Designing a Safer System for Pedestrians
Methods to reduce fatalities are well-known

Safe System approaches involve limiting opportunities for exposure to a crash

Less of this...

And more of this...

Predictability (of bike traffic)
Forgiveness (buffer)
Restrictiveness (turning movements)
Simplicity (color)
Separation (of modes)
Speed control

Source: www.pedbikeimages.org.
Managing speed manages both risk of a crash and injury severity

Higher Vehicle Speeds Require Longer Stopping Times

- 30kmph: Reaction distance 8m, Braking distance 6m, Total distance 14m
- 40kmph: Reaction distance 12m, Braking distance 14m, Total distance 26m
- 50kmph: Reaction distance 21m, Braking distance 21m, Total distance 42m
- 60kmph: Reaction distance 33m, Braking distance 29m, Total distance 62m
- 70kmph: Reaction distance 48m, Braking distance 38m, Total distance 86m
- 80kmph: Reaction distance 67m, Braking distance 48m, Total distance 155m

Note: Above distances are typical distances. The total stopping distance also depends on the thinking distance, road surface, weather conditions and age/condition of the vehicle.

Source: Cities Safer by Design (2015)
wri.org/publication/cities-safer-design
Many energy transfer management tools exist

- **Speed control**
  - Road diets, traffic calming
  - Speed governors on vehicles and automatic emergency braking
  - Speed feedback signs

- **Speed harmonization**
  - Slow speed zones / speed limit reductions
  - Access management

Sources: [www.pedbikeimages.org](http://www.pedbikeimages.org) and [https://www.portlandoregon.gov](https://www.portlandoregon.gov).
Safe System = Proactive approaches to manage risks system-wide


Thank you!

Laura Sandt, PhD
sandt@hsrc.unc.edu
@pedbikeinfo