

# Moving Active Transportation to Higher Ground

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TOWN HALL CLOSING SESSION

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# Rapporteurs

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Jennifer Dill

Eloisa Raynault

Robert Schneider

Thomas Götschi

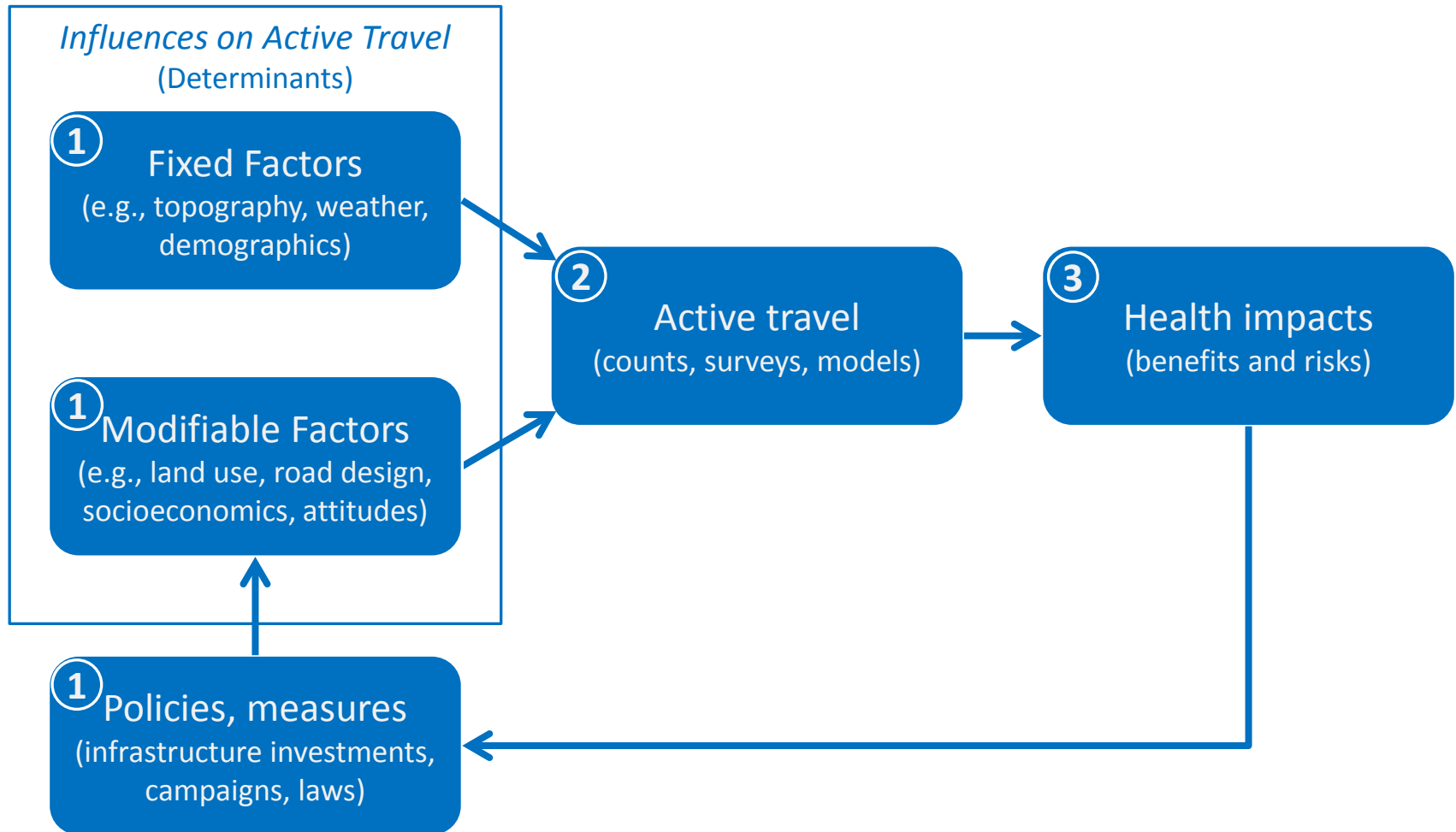
Susan Handy

Audrey de Nazelle

And audience members



# Health Impacts Evaluation Process



# Factors and measures

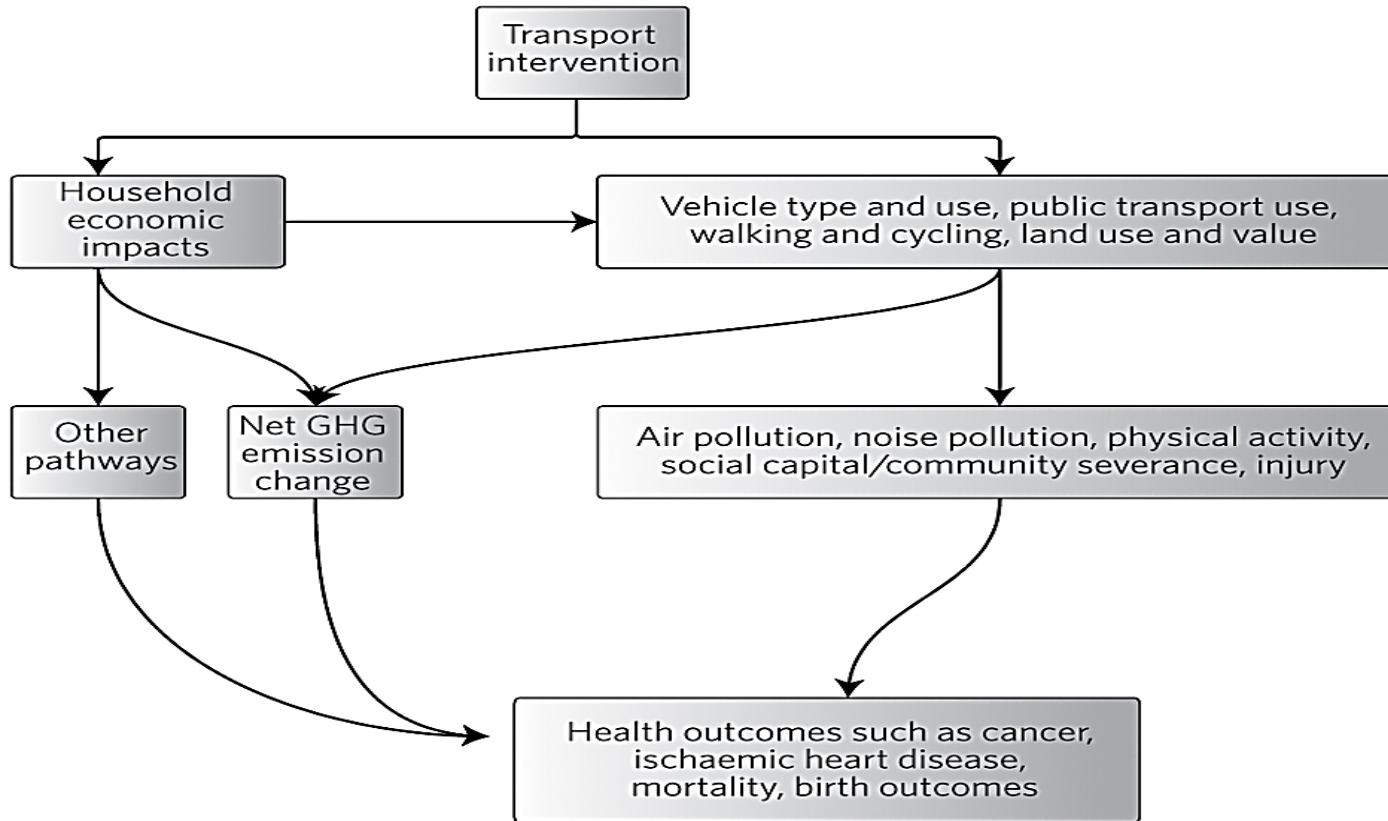


Figure from nature.com Health co-benefits of climate change mitigation policies in the transport sector

# Understanding factors, measures, policies impacting active travel

## Safe Routes to Schools (SRTS) Scientifically Supported

Safe Routes to Schools (SRTS) is a federally supported program that promotes walking and biking to school through education and incentives. The...

Housing and Transit · Diet and Exercise

## Service-enriched housing Some Evidence

Service-enriched housing is permanent, basic rental housing in which social services are available onsite or by referral. Housing can be nonprofit,...

Housing and Transit

## Speed enforcement detection devices Some Evidence

Speed enforcement detection devices include speed cameras and radar and laser devices. Speed enforcement devices can be permanently placed in a...

Housing and Transit · Community Safety

## Traffic calming Scientifically Supported

Traffic calming efforts such as speed bumps and pedestrian refuge islands strategically modify the built environment to affect traffic speed and...

Housing and Transit · Community Safety



## Transportation, Land Use, and Community Design

Transportation systems, development patterns, and community design and planning decisions all can have profound effects on physical activity. People can lead healthier, more active lives if our communities are built to facilitate safe walking and biking and the use of public transportation, all considered forms of active transportation.

In 2001, the average American spent 64 minutes per day in a vehicle. Almost three quarters of Americans feel they currently have no choice but to drive as much as we do. Providing more transportation options can help us achieve our recommended levels of physical activity, while lowering pollution rates and increasing access to essential destinations like grocery stores, schools, jobs and health care services.

Changes to improve active transportation will require many individuals and agencies – transportation engineers, city planners, architects, schools, health professionals, government agencies at all levels, community advocates, citizens, and employers – to rethink the way we plan and develop our communities. This collaborative work can be guided by the following strategies and tactics.

### STRATEGY 1

Increase accountability of project planning and selection to ensure infrastructure supporting active transportation and other forms of physical activity. [VIEW TACTICS](#)

### STRATEGY 2

Prioritize resources and provide incentives to increase active transportation and other physical activity through community design, infrastructure projects, systems, policies, and initiatives. [VIEW TACTICS](#)

### STRATEGY 3

Integrate land-use, transportation, community design and economic development planning with public health planning to increase active transportation and other physical activity. [VIEW TACTICS](#)

### STRATEGY 4

Increase connectivity and accessibility to essential community destinations to increase active transportation and other physical activity. [VIEW TACTICS](#)

# Where we're at...

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Challenges of Scale – What is the optimal scale for analyses? How can we leverage what's been done for other locations (international, national, regional, local)?

Challenges of Quality – Lots of variability in the quality of travel options, how well and where they are funded, and what level of quality is 'best' for a given scale. How do you measure quality?

Challenges of Diverse Users – How to measure the travel needs of diverse users, and then apply those results towards better health outcomes?

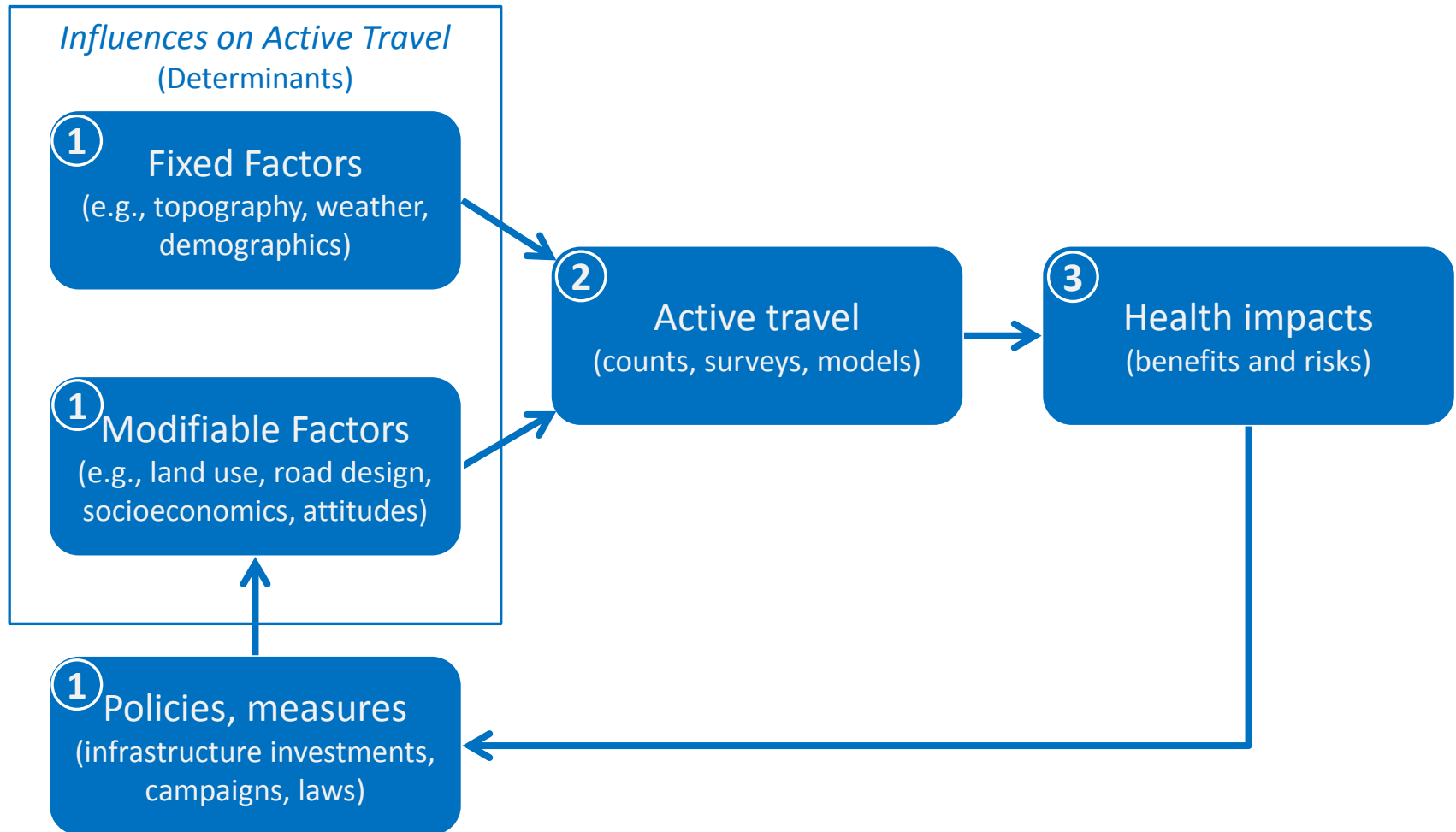
Challenges of Language – Access vs. mobility, injury prevention vs. safety, etc. Useful for establishing and executing effective policies based on the knowledge we have amassed to date.

# Top Agenda Items for Advancement

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- Improve measures around the quality of transportation options for pedestrians and bicyclists
- Improve understanding of other co-benefits to leverage (access to jobs/education, mental health, social cohesion, etc.)
- Further translate health benefits for those walking/biking out of necessity and/or desire (children, people with disabilities, older adults, limited English proficiency groups, low-income populations)
- Link transportation investments with health care costs/benefits
- Collaborate to improve steps in this cycle to better serve active travel:  
Policies / Funding / Data Collection / Research / Implementation / Evaluation / Back to Policies

# Health Impacts Evaluation Process





*We often ask:*

“How can we get more people to use active transportation?”

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*Maybe we should first ask:*

“How do most people choose their mode of transportation?”

# Theory of Routine Mode Choice Decisions

**Pedestrian, Bicycle,  
Transit, or Automobile?**

## **1) Awareness & Availability**

(People must be aware of the mode and have it available as an option to travel to an activity)

*Situational Tradeoffs*

## **2) Basic Safety & Security**

(People seek a mode that they perceive to provide a basic level of safety from traffic collisions and security from crime )

## **3) Convenience & Cost**

(People seek a mode that will get them to an activity using an acceptable amount of time, effort, and money)

## **4) Enjoyment**

(People seek a mode that provides personal (e.g., physical, mental, or emotional), social, or environmental benefits)

## **5) Habit**

(People who choose a particular mode regularly are more likely to consider it as an option in the future)

**Socioeconomic Factors**

(Explain differences in how people respond to each step)

# Theory of Routine Mode Choice Decisions

Active modes are one option to get from A to B

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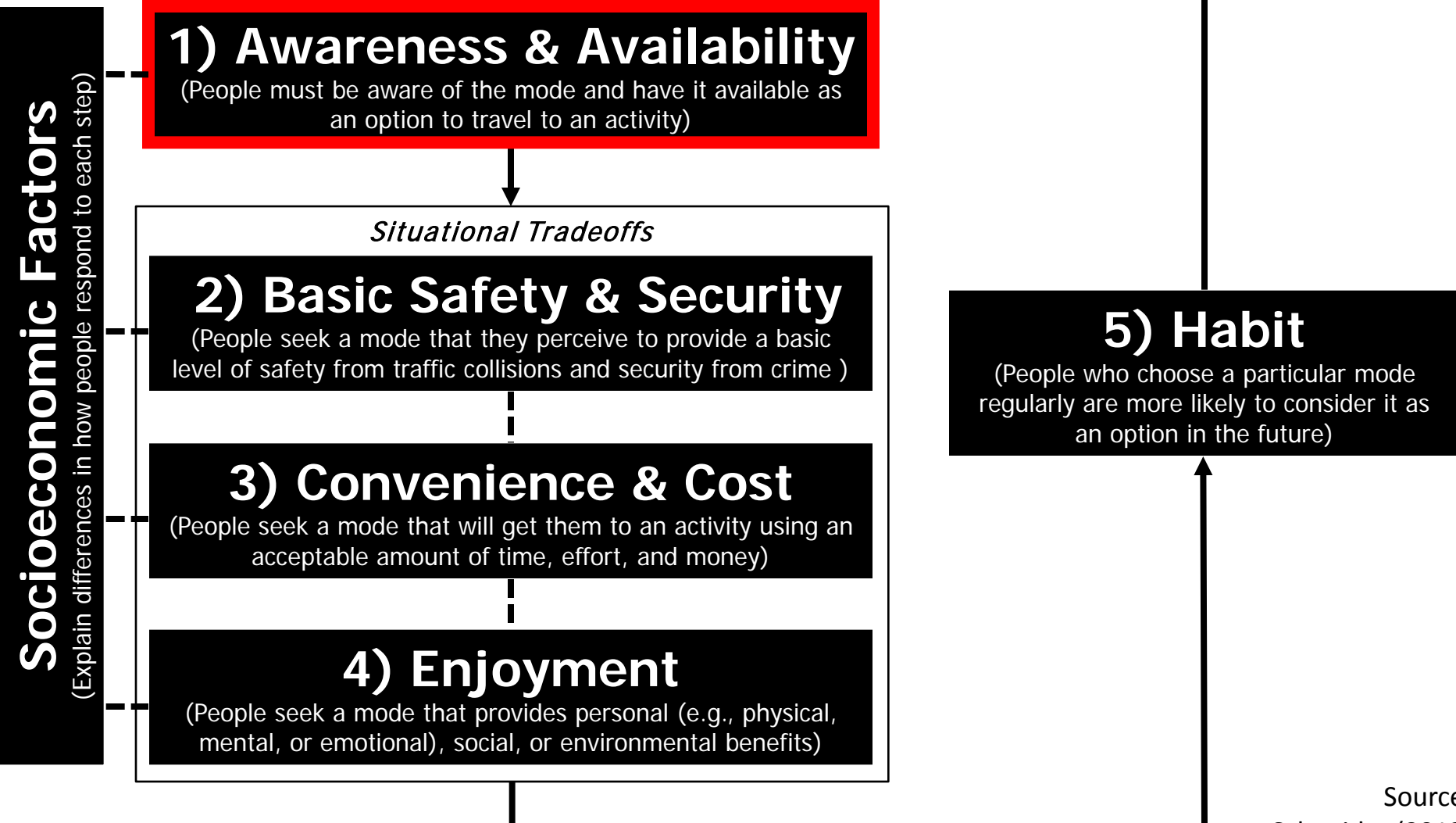
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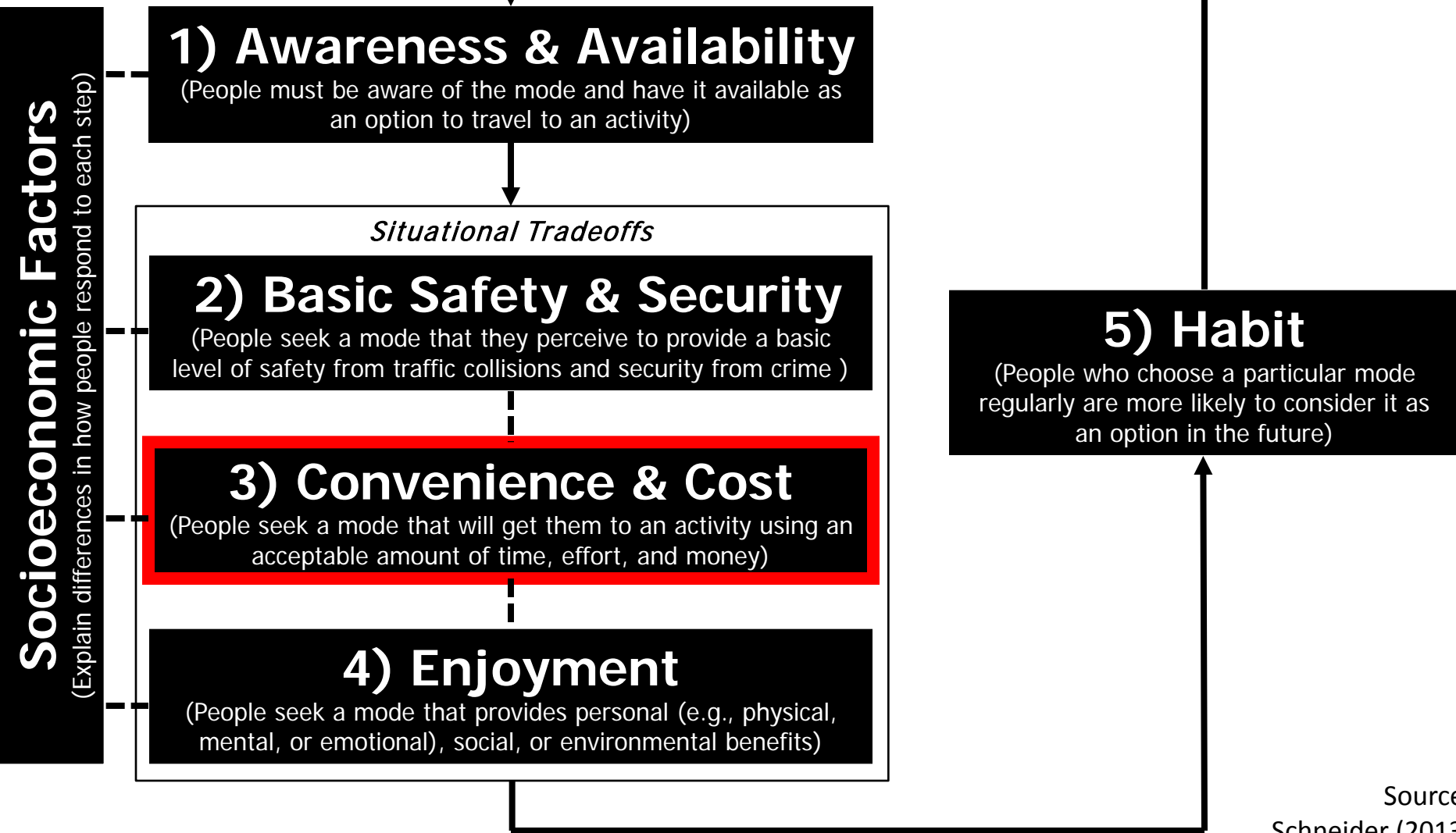
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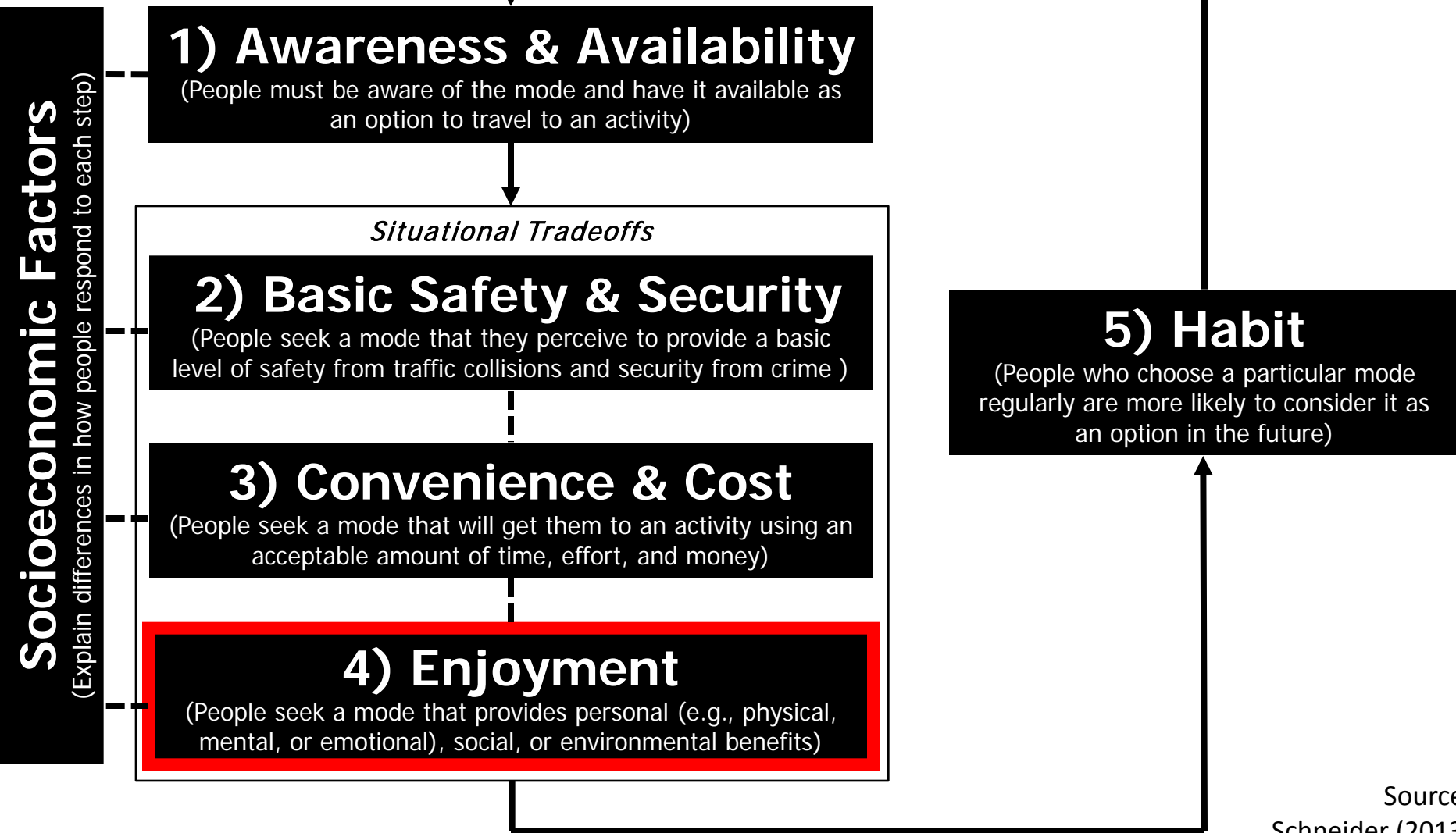
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People may not have all of these choices; people have different perceptions

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# Standard Strategies

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- Facilities: Provide sidewalks, bicycle lanes & multi-use trails to make people feel safer
- Encouragement: Use broad programs to get people to think about walking & bicycling for physical activity; get people to enjoy walking and bicycling

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Mixed use development  
Redevelop parking lots  
Increase parking cost  
De-emphasize auto LOS

**Socioeconomic Factors**

(Explain differences in how people respond to each step)

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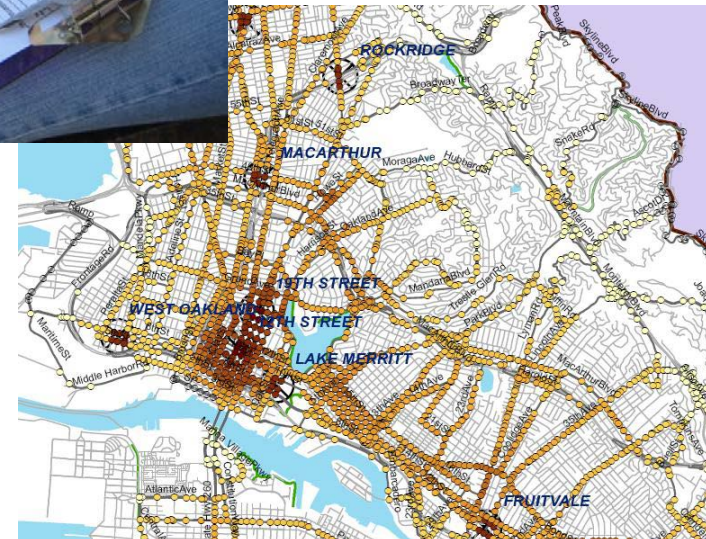
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# Measuring Active Travel

- Count Data
- Survey Data
- Demand Models



Images by Robert Schneider, UW-Milwaukee

# Lessons from the Conference

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- Key Sessions
  - New Data Collection Methods and Technology
  - Methods—Collecting Data with Innovative Surveys
  - Advances in Measurement and Analysis
  - Large Scale Modeling
  - Workshop: NCHRP Report 770 - Estimating Bicycling and Walking for Planning and Project Development

# Count Data

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## Technology:

- Continuous automated counters can complement manual counts
- Automated video count & conflict analysis
- Crowdsourced GPS data

Develop consistent formats to share data



# Survey Data

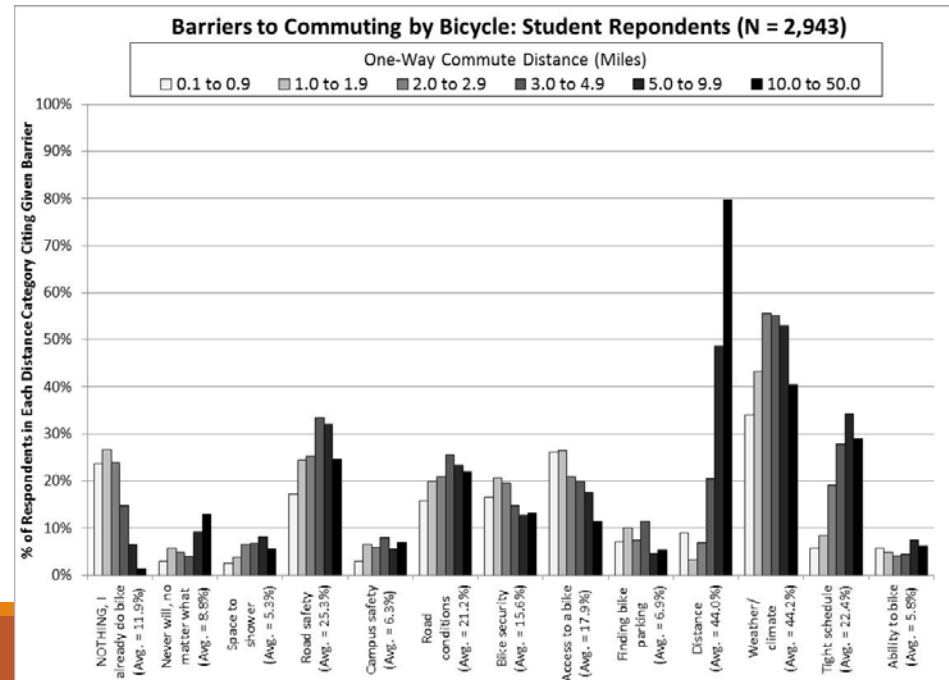
Include both transportation & health questions

Gather information about attitudes & experiences

Online surveys as citizen engagement

Traditional -> GPS and accelerometer data + online recall

Substitution: How much physical activity do people get from other activities besides transportation?



# Demand Models

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Simplicity vs. theoretical grounding

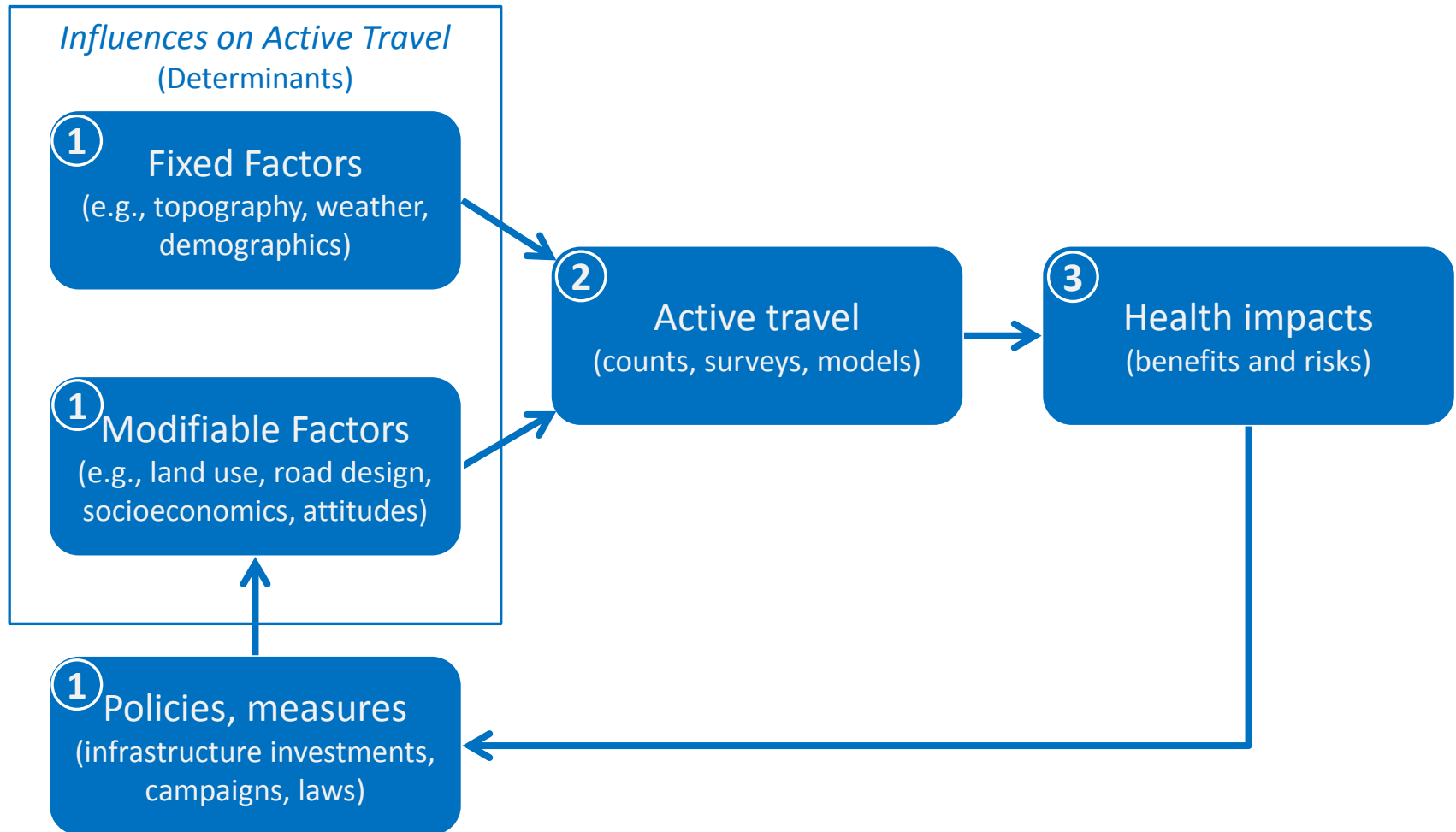
Modify traditional, 4-step approach vs. new frameworks

Become more responsive to relevant policies  
(LU changes -> accessibility, infrastructure, pricing)

Validation



# Health Impacts Evaluation Process





# Quantifying Health Impacts of Active Transportation

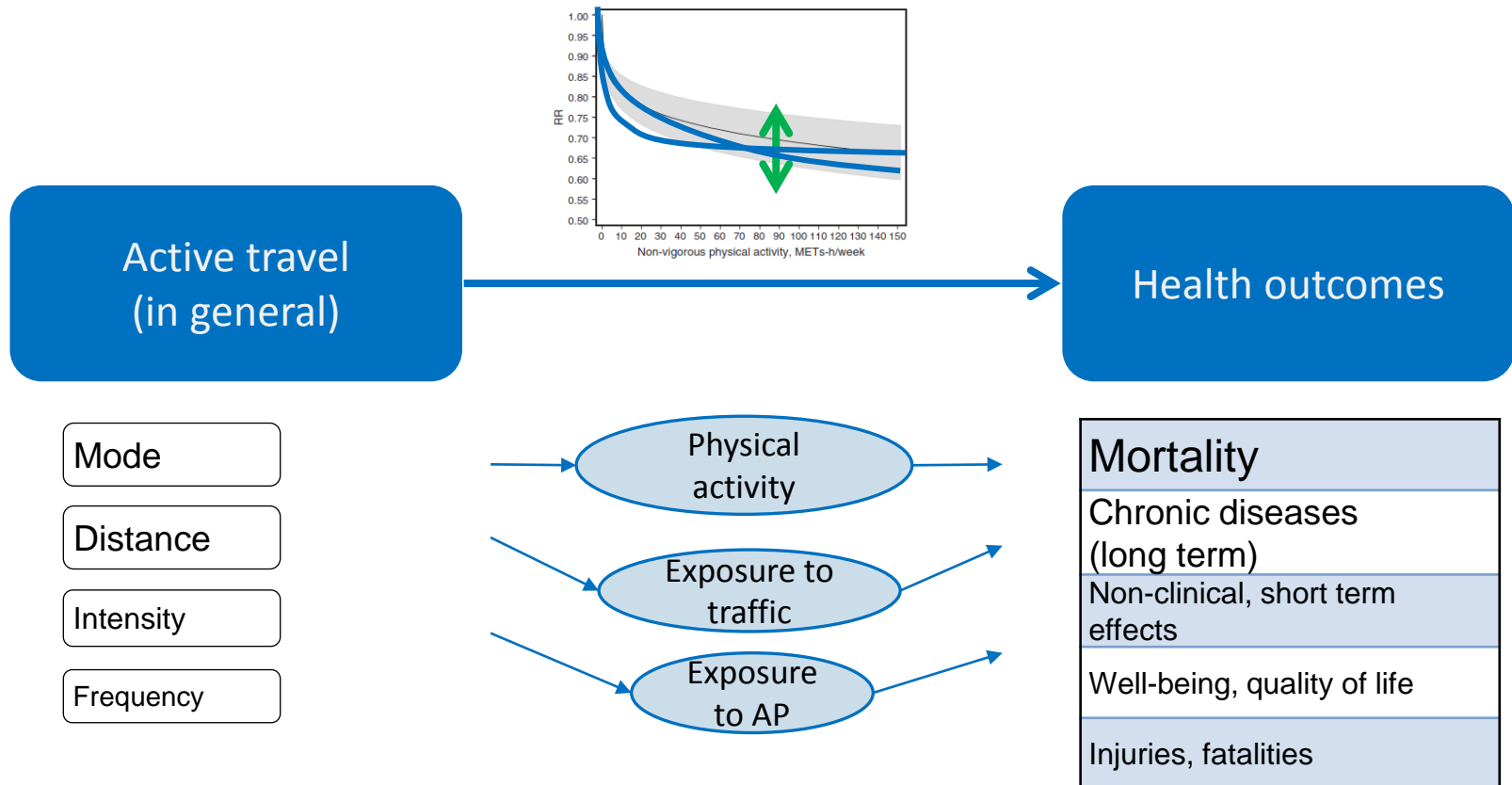
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What do we need to understand?

- „Health effects“: „How healthy is my daily walk or bike ride?“
- „Health impacts“: „Should society promote AT for public health reasons?“

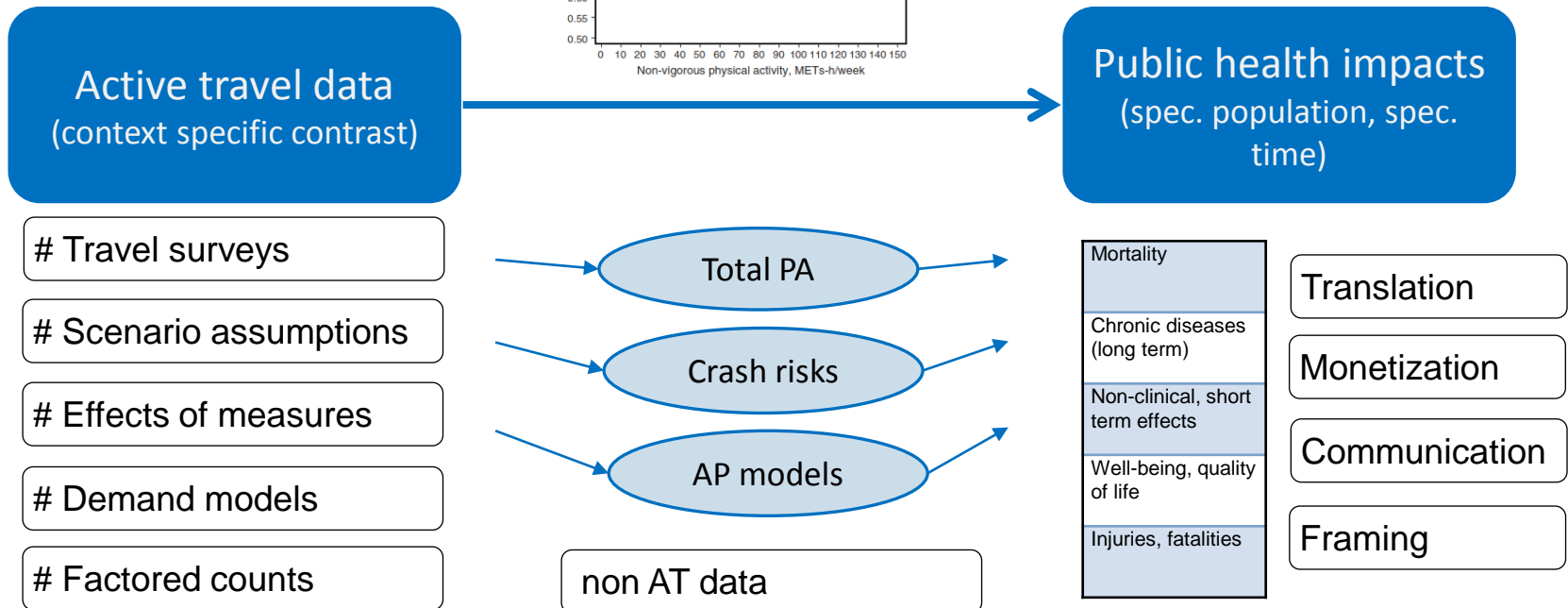
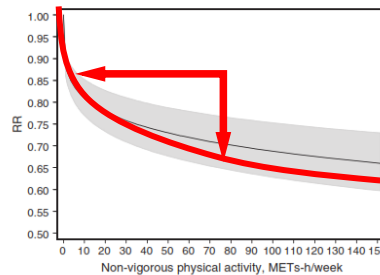
# Understanding Health Effects

Can we quantify effects so they are generalizable to any local HIA context?



# Understanding Health Impact Modeling

Do we have the local data to apply/adjust effect estimates to local HIA context?



# Where we're at...

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Big picture consistently shows benefits from **PA outweighing risks** from crashes and air pollution. That said...

- Effect estimates for benefits from PA are more robust and more easily generalized to local HIA contexts than those for risks from crashes and air pollution
- Evidence for health effects ranges from very strong to anecdotal, depending on outcome
- Assessments are more reliable on a large geographic scale, and very **challenging on (small) project level**
- Quality/availability of **input data** is an issue
- Modeling tools and approaches are available, but balance between **complexity and user-burden** remains a challenge
- **Communication** of results is often challenging
- In two sentences, try to explain to the person next to you what „a 10% reduction in mortality risk“ means

# Top Agenda Items for Advancing Health Impact Modeling of AT

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- Improved input data
  - Small scale/hi res demand models (activity based, direct demand, ...)
  - Effectiveness of measures and policies
  - Link AT, PA and other domains in large surveys, studies
- Crash risk estimates (and determinants)
- Translate impacts into policy and practice relevant units, or more generally, relevant to the target audience
  - Expand spectrum to short term and subclinical health outcomes
  - Various ways of monetization
- Advance HIM tools/platforms (sophisticated yet user friendly)
  - Facilitate communication and use of results by end users