

RideHawk™

Real-World Evaluation of an AI-Powered Advanced Rider Assistance System

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A “Wicked Problem”

Motorcycle crashes are one of the largest global transportation safety problems.

Every year:

- 1.3M people die in road crashes globally
- 93% occur in developing countries
- Motorcycles account for the majority of fatalities in Southeast Asia
- 600M+ motorcycles globally; 250M+ in Southeast Asia

Today:

- Motorcycles lack modern collision safety systems
- Insurers cannot accurately price rider risk
- Fleet operators cannot monitor rider safety

Result:

- Billions lost annually in injuries, fatalities, and insurance fraud.

Country	% of Road Deaths from Motorcycles
Thailand	83%
Indonesia	80%
Vietnam	80%+
Malaysia	70%



Malaysia's Motorcycle Safety Challenge

The practical question is not whether the risk exists — it is what we can do about it now

- Motorcycles are essential mobility
- Used for (i) personal use and (ii) business operations
- The opportunity is to move from reacting AFTER a crash has occurred toward protecting riders and identifying risk BEFORE the outcome



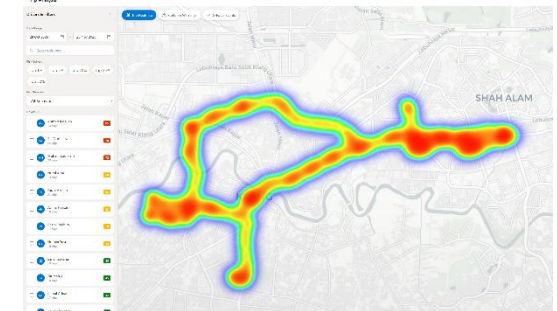
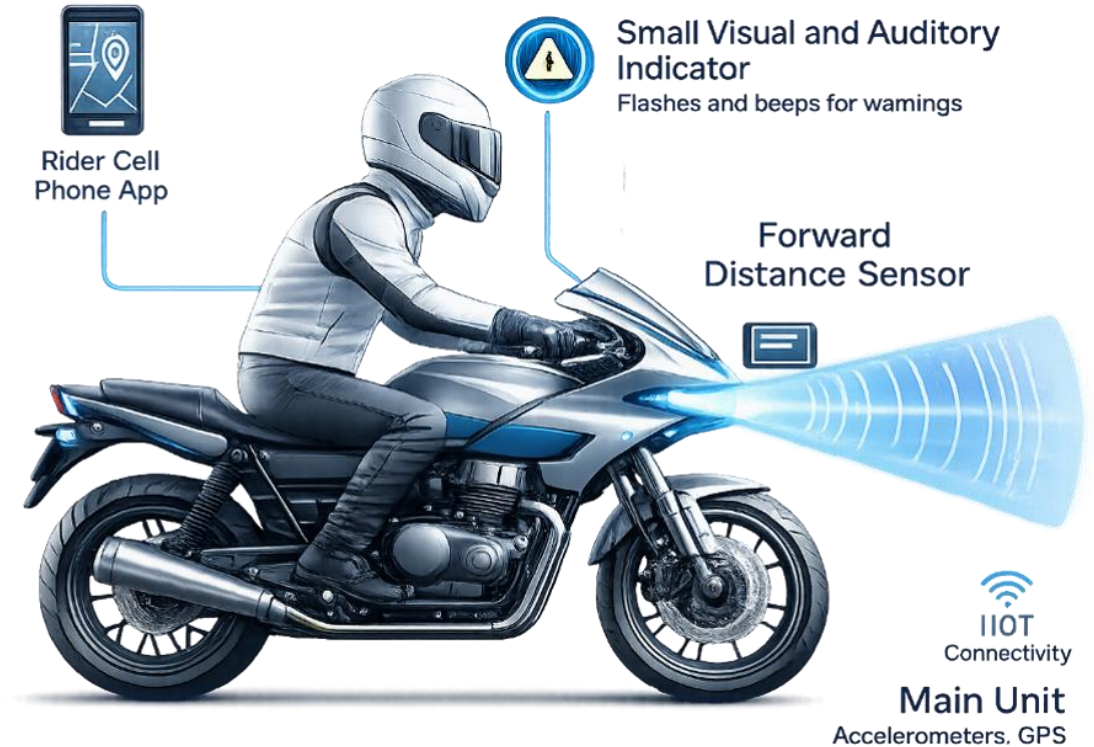
A major daily exposure can sit outside traditional safety visibility.

Deputy Prime Minister of Malaysia: Datuk Seri Dr Ahman Zahid Hamidi



Introducing RideHawk™

- An AI-powered motorcycle safety system that combines real-time rider protection with connected risk intelligence.
- Core capabilities:
 - Forward Collision Warning
 - Rider behavior analytics
 - AI-powered rider safety scoring
 - Personalized training feedback
 - Crash detection & emergency alerts
 - **Alertness/Fatigue Assessment functionality**
- RideHawk learns from rider behavior with the goal to prevent crashes before they happen.



ECOSYSTEM APPLICATIONS

MSS supports a broad range of motorcycle safety stakeholders

1. **Fleet & Delivery Operations:** Rider risk visibility, Operational safety monitoring, Incident reduction support.
2. **Employers and Commuter Safety:** Enhanced commuter protection, Duty-of-care initiatives, Smart PPE and safety programs.
3. **Road Safety Programs:** Safety analytics, Training initiatives, Public safety insights.
4. **Insurance & Risk Analytics:** Improved behavioral visibility, Usage-based risk insights, Future underwriting support.
5. **OEM Integration:** Working directly with motorcycle manufactures to integrate RideHawk during manufacturing.

Motorcycle safety requires collaboration across the broader mobility ecosystem.



RideHawk™: From Warning Device to Safety-Management Platform



Evidence Architecture: Science + Implementation

MITRANS / UiTM

Within-Rider Intervention

Does activating real-time audible warning change behavior?

Volvo Malaysia + Nippon Express

Corporate Implementation

Can RideHawk™ operate continuously in real fleet environments?

VGU, Vietnam

Cross-Country Naturalistic Evidence

Does the platform function across another rider population and operating context?

Lop Buri, Thailand

Young-Rider + Training Extension

Can the platform support inexperienced riders and road-safety learning?

Breadth of Deployment: Different Riders, Countries, and Use Cases

106
Riders

73,291
km

2,360
Riding Hours

Vietnamese-German University

VGU: 11 riders • 850 trips • 10,560 km • 312 hours

Cross-country naturalistic evidence

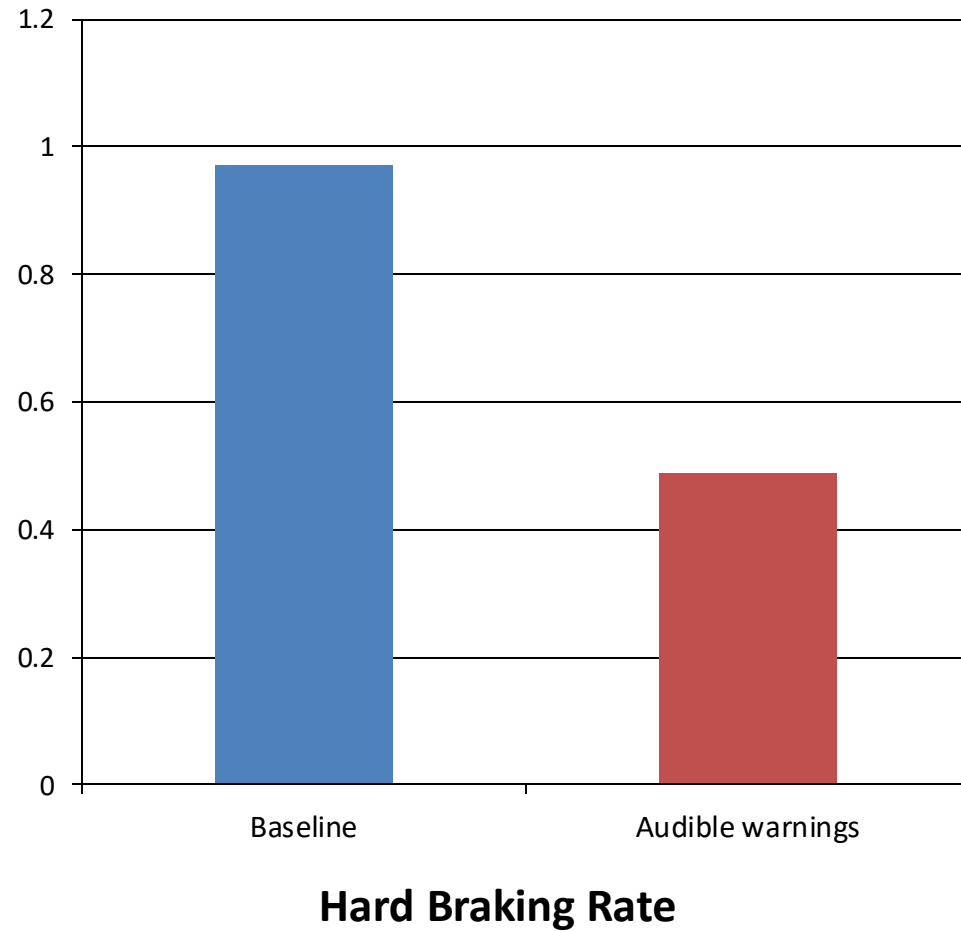
Lop Buri, Thailand

25 RideHawk™ young riders • 821 weekday trips • 3,204 km • 117 hours

Separate 78-student comparison cohort; school-clustered model: +2.166 points on a 25-item knowledge test, $p = .022$.

MITRANS/UiTM: Strongest Behavioral-Intervention Evidence

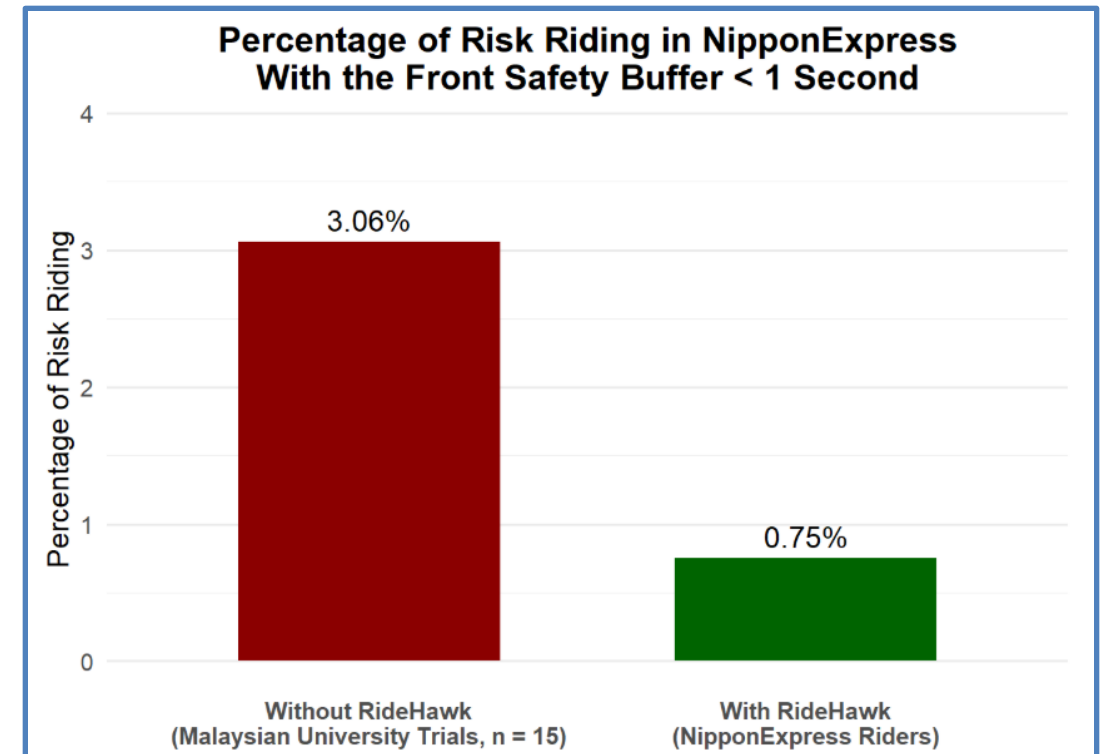
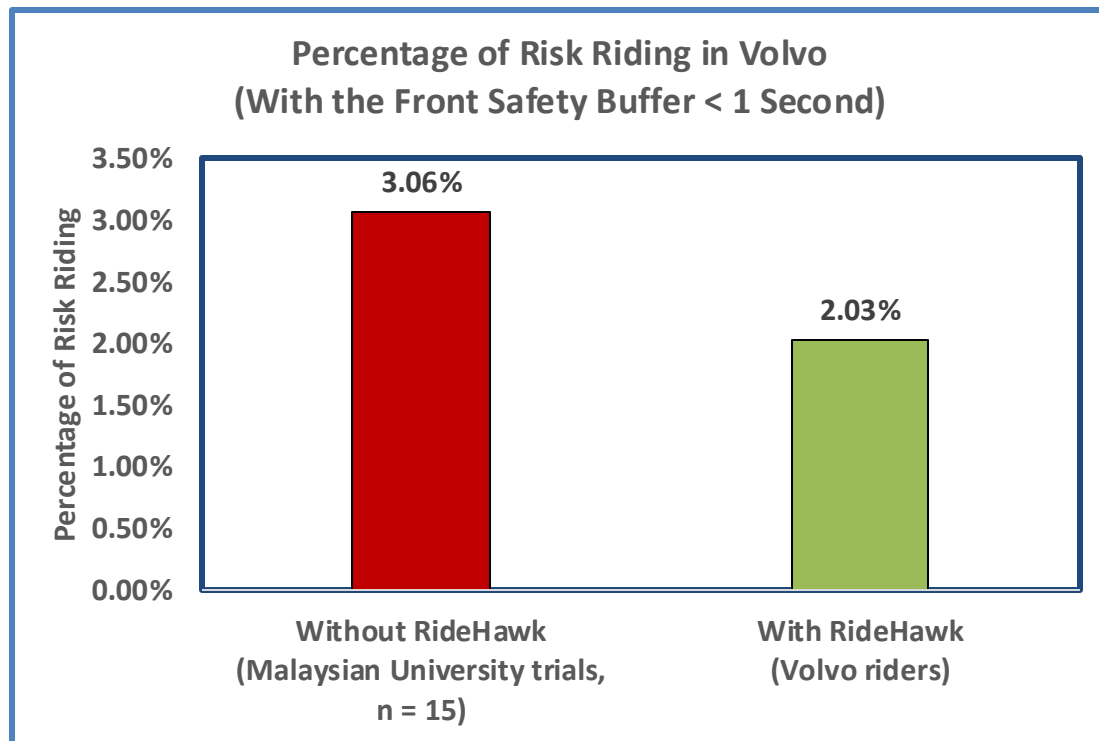
Silent Monitoring Baseline → Audible Real-Time Warning Intervention



- 9 riders paired baseline/intervention data
- All 9 paired riders recorded lower hard-braking rates after audible warnings were activated
- Mean: 0.97 → 0.49 events/km
- Paired $t(8) = -8.143$, $p < .001$; Wilcoxon signed-rank **$p = .002$**
- Overall alert frequency remained similar, while hard-braking events decreased significantly after audible warnings were activated
- With RideHawk™ audible warnings activated, the average hard-braking rate was cut roughly in half, and all nine riders showed improvement

Corporate Deployments Showed Lower Measured Risky Riding

- Separate Malaysian comparison cohort: 3.06%
- Volvo Malaysia: **33% Reduction**
- Nippon Express: **75% Reduction**
- Separate-cohort comparison — not a pre/post experiment



A Training *Revolution*: From One-time Training To Continuous Rider Development

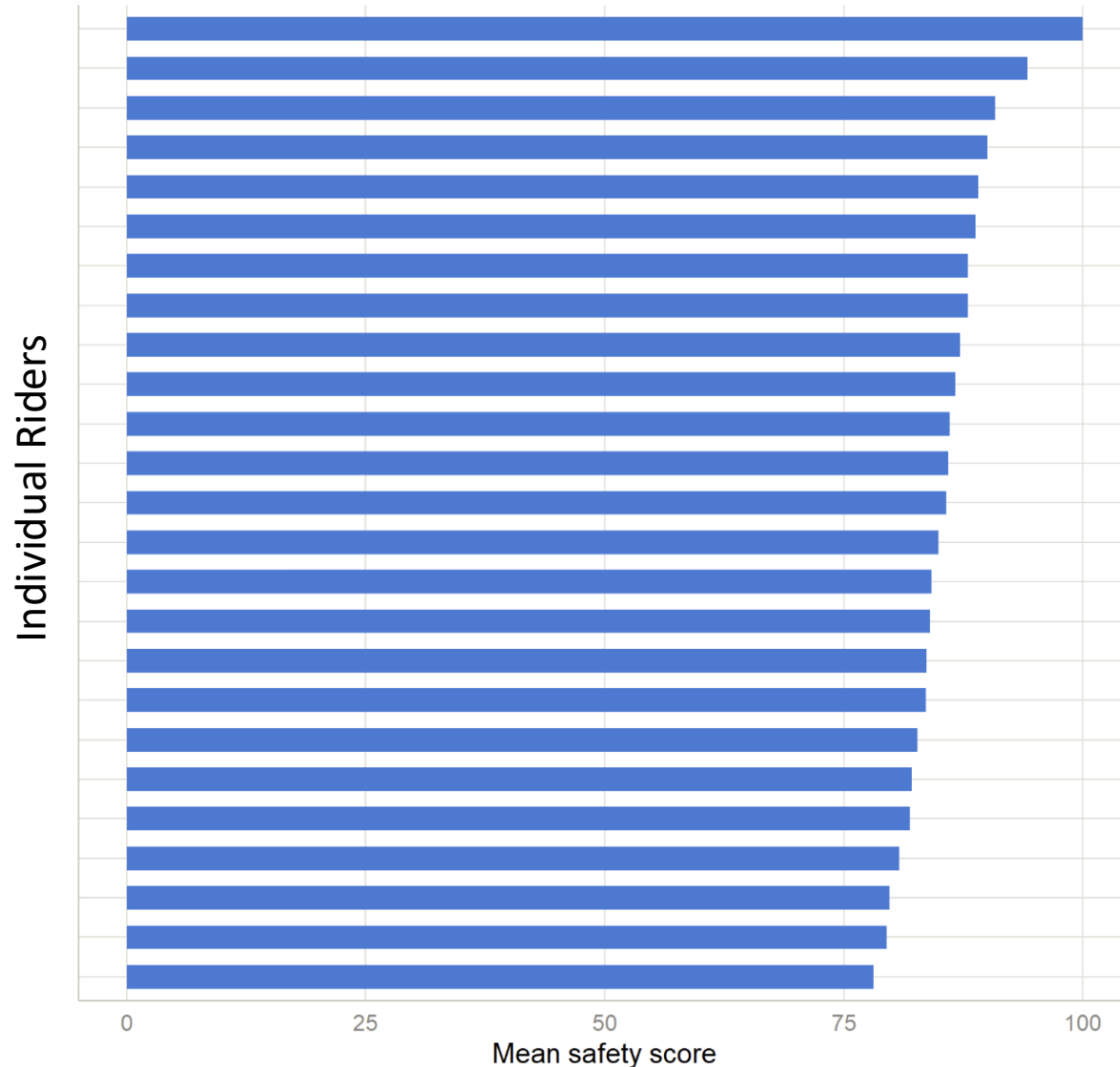
- Lop Buri, Thailand | May–September 2026 | one school semester
- 25 RideHawk student riders | 3 high schools
- 500+ real-world commuting trips | 3,000+ km



Variations Among Lop Buri Riders

Mean safety score by rider

Distance-weighted across each rider's scored trips



- Individual rider score:
– 78.1-100

Overall Good Safety Performance!

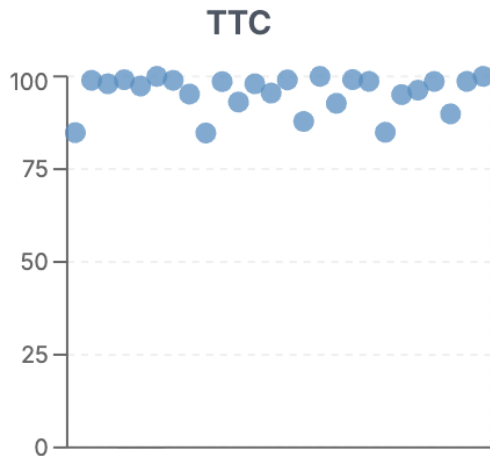
- Majority of the trips with relative high safety score (80-90)



Where Should We Improve?

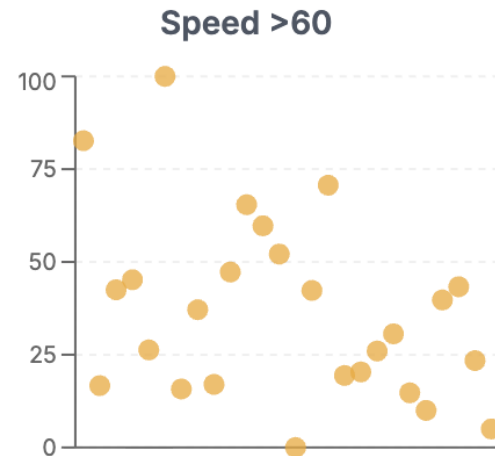


Keep Safe Distance with Front Objects

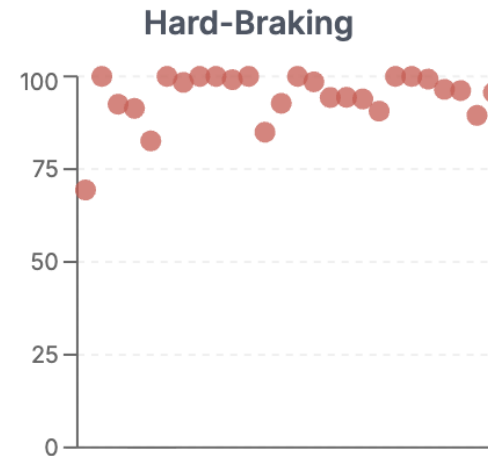


Can Improve!

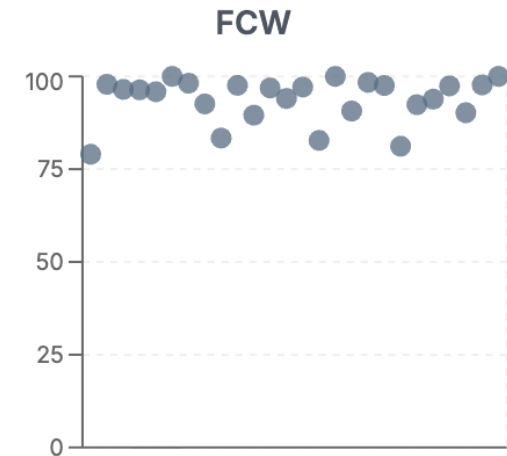
Keep Safe Speed



Avoid Aggressive Riding

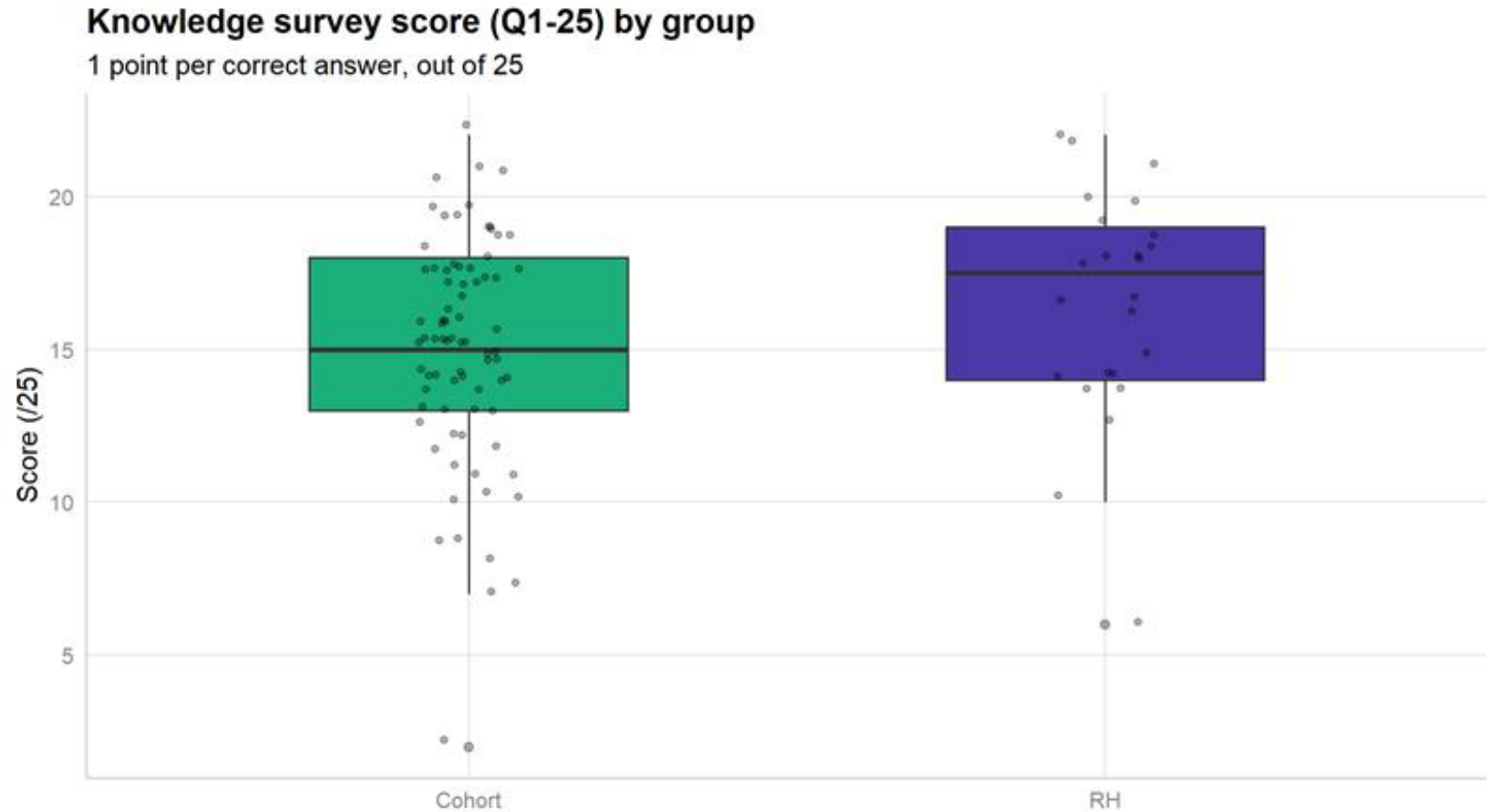


Avoid Extreme Close Distance with Lead Objects

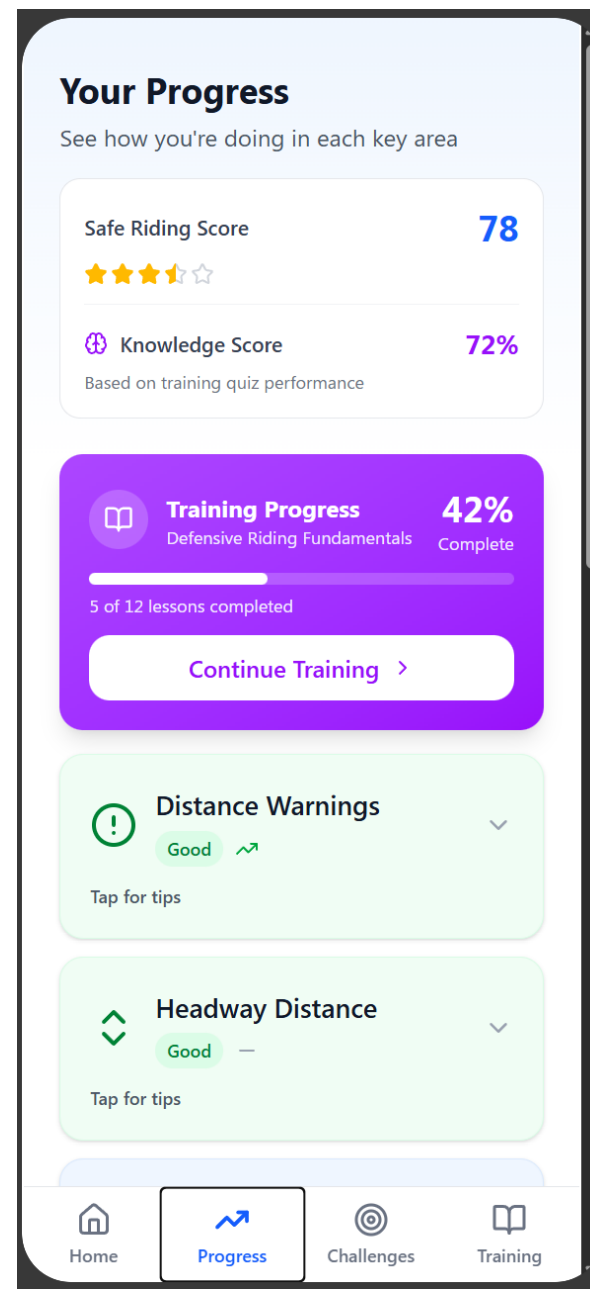
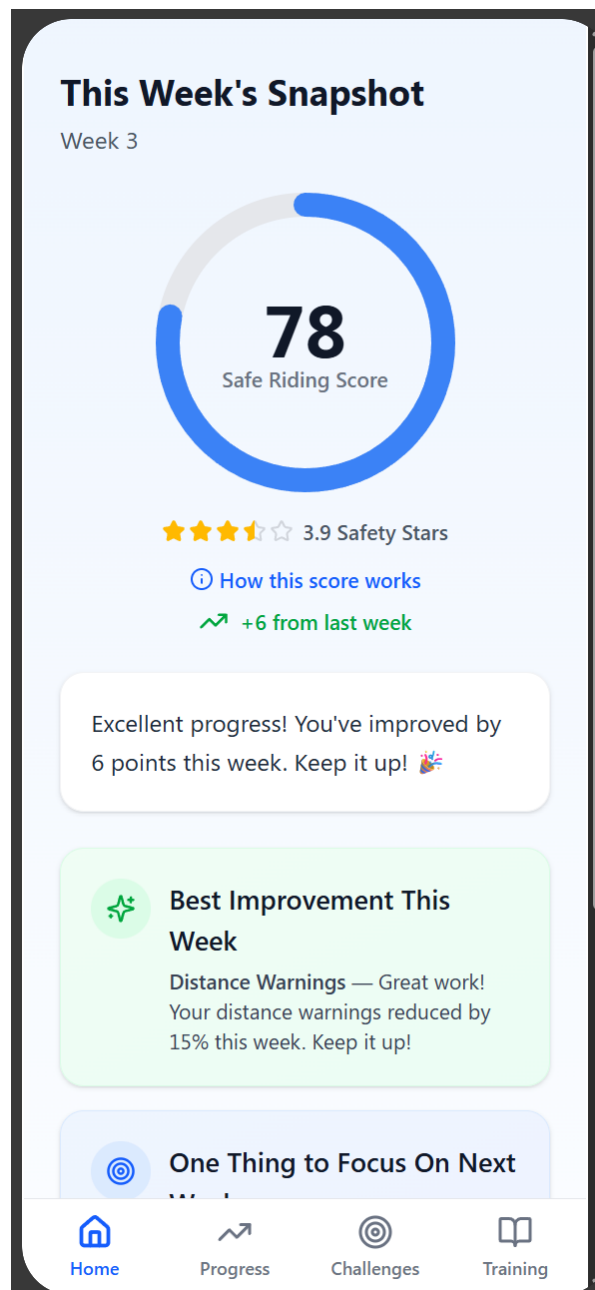


Road Safety Knowledge (DLT Training Questionnaire)

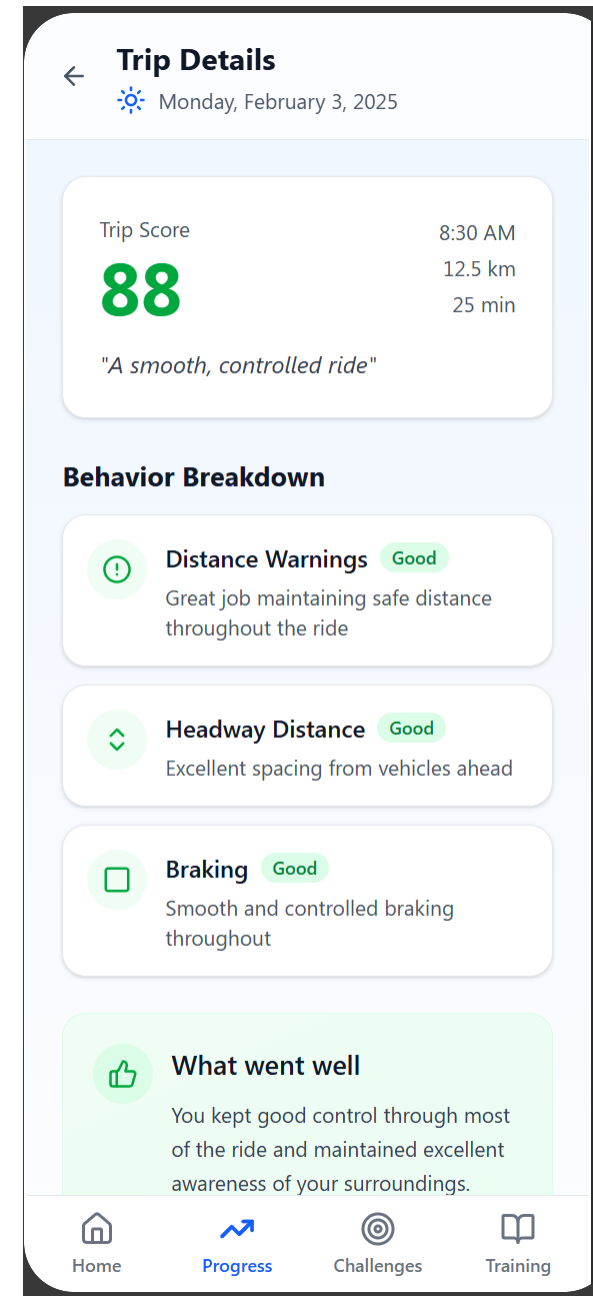
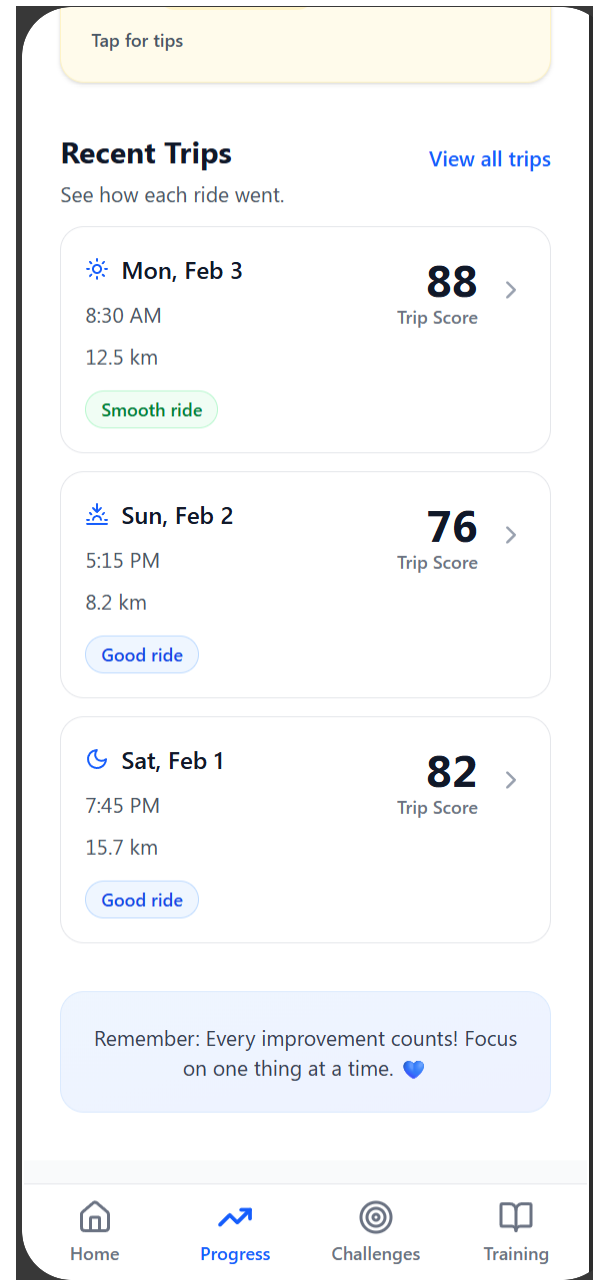
- 24 DLT-derived active-learning modules and quizzes
- RideHawk Participants, **67.2%**
- vs.
- Comparison Group, **60.0%**
- +7.2 percentage points (p=.022)



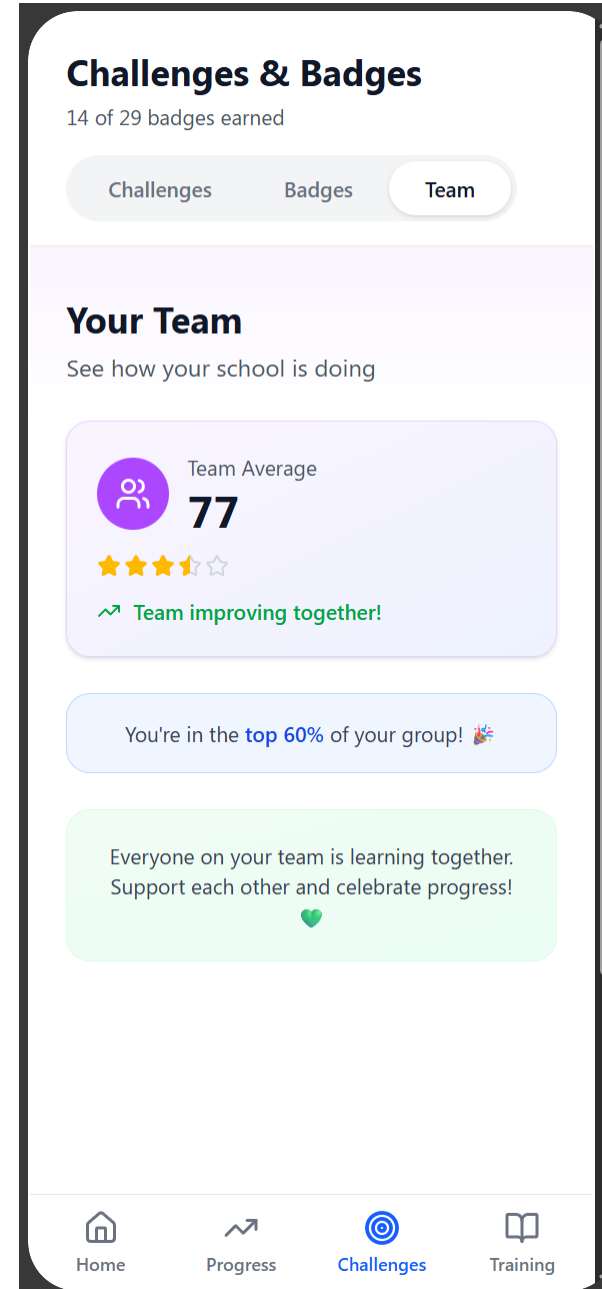
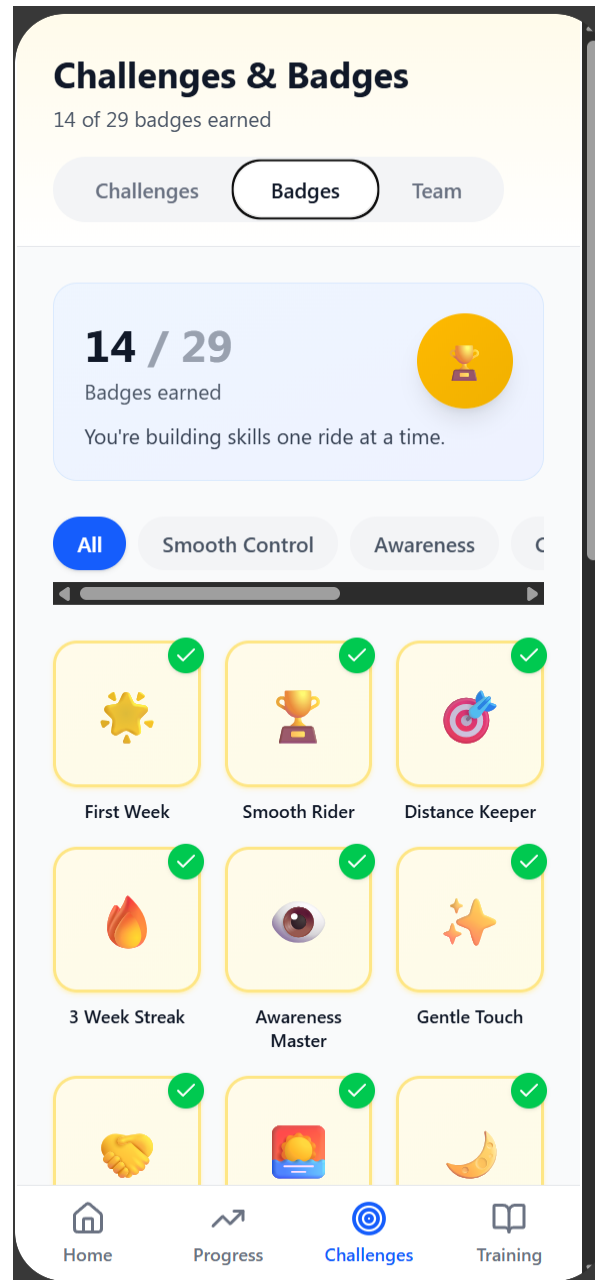
Phone App Dashboard for Riders



Progress & Details



Challenges & Badges



Training & Quizzes

✕

2 / 5

Your Training

Overall Progress

42%

5 of 12 lessons completed

📖

Continue Learning
Pick up where you left off

Smooth Control Techniques

Cornering Fundamentals

🕒 5 min

• Lesson 3 of 4

Continue >

Defensive Riding Fundamentals

Your training curriculum

42%
Complete

1/4
Modules

🕒 ~35 min remaining

View Course >

🏠
Home

📈
Progress

🎯
Challenges

📖
Training

✕

2 / 5

The Racing Line



A good corner starts before you enter the turn.

Look through the corner to where you want to go.

Your bike naturally follows your eyes.

Next >

✕

4 / 5



Quick Check
Where should you look when cornering?

☐ At the front wheel

☐ Through the corner where you want to go

☐ At the road immediately ahead

☐ At the speedometer

Next >

From Evidence to Action: Protecting Riders, Informing Decisions, Building Safety Culture

Protect Riders During the Trip

Real-time warnings help riders recognize and respond to developing hazards, providing an additional layer of protection alongside training, enforcement, and protective equipment.

Inform Safety Decisions with Real World Data

Rider behavior, performance and location-based risk data can help employers, road-safety authorities, and policymakers identify emerging risks, target interventions, and prioritize safety improvements across the road network.

Develop Safer Riders Over Time

Continuous monitoring of real-world riding behavior enables personalized feedback, targeted training, and ongoing skill development- helping build a lasting culture of motorcycle safety.

Create a Closed-Loop Safety System

Real-world data → risk assessment → real-time protection → personalized training → safer riding → continuous improvement.

RideHawk™ Connects Real-Time Rider Protection, Data-Driven Safety Decisions, and Continuous Rider Development

Three Priorities For Collective Action: Outlined by Malaysia's Deputy Prime Minister at CARS 2026 (October 19, 2026)

01

PROTECT MOTORCYCLISTS

Protect Riders During The Trip

Real-time collision warnings and crash notification help address risk where and when it occurs

02

INTEGRATE DATA

Turn Riding Data Into Safety Intelligence

Rider-behavior and performance data support individual feedback, organizational risk visibility, and future road-network insights

03

BUILD CULTURE OF SAFETY

Develop Safer Riders Over Time

Continuous, personalized feedback and targeted training make safety development part of everyday riding

RideHawk™ Connects Protection, Data, and Training in One Continuous Safety System

See RideHawk Γ in Action



RideHawk™ is building the rider protection and risk intelligence platform for the world's largest unprotected vehicle category.

Contact Us

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information

