Road Weary: When Technology & Engineering Fails Cyclists
Adventure Cycling inspires, empowers, and connects people to travel by bicycle.
Adventures Cycling is:

- 52,000 members
- 47,283 miles of routes
- Route maps (print + digital)
- 100+ guided tours
- Adventure Cyclist Magazine
- Online resources
- Advocacy
48,608 miles!
ADVOCATE

✓ More official, signed U.S. Bicycle Routes
✓ Bike access on trains & airplanes
✓ National and state parks and gateway communities
✓ Advance bicycle tourism to help small communities
✓ Safe rural and suburban cycling conditions
Q6 Which issue is of most concern to you while bike touring? (Choose one.)

Answered: 1,878    Skipped: 335

- Increasing speed limits: 0.96% (18 responses)
- Distracted driving related to mobile phone use: 38.02% (714 responses)
- Increasing traffic and congestion: 4.15% (78 responses)
- People driving under the influence of drugs/alcohol: 0.96% (18 responses)
- Lack of safe, connected bike infrastructure (shoulders, bike lanes, other separated facilities): 54.69% (1,027 responses)
- None of the above: 1.22% (23 responses)

TOTAL: 1,878
Distracted Driving
We are addicted to our phones. The typical person checks their phone every 15 mins or less.
Addiction doesn’t stop when driving starts.

Nearly 9-in-10 people admit to using their smartphone while driving.

In 88% of trips we analyzed, a driver was on their smartphone.

Of these trips, the average phone use was 3.5-minutes per hour of driving.

Taking your eyes off the road for 2-seconds increases your chances of collision by over 20x.

At 55mph, 2-seconds is enough time to travel the length of two basketball courts.
True or False?

These commonly held false beliefs contribute to complacency.

“I can multitask, even if other people can’t.” False

“Hands-free cell phone use is safe.” False

“It’s safe to look at my phone at a red light.” False

“Other people cause distracted driving crashes.” False

“I’m a better driver than most people so I can get away with it.” False
You are part of a “Brain Hacking” experiment. Tech companies are programming products to be as addictive as possible. “A computer programmer who understands how the brain works knows how to write code that will get the brain to do certain things.” “They are programming people.”
Where are the bicyclists and pedestrians?

Whether you text or talk, you don’t want them responding to your text.
Rumble Strips: an engineered treatment to the roadway that provides an auditory vibration when a motor vehicle comes in contact, alerting the driver they are drifting out of the lane. In the past, treatment was mainly used on long, straight stretches of highway.
Technology is quickly eradicated the necessity for the treatment.

Inexpensive to install, it costs over 9X as much to remove, leaving the highway impossible to navigate safely for cyclists.
Is AV the solution?
NTSB Investigations into Automated Vehicles

Kristin Poland, Ph.D.
Crash Overview: Tempe, AZ

- March 18, 2018
- 9:58 pm local time
- Pedestrian pushing bicycle struck
- Uber test vehicle with 2017 Volvo XC90 platform
- Self-driving system in computer control mode
Crash Detection Sequence

- A hazard detected 6 sec before impact
  - Speed of 43 mph
- The hazard changed to an unknown object, a vehicle, and then a bicycle
- Emergency braking needed 1.3 s before impact
- Driver steered < 1 s
  - Impact speed 39 mph
A Principled Approach to Safety

UberATG
Nov 2, 2018 • 3 min read

By: Dara Khosrowshahi, CEO

https://www.uber.com/info/atg/safety/
Ped Safety Special Investigation Report

• Completed fall 2018, included 15 case studies

• Safety Issue Areas:
  – Vehicle lighting systems
  – Advanced vehicle technologies
  – Infrastructure and data
Vehicle-Based Safety Countermeasures

- Vehicle headlight performance
- Vehicle physical design
  - Designs less injurious if impact between pedestrian and vehicle does occur
- Collision avoidance technologies
Summary

• Automated vehicles have limitations
  – Operational design domain
  – Need for driver engagement

• Automated vehicles have a great potential
  – Crash in Tempe raised awareness and slowed the rush to full automation

• Need to improve pedestrian and bicyclist safety
AV START Act

US Congress has failed to pass regulatory legislation that will ensure the safety of the most vulnerable road users;

Leaving safety in the hands of the auto industry