5 R/V/D)
- Cosmo rides covered **35% more distance** and were **23% longer** than Astro stand-up scooter rides
 - Average trip length of the Cosmo: 3.5 miles
 - Average trip duration of the Cosmo: 18.3 minutes
- On average, over 33% of total rides occurred on Cosmos throughout the duration of the pilot, with peaks of up to 47% of total ridership in July
- Cosmo seated scooters received consistently higher ratings from riders
- Cosmo seated scooter rides did not result in higher violation counts, making up less than 19% of total violation tickets

The Cosmo supports longer rides, giving it the potential to replace trips that people would have taken by car.

Riders take trips that are
about 1 mile
longer

on Veo's seated scooters than
when using their stand-up
counterparts.



Case Study from Fayetteville, AR

Veo conducted community outreach specifically about the Cosmo, including:

- **2 Public Demonstrations** prior to launch focused on Cosmo safety and feedback
- **3 Safety Education** events focused on rules of the road, proper parking, and best riding practices
- **2 in-app/push notifications** to address Cosmo parking requirements
- **2 community relations events** to collect additional feedback, reinforce good parking behaviors, and highlight best riding practices



Why Cosmo?

- The Cosmo is a **reliable** and **accessible** mobility option. Because it's a seated scooter, it better accommodates longer trips.
- Across our markets, Cosmo trips are 40% farther on average and are more likely to be utilized for **commutes** and **shopping trips** because it is easier to carry bags and personal items.

The Cosmo is our most accessible scooter preferred by a wider range of riders, including women & mature riders.

Together with Astro, a mixed fleet creates the flexibility to accommodate rider preferences, especially for riders without a personal vehicle.

COSMO SEATED E-SCOOTER

Meet Cosmo

Cushioned seating

to better serve & accommodate a wider range of riders & trips types

Max speed of 15 mph

with customizable geofencing

Large 18 x 3" pneumatic tires

& front suspension for increased performance & handling

Underdeck light and LED Front & Tail lights

visible from 500 ft away and active brake lights for maximum visibility

"Veo Voice"

Integrated audible vehicle notifications for riders



Installing protected bike lanes is the #1 way we can protect people using bikes and scooters.

And while over 99% of all scooter trips are incident-free, vehicle type can also affect safety:

**On average, our seated Cosmo scooters
experience 62% fewer crashes than standing
Astro scooters.**

User research indicates that the Cosmo's large tires and lower center of gravity provide a greater sense of balance and control, especially for mature riders and people who are new to micromobility.



More options = more riders

The majority of riders have a preference when it comes to vehicle type: About half (49%) of riders will choose an alternative transportation option if their preferred vehicle is not available.

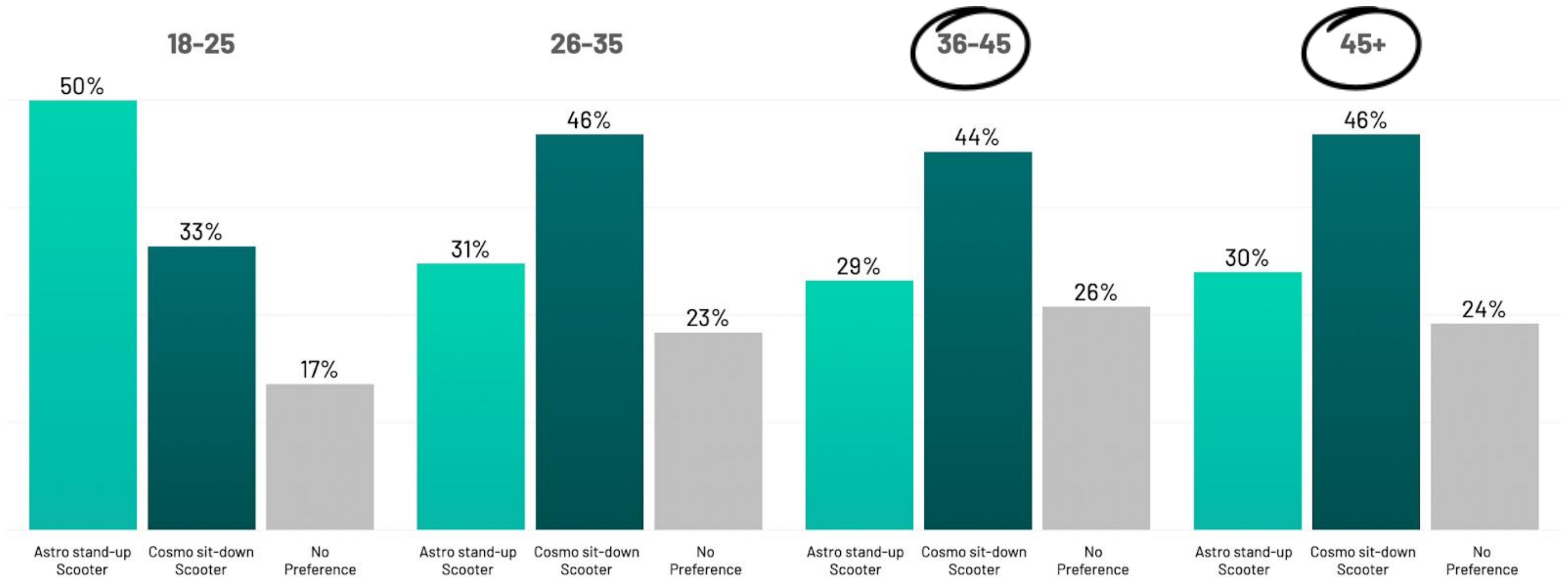
This underscores how offering mixed vehicle fleets is crucial to providing people with the options they need to get around.

Rider vehicle preferences may also vary by age and gender. Older riders tend to prefer seated vehicles, while younger riders prefer standing scooters. Women may prefer the seated Cosmo scooter over the standing Astro scooter.

Product Preference by Age

Participants were asked if they have a favorite Veo vehicle

veo's mixed fleets are increasing access for a broader set of riders.



Visit

veoride.com/cosmo/

to learn more about Veo's seated
scooters.