Hierarchy of Street Controls

Why the Dutch don't wear bike helmets and the rest of us need to

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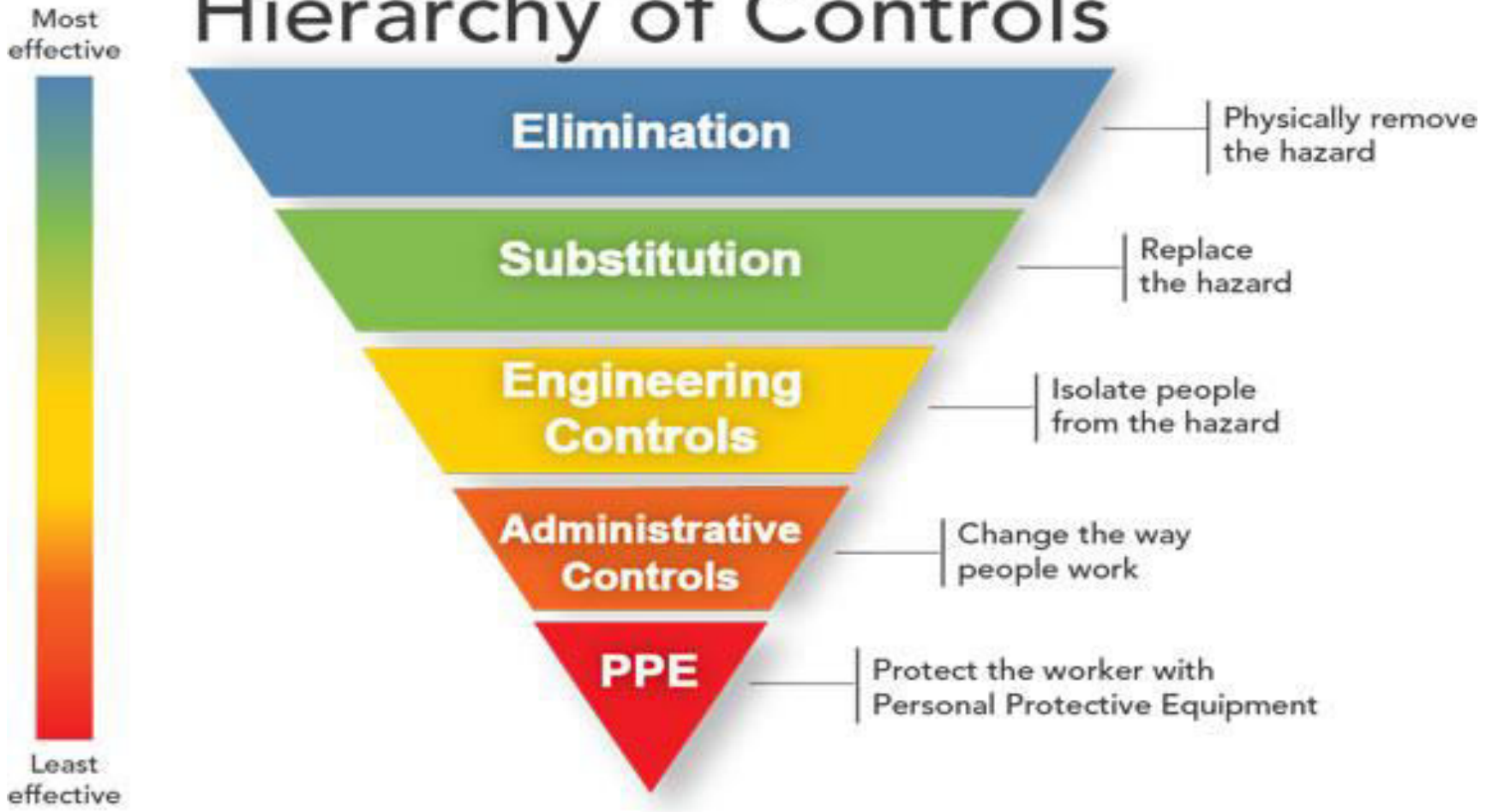
Outline

- What is the Hierarchy of Controls?
- How is the Hierarchy of Controls used in the workplace?
- How might a Hierarchy of Street Controls help us prioritize efforts to eliminate traffic deaths and injuries?
- Discussion/Questions

Seattle Neighborhood Greenways

Hierarchy of Controls



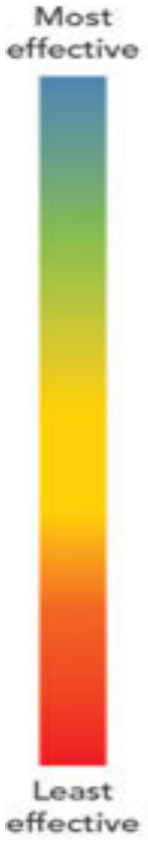
Easy and Cheap is less effective

“Administrative controls and PPE (personal protective equipment) are frequently used with existing processes where hazards are not particularly well controlled. Administrative controls and PPE programs may be relatively inexpensive to establish but, over the long term, can be very costly to sustain. These methods for protecting workers have also proven to be less effective than other measures, requiring significant effort by the affected workers.”

National Institute for Occupational Safety and Health (NIOSH)

https://www.cdc.gov/niosh/topics/hierarchy/

Hierarchy of Controls in Healthcare Setting



Prevention of Needlestick Injuries

Elimination: ? may not be entirely possible

Substitution: needle-free injection systems; oral medications

Engineering controls: design of safer needles; disposal boxes

Admininstrative controls: required training, safe use and disposal of needles

PPE: gloves

https://www.cdc.gov/niosh/docs/2000-108/default.html

Hierarchy of Controls in Construction

Prevention of Asbestos Exposure

Elimination: prohibit asbestos mining and use in construction

Substitution: development of less-toxic insulating substances

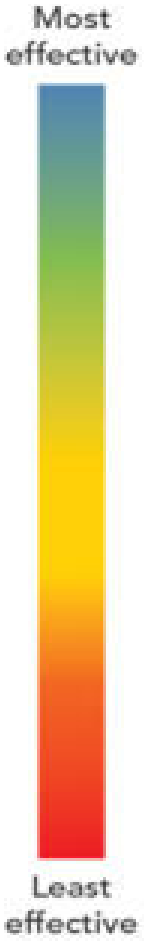
Engineering controls: isolate the source, use ventilation systems.

Administrative controls: laws limiting exposure times, provide showers, require hazard awareness training

PPE: respirators and protective clothing.

Hierarchy of Street Controls

Based on **Recommendations of Hazard Prevention and Control** *created by* **US Department of Labor Occupational Safety** *& Health Administration and the* **Centers for Disease Control and Prevention**. *Effective controls protect people from workplace hazards; help avoid injuries, illnesses, and incidents; minimize or eliminate safety & health risks; and help employers provide workers with safe & healthful working conditions and help to prevent & control hazards.*
https://www.cdc.gov/niosh/topics/hierarchy/default.html



Example: Early Bike Safety in Seattle

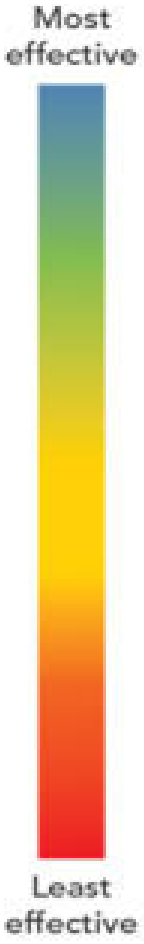
Elimination: a few “bicycle sundays” every summer

Substitution: trails

Engineering: paint

Administrative: Education focused on “vehicular cycling” techniques

PPE: Mandatory helmet law



Example: Current Bike Safety in Seattle

Elimination: "bicycle sundays" continue every summer

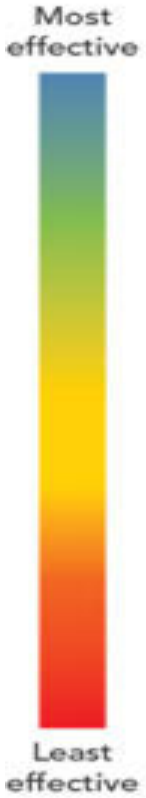
Substitution: expanded trail network

Engineering: some protected bike lanes; bike-specific signals; traffic calming

Administrative: Driver education includes bike safety; adoption of "complete streets" and "vision zero"; 20/25 mph default speed limits

PPE: Helmet law remains but not enforced; bright clothes; pedestrian crossing flags

Goal: Elimination of Traffic Deaths and Serious Injuries



Elimination:

Substitution:

Engineering Controls:

Administrative Controls:

PPE:

Where do our commonly used tools fit in the Hierarchy of Controls?

This paper will discuss how to frame other commonly used tools such as protected bike lanes and speed enforcement within the Hierarchy of Street Controls. Are these Controls best categorized as Substitution, Engineering, or Administrative Controls? After presenting this model of safety and prevention through design, the author hopes to foster a lively discussion with experts in the audience to debate and expand on this Hierarchy of Street Control model for improving street allocation and safety for people who walk and bike.

1. Keith Irving, Cycling Scotland

Operation Close Pass in Scotland- supporting the Police to enforce and educate all road users on cycling safety

2. David Timoney, Dublin Cycling Campaign

Bike Theft - a 100 year old problem

3. Stephan Koch, University College Cork / Cork Cycling Campaign

Signalling at Junctions: Examples of Irish practice and appraisal of the benefits of adopting a Continental approach

4. Rod King, 20's Plenty for Us

From Velo-city Dublin 2005 to Velo-City Dublin 2019, 14 years of progress in setting 20mph/30kmh as a default speed limit

Let's continue the conversation!

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