The nexus of AVs, bikes, and pedestrians: similar problems, similar solutions

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Autonomous Vehicles

• Fully Autonomous Vehicles are not here, and likely will not be here for sometime\(^1\)
  – No Universal Regulations
  – Technological Constraints
  – No Safety Approval Metrics

• We need to start planning now

• Some low level technologies are fairly mature

Source: 1. VTPI, Hertfordshire Police
People who Cycle and Walk

• A vehicle is a vehicle, regardless of techno spin

• In the US fatalities are on the rise\textsuperscript{1}
  – Collisions up 32%
  – 18\% of total traffic fatalities

• High concentration in urban area

Source: Pedbike Info
We have a problem

• How do we better allocate space in the transportation network that improves the efficiency and safety for all modal users?

• Standardized Regulations

• Better Infrastructure

Predictability
Regulation

• Can standardize rules across accessible regions
  – EU- Vienna Convention on Road Traffic
  – US- No Federal Policy, variation between states

• Root laws in vulnerability

• Safety should be paramount

• Liability is an ongoing debate
Infrastructure

• Like regulations, ubiquity hastens development
  – Lane markings, signage, signals

• Use separated infrastructure
  – Markings
  – Safety Barrier
  – Predictability
Comparing Infrastructure

- Benefits in the present
- Clear delineation
- Conflict diminishment

Source: bicycledutch.wordpress.com
Conclusion

• AVs will eventually come

• Plan and act now

• Transportation is not a zero sum game
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