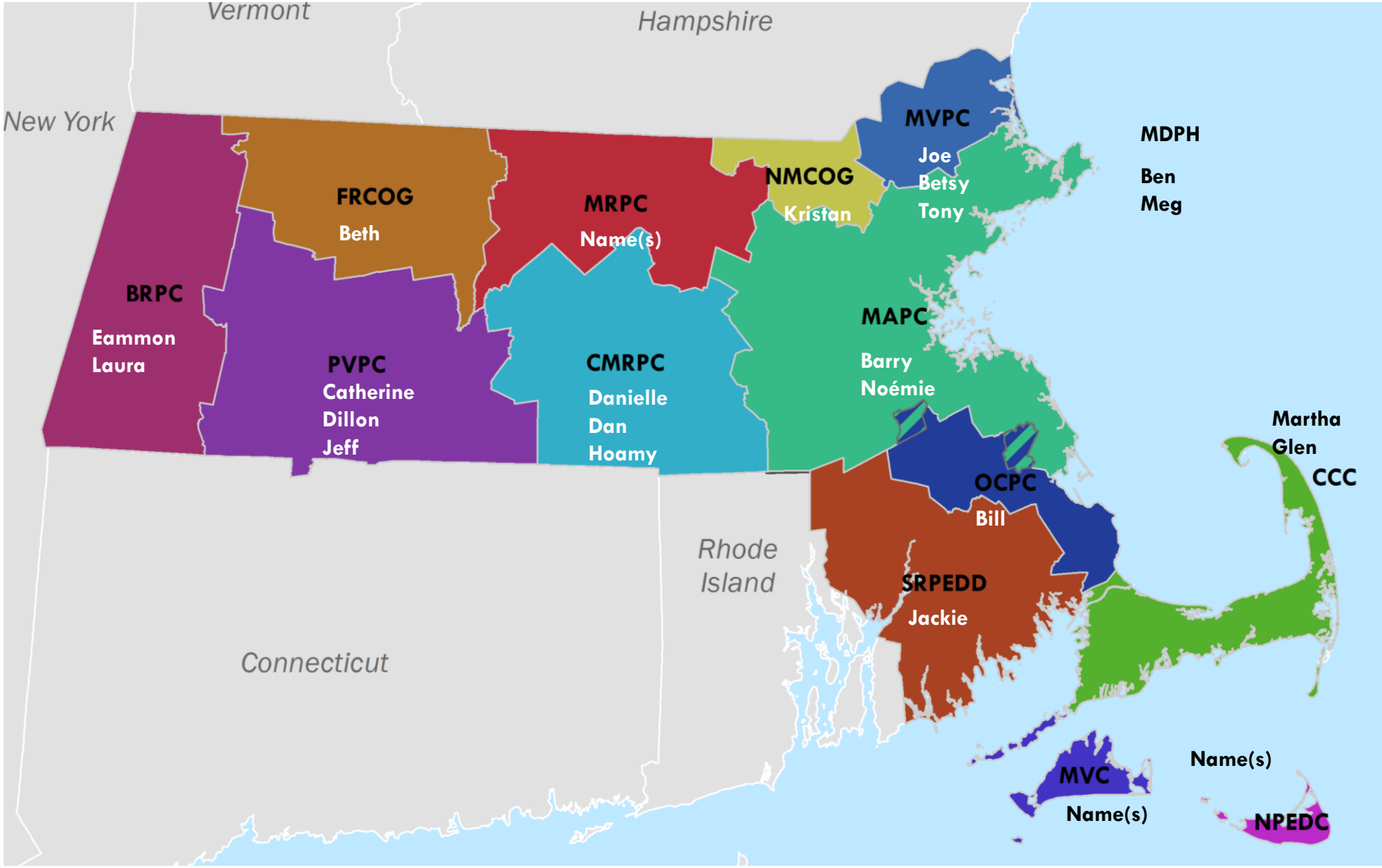
Regional Planning Agency
Healthy Community Design Technical Assistance Call

APRIL 28, 2016
10:30AM – 12:00PM

Welcome!

Introductions



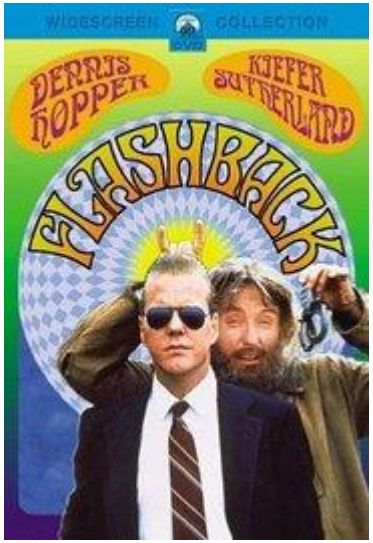
Reminder

- Please log into your Webex with your names
- Please mute your lines
- Use the chat box, raise hand function, anytime
- Please turn off your email while participating
- If you decide on hold, please know we will all be listening to your hold music

Today's Agenda

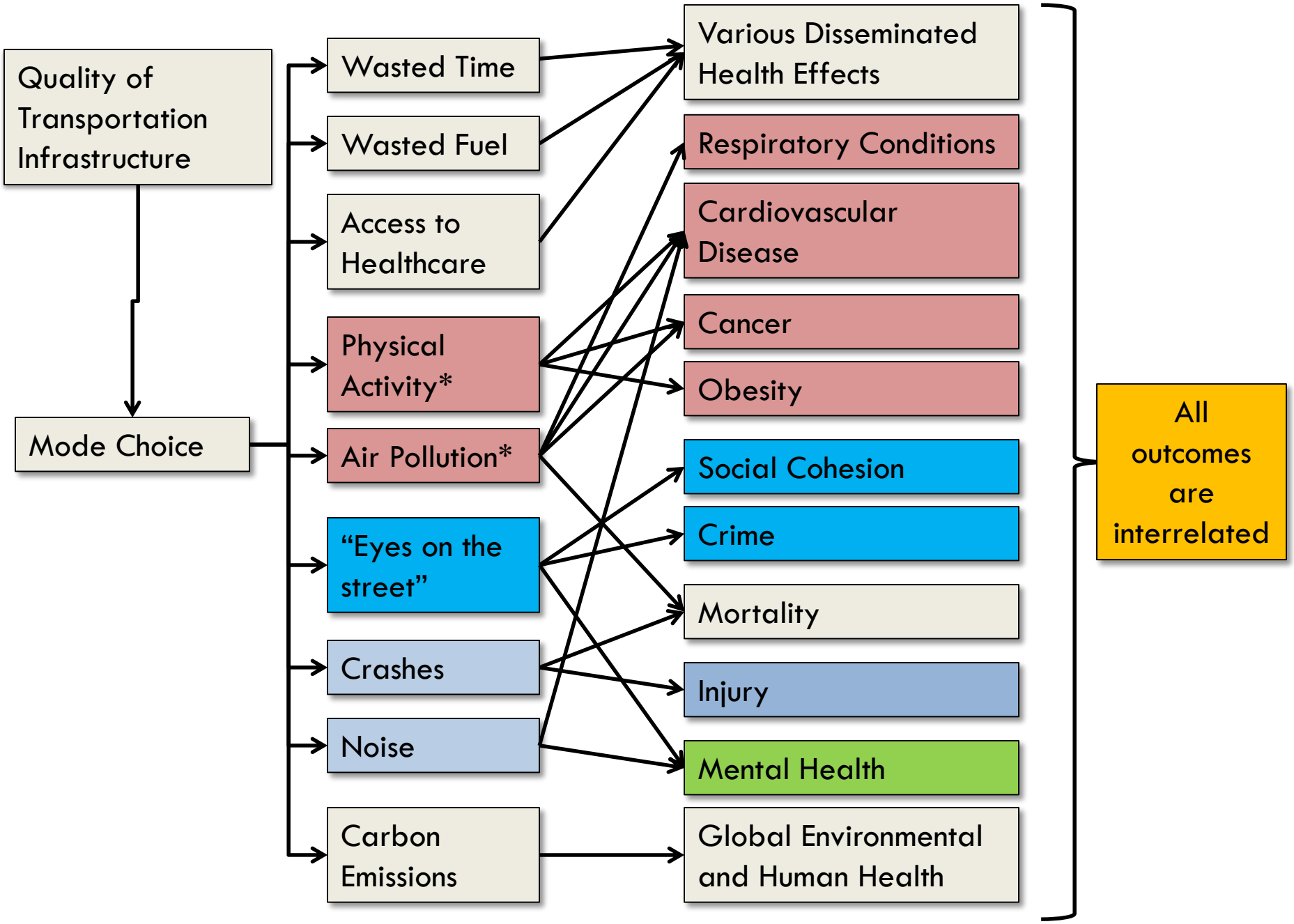
- **Welcome and Introductions**
- **Transportation + Health**
  - Brief review of previous health and transportation call
  - Overview of Local Mode Measurement project and PAST tool being developed to support physical activity and health evaluation efforts
- **Example of Projects 1422 Sites Are Advancing to Increase Active Transportation**
  - RPA work with 1422 sites on projects to encourage active transportation
- **Additional RPA Transportation and Health Project Examples**
- **Next Call: May 26 – Climate Change and Health**
- **Closing and Meeting Evaluation**

Transportation + Health



Transportation + Health *Flashback*

HOW TRANSPORTATION INFRASTRUCTURE IMPACTS HEALTH



Adapted from Cole et al. 2008

Examples of Transportation + Health Tools

- **HEAT**, Health Economic Assessment Tool from the World Health Organization (WHO)
- **PEQI**, Pedestrian Environmental Quality Index
- **The "Power Model"** for collisions
- **WISQARS**, Web-based Injury Statistics Query and reporting system for costs of collisions

Types of Health Outcomes Data

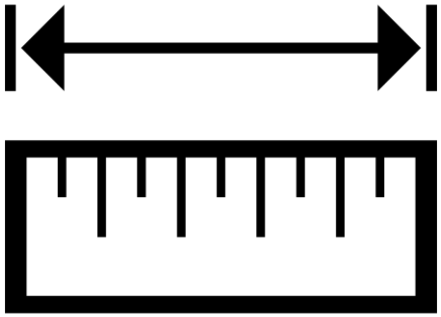
- Health surveys
  - BRFSS
  - NHANES
  - MCBS
- Disease & injury registries
  - Massachusetts Cancer Registry (MCR)
  - Occupational Lead Registry
  - Weapon Related Injury Surveillance System (WRISS)
- Clinical data & Hospitalizations
  - Claims data
  - Electronic health records – EHR/EMR
  - Administrative - Discharge/ER data
- Count/census–
  - Census
  - Vital records
  - Reportable diseases
  - National Vital Statistics System (NVSS)
- Other
  - Clinical trials – ex. Womens health Initiative, Framingham Heart Study
  - Environmental – EPA, BEH, DCR
  - Transportation – MassDOT, municipal, mobile data
  - Services – DMH, DTA, DCF etc.
  - Emergency services – ex. police logs, EMS calls, violent injury tracking

Transportation + Health

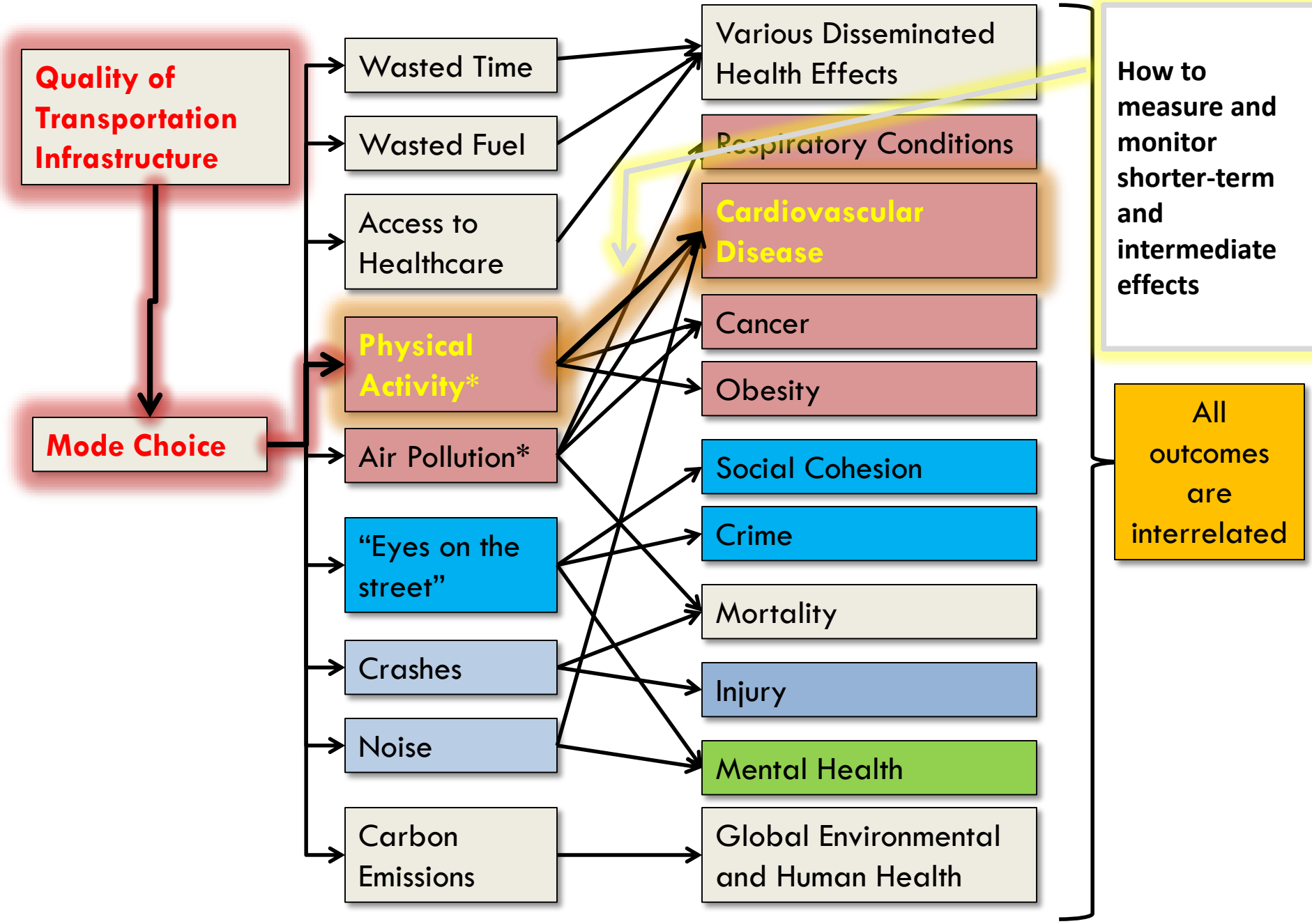
DEVELOPING A NEW METHOD FOR LOCAL MODE MEASUREMENT

Background

- CDC Grant to Reduce Hypertension and Diabetes (1422)
- Key element: Active Transportation (Walk Primarily)
- Desire to create:
  - Additional measure (short- and long-term)
  - Project level



How can we know sooner about effects of the changes? And how can we connect to health measures?



Adapted from Cole et al. 2008

Scan and Review

MEMORANDUM

SUBJECT: Background research on mode shift measurement and goals

PREPARED BY: David Watson (WatsonActive LLC)

DATE: July 6, 2015 (revised September 1, 2015)

The Massachusetts Department of Public Health (MDPH), in partnership with WatsonActive and the Metropolitan Area Planning Council (MAPC), is engaged in an effort to determine best practices, create guidelines, and provide technical assistance to communities to measure bicycling and walking mode share and set mode shift goals. The relationship between the built environment and physical activity is well understood, as is the relationship between physical activity and health outcomes. MDPH is interested in bridging those relationships to directly predict and measure the impact of bicycling and walking projects and programs on health outcomes. Communities could then set mode share goals for based on anticipated/desired health outcomes, and MDPH could use changes in mode share as a measure of project or program outcomes.

WatsonActive was tasked with providing background research to the project team to assist them in determining what tools and methods to test for measuring mode share and establishing mode shift goals. WatsonActive focused its efforts on a literature search, but also conducted several key informant interviews. This memorandum is a guide to the resulting resource library that is now available to the project team, consisting of Google Drive folders organized by topic and chronologically, supplemented by Evernote Notebooks containing relevant web pages. Links to these resources have been shared with the project team, and these resources may be moved to other platforms at the discretion of the project team.

Google Drive folders:

- Data: bicycle and pedestrian data reports
- HIA: documents related to Health Impact Assessments incidentally discovered during literature search
- Measurement Tools: see Section III below
- Miscellaneous: other interesting, but not directly relevant, materials
- Plans and Goals: see Section V below

Evernote Notebooks:

- Data Analysis: see Section IV.A below
- Mode Shift: see Section IV.B below

1

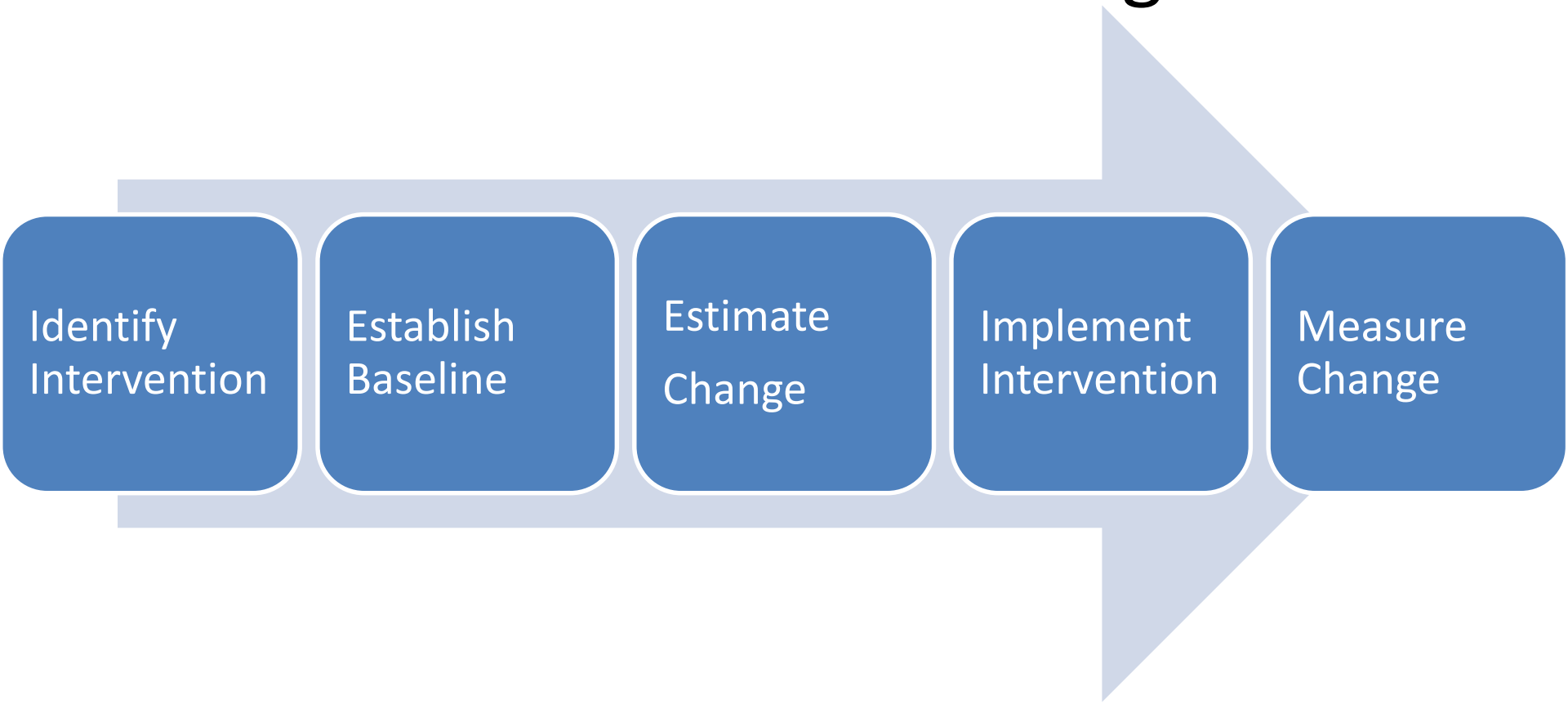
Methods for Estimating Bicycling and Walking in Washington State

WA-RD 828.1 | Krista Nordback, Michael Sellinger | May 2014

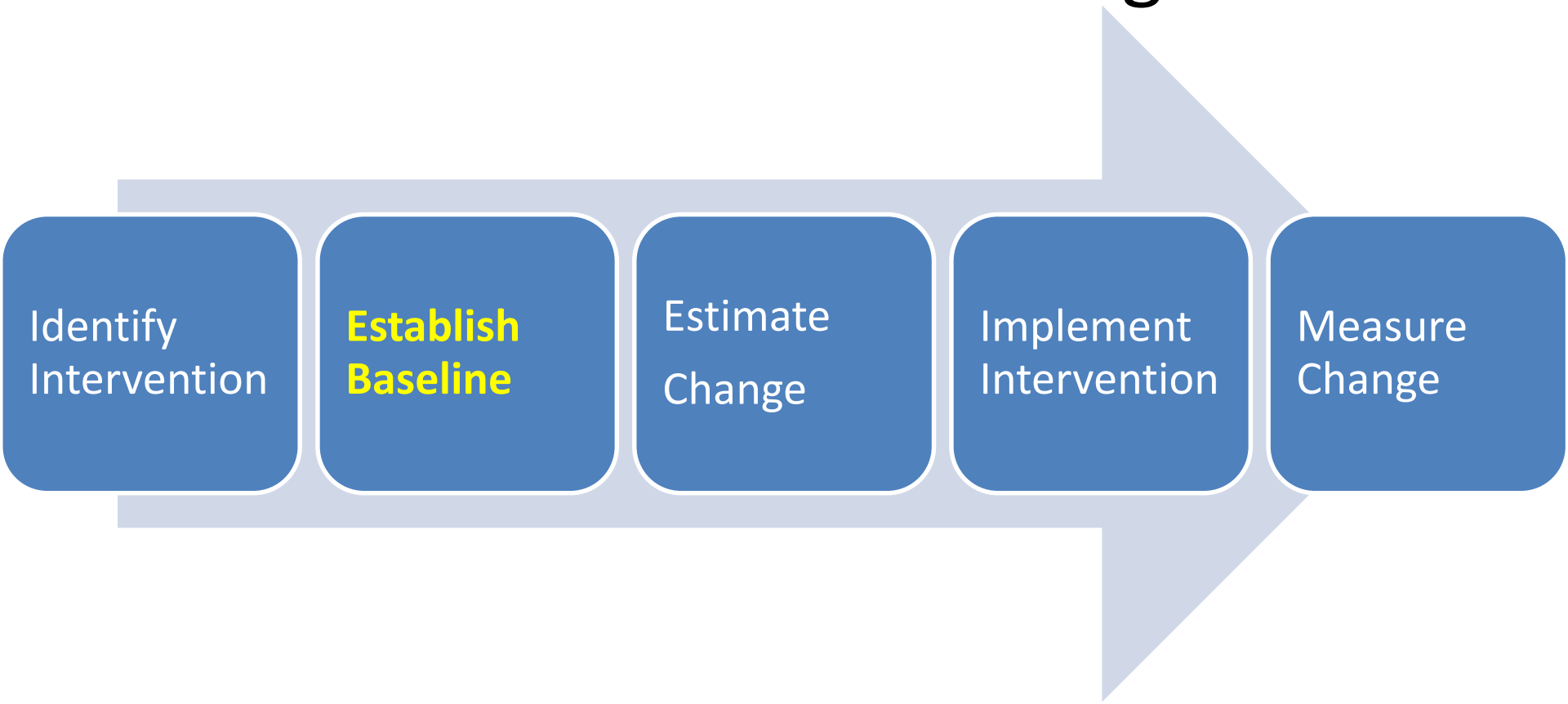
Washington State Department of Transportation
Office of Research & Library Services

WSDOT Research Report

Active Transportation Mode Measurement and Monitoring



Active Transportation Mode Measurement and Monitoring



Planning Active Streets Tool

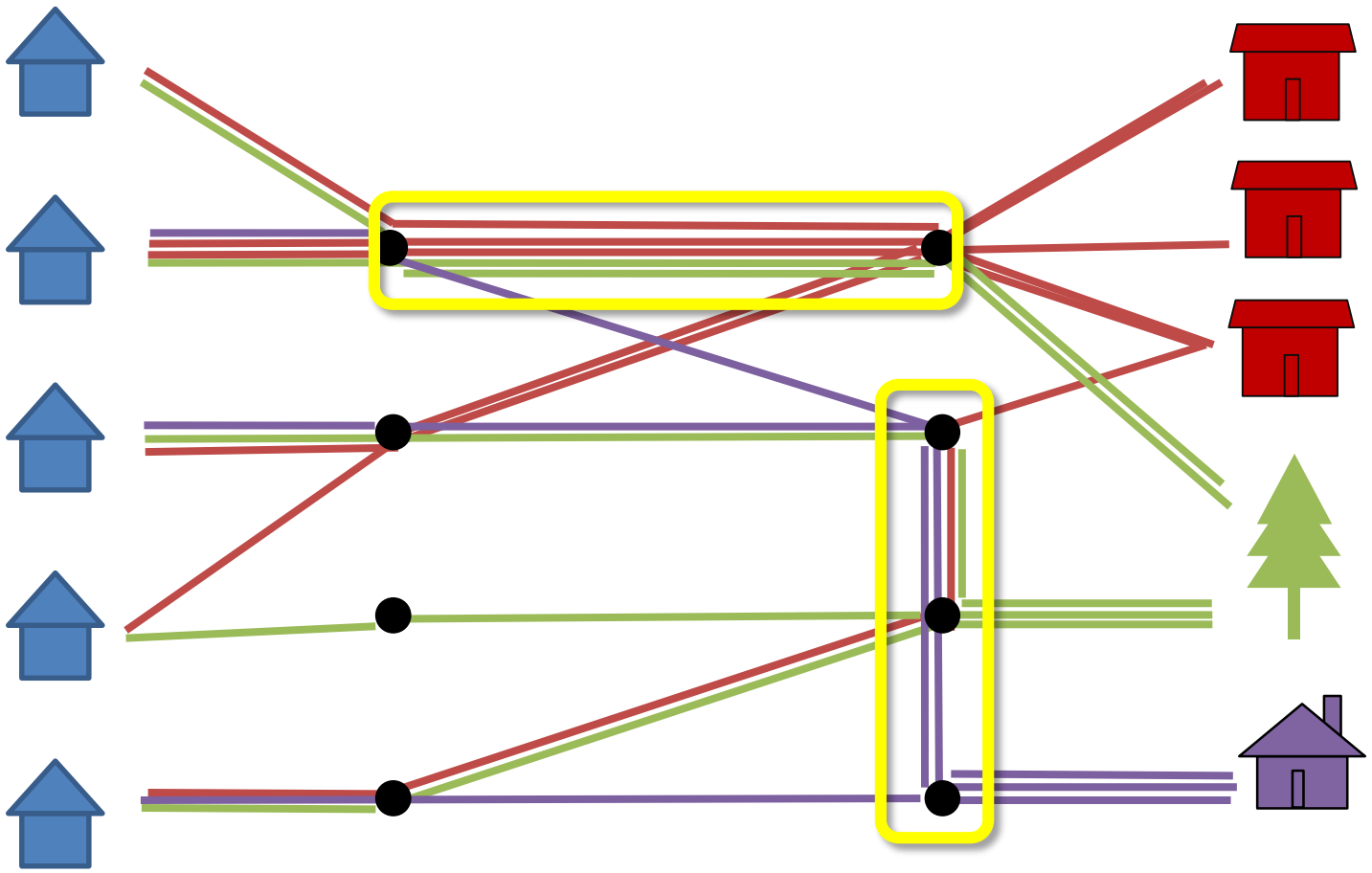
Purpose: Use a roadway categorization approach that accounts for:

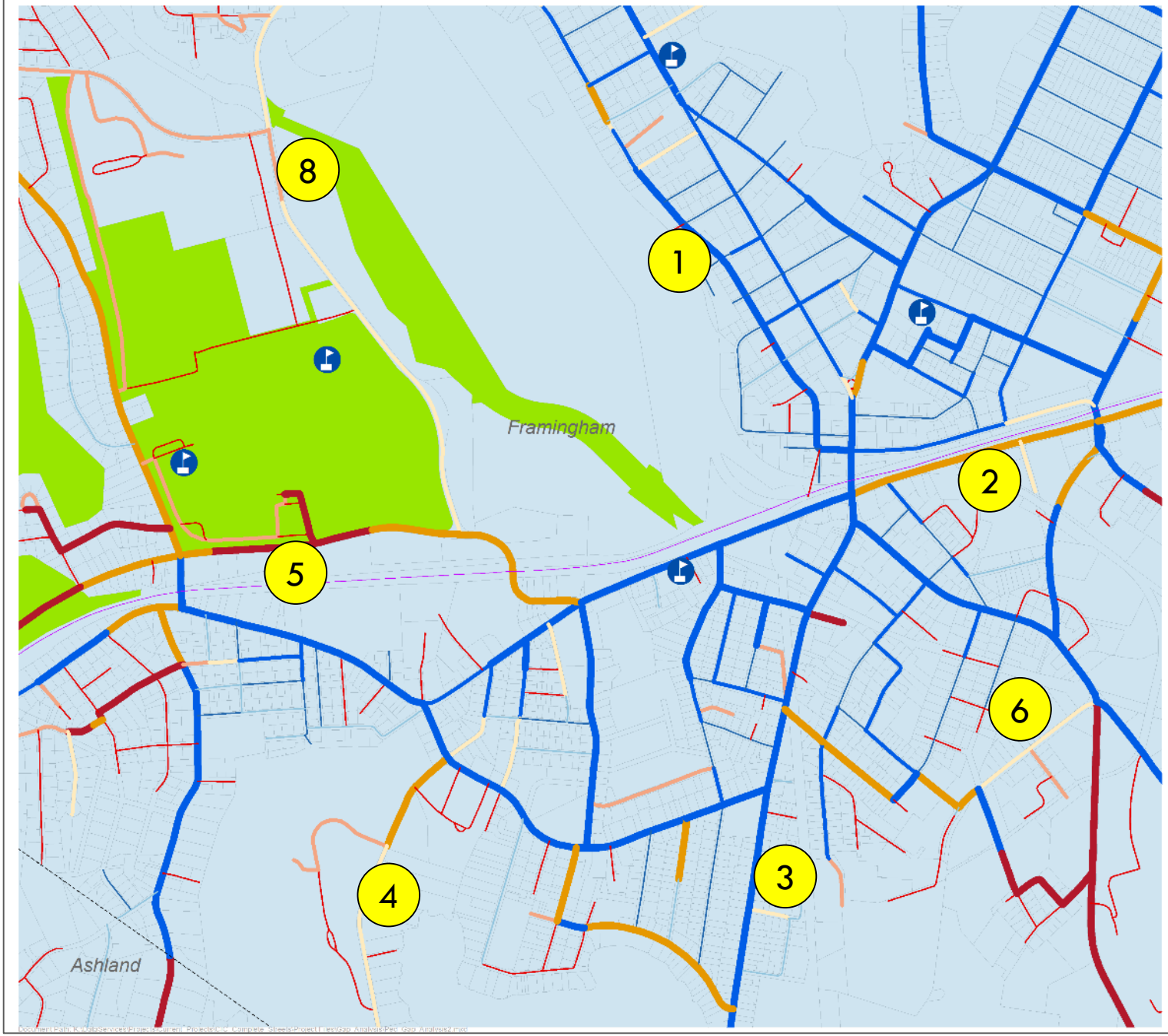
- Local origins (homes, apartments, etc.)
- Local destinations (e.g., Shopping, Services, Restaurants; Schools; Open Space; Transit)

And that uses a (modified) travel demand model based on:

- Massachusetts Household Travel Survey
- Business locations
- School buildings & districts

Network Based Approach





Complete Streets Utility Scores

Sidewalk Gap Analysis

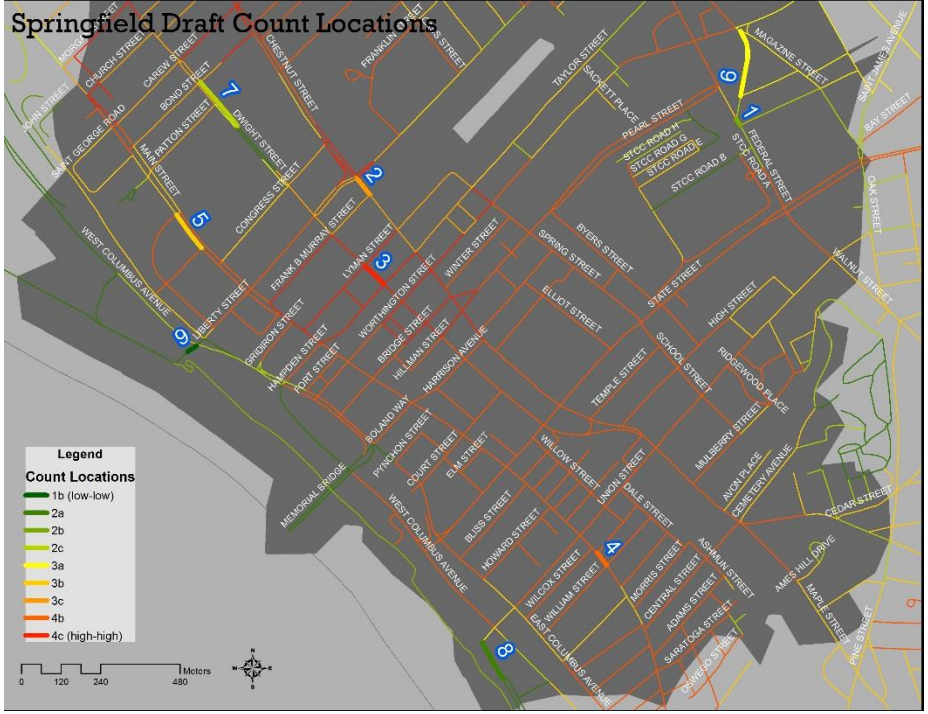
Schools_2015

Ped_Rank, Sidewalk

- High, 0
- High, 1
- High, 2
- Medium, 0
- Medium, 1
- Medium, 2
- Low, 0
- Low, 1
- Low, 2

0 0.05 0.1 0.2 Miles

MAPC



OBJECTID_12	ROADSEGMEN	STREET_NAM	FROMSTREET	TOSTREETNA	Class_12
1	136109	NORTH QUARRY STREET	LOCUST STREET	BEDFORD STREET	1c
2	136379	GRANT STREET	COLUMBIA STREET	DIVISION STREET	4b
3	136433	QUARRY STREET	BEDFORD STREET	QUEQUECHAN STREET	4a
4	136507	LONSDALE STREET	RODMAN STREET	DOVER STREET	3b
5	136834	OXFORD STREET	WARREN STREET	PELHAM STREET	4c
6	136856	WARREN STREET	PLYMOUTH AVENUE	JEFFERSON STREET	1b
7	136882	SOMERSET STREET	RODMAN STREET	REEVES STREET	2c
8	137047	EAST WARREN STREET	EASTERN AVENUE	ALDEN STREET	2b
9	137171	MCGEE STREET	STEVENS STREET	JEFFERSON STREET	3a
10	137885	HARRIET STREET	MONARCH STREET	ELIZABETH STREET	3c
11	138370	QUEQUECHAN STREET	WARREN STREET	COUNTY STREET	2a
12	139609	BRAYTON AVENUE	STAFFORD ROAD	MARTINE STREET	1a

2-HOUR BICYCLE-PEDESTRIAN COUNT SHEET

Date:	**Day of the week:**	**Time of day:**
Location: (name of street/trail)		**Location on street/trail:** (i.e., approximate distance to and direction of nearest cross street)
Temperature (circle one): Below 0° / 0° - 20° / 21° - 40° / 42° - 60° / 61° - 80° / 81° - 100° / Above 100°		**Weather (circle one):** Sunny / Partly Sunny / Cloudy / Light rain Heavy rain / Light Snow / Heavy Snow
Name of Counter(s):		

15-Minute Time Periods (fill in hour)	Bicyclists (for tandems, trailers, etc., count the number of people per bicycle)		Pedestrians	Other
	Riding in street (bike lane, cycle track, etc.)	Riding off street (Riding on sidewalk or path, walking a bicycle, walking/riding bicycle in a crosswalk)	• Walking or running • Using wheelchair or assistive device • Children in strollers or being carried	• Skateboards • Rollerblades • Other
:00 - :15				
:15 - :30				

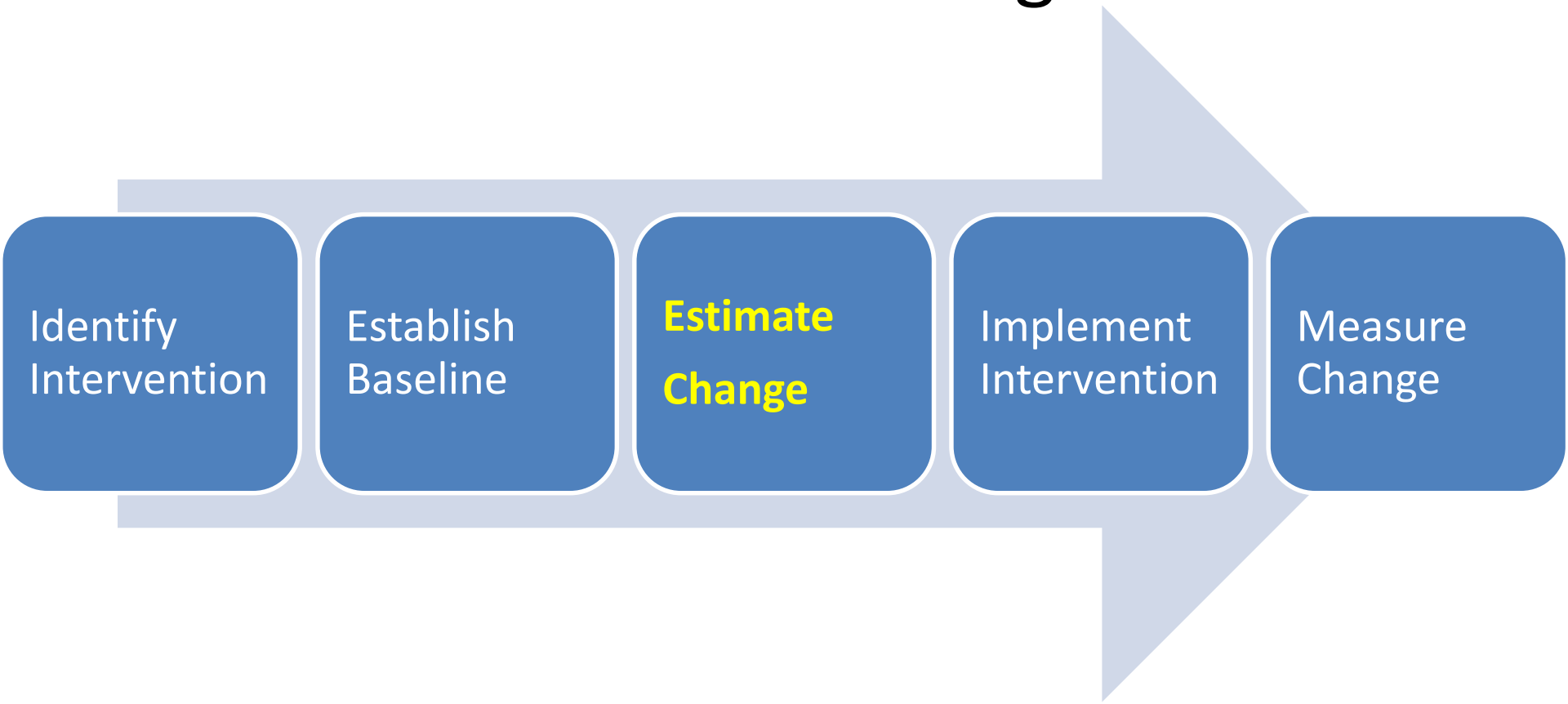
1422 Site Counts Data Input Form

File Edit View Insert Format Data Tools Form Add-ons Help Last edit was 10 days ago

Date:

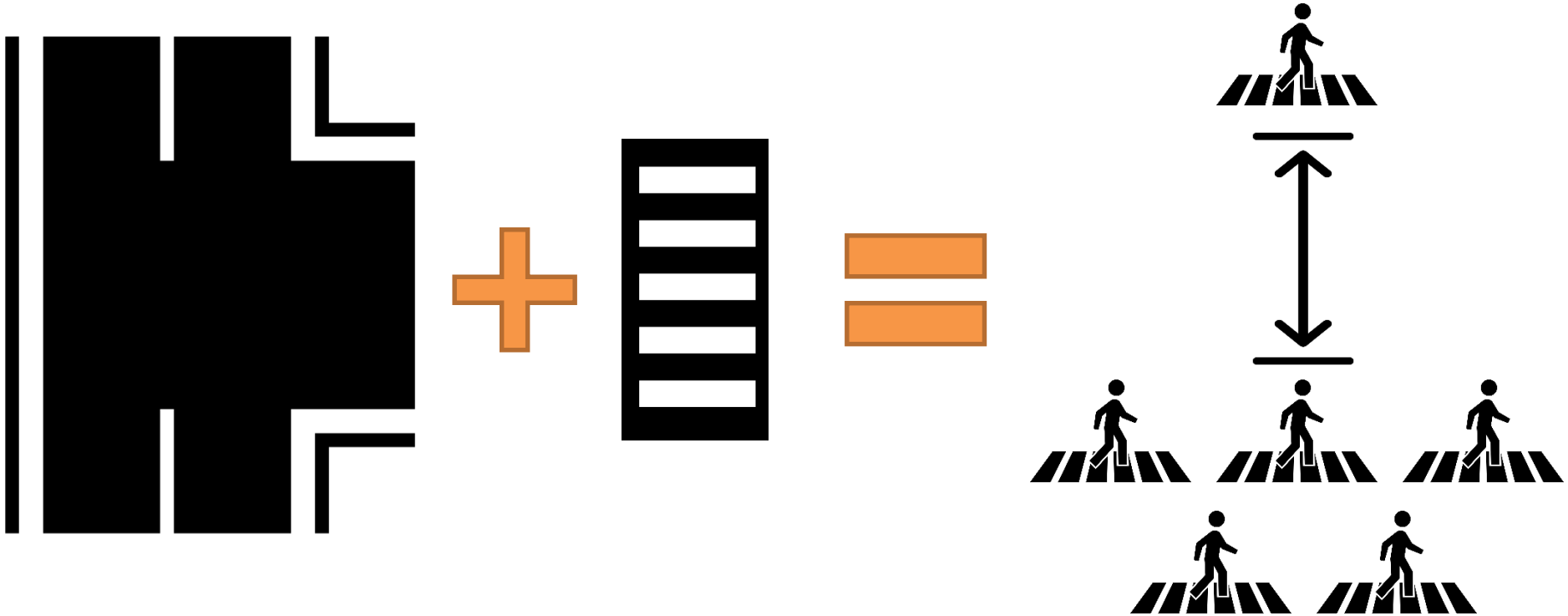
Date:		**Day of the week:**	Thursday	
Location		**Location on street/trail:**		
Temperature		**Weather**		
Name(s) of Counters				
	Bicyclists	(for tandems, trailers, etc., count the number of people per bicycle)	**Pedestrians**	**Other**

Active Transportation Mode Measurement and Tracking



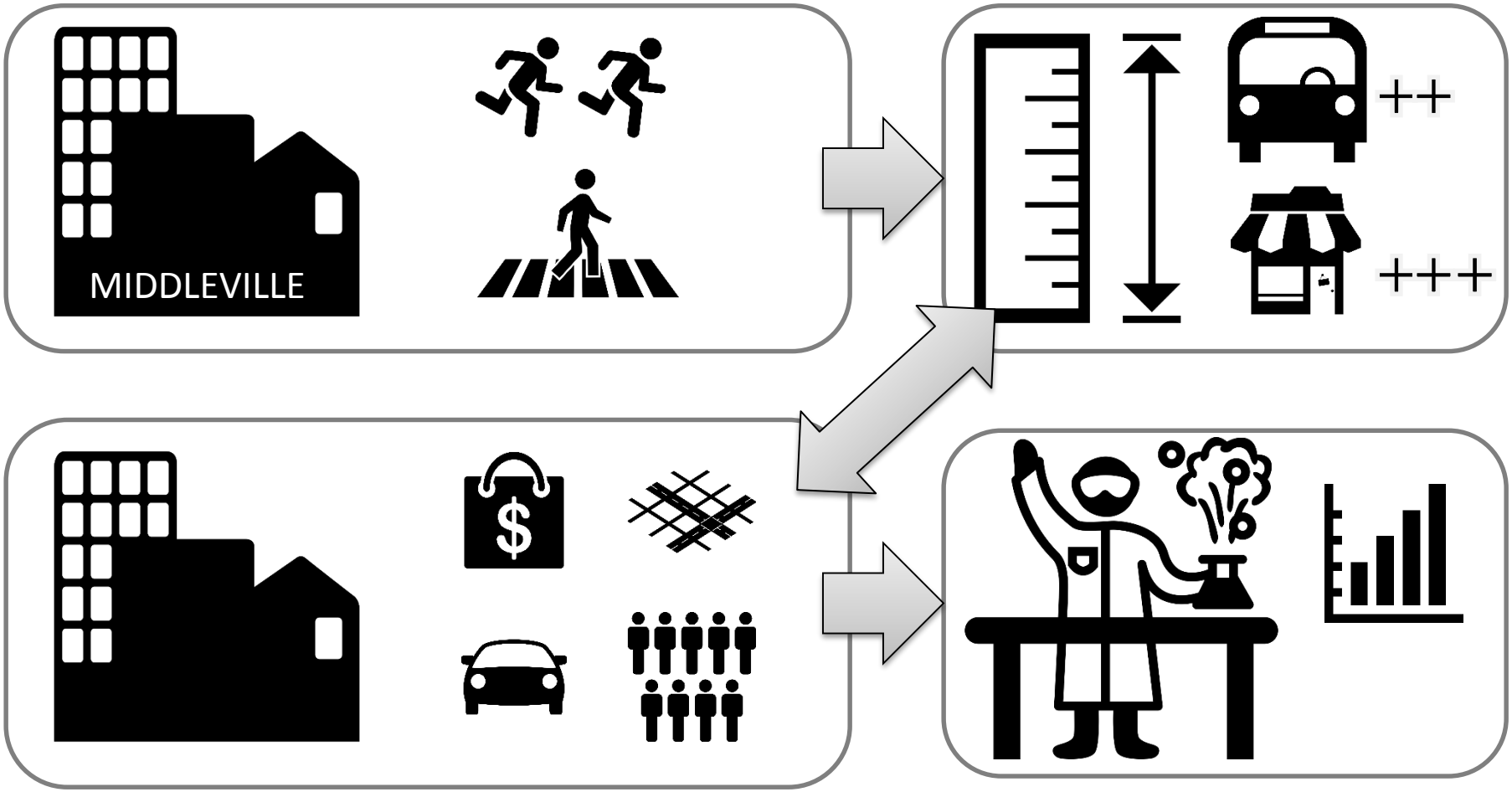
Estimating Change

How much change do we think would be associated with the intervention? What is our best guess?



Estimating Change

Here’s the concept



Estimating Change

Here's a hypothetical example

"What is the magnitude of impact that the new 0.5 mile sidewalk segment in Littlefield Center will have on walking rates?"

Baseline Estimate:
1,000 pedestrian trips/week in project area

Distance to nearest grocery store ++

Distance to nearest commercial center ++

Distance to bus stop +++

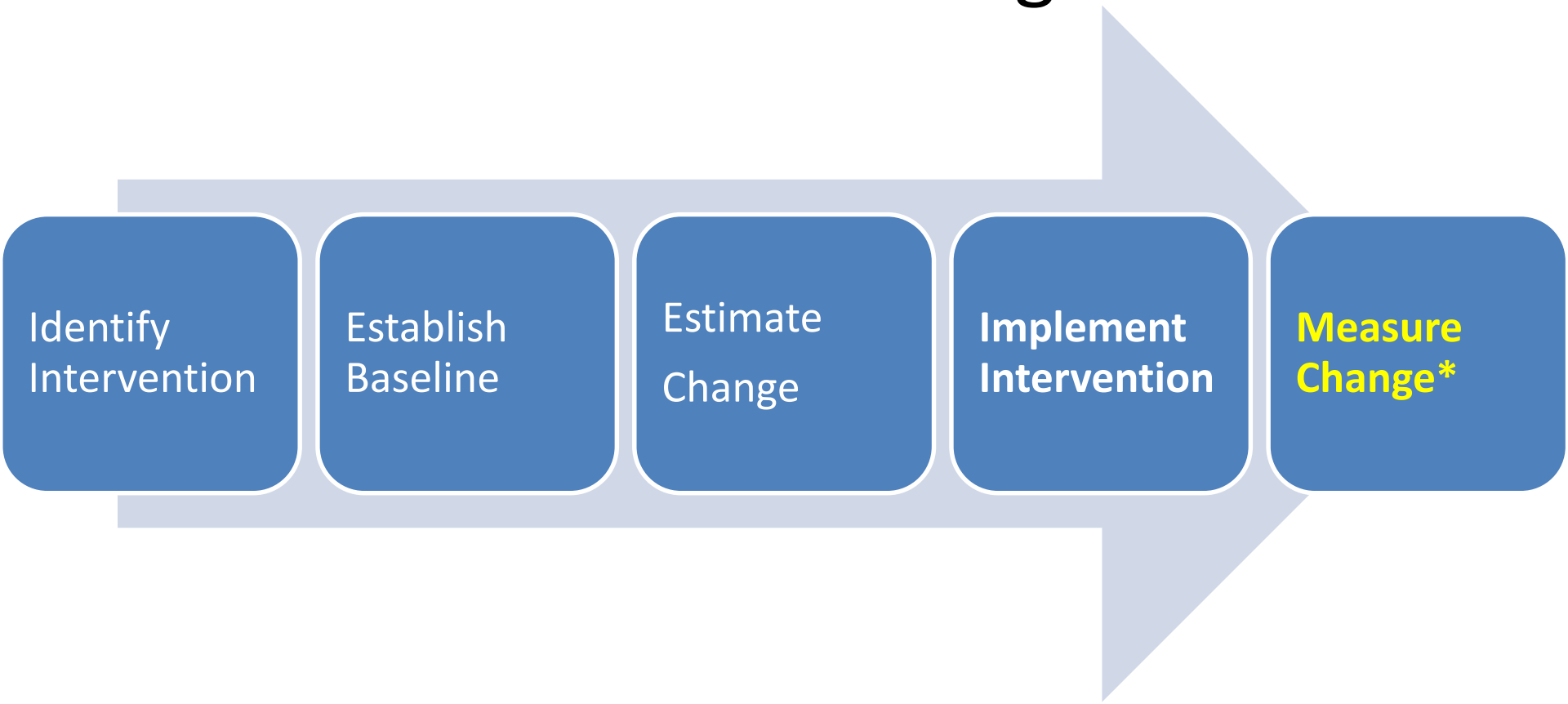
Sidewalk coverage +++

In Littlefield Center (relative to area) :

- Older than average residents (-)
- Lower income than average residents (+)
- Lower educational attainment (-)
- Lower vehicle ownership (+)
- Higher percentages of transit riders (+)
- Lower rates of perceived crime (+)

Due to the measures and mediating variables for Littlefield Center, we predict that the **new 0.5 mile sidewalk segment will result in a 10%-20% change** in pedestrian trips

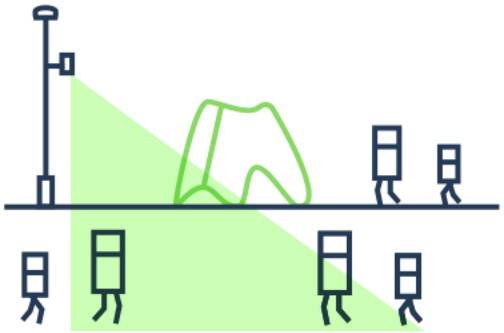
Active Transportation Mode Measurement and Tracking

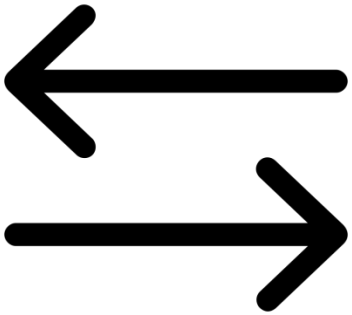


******Monitor Over Time*

Additional Elements

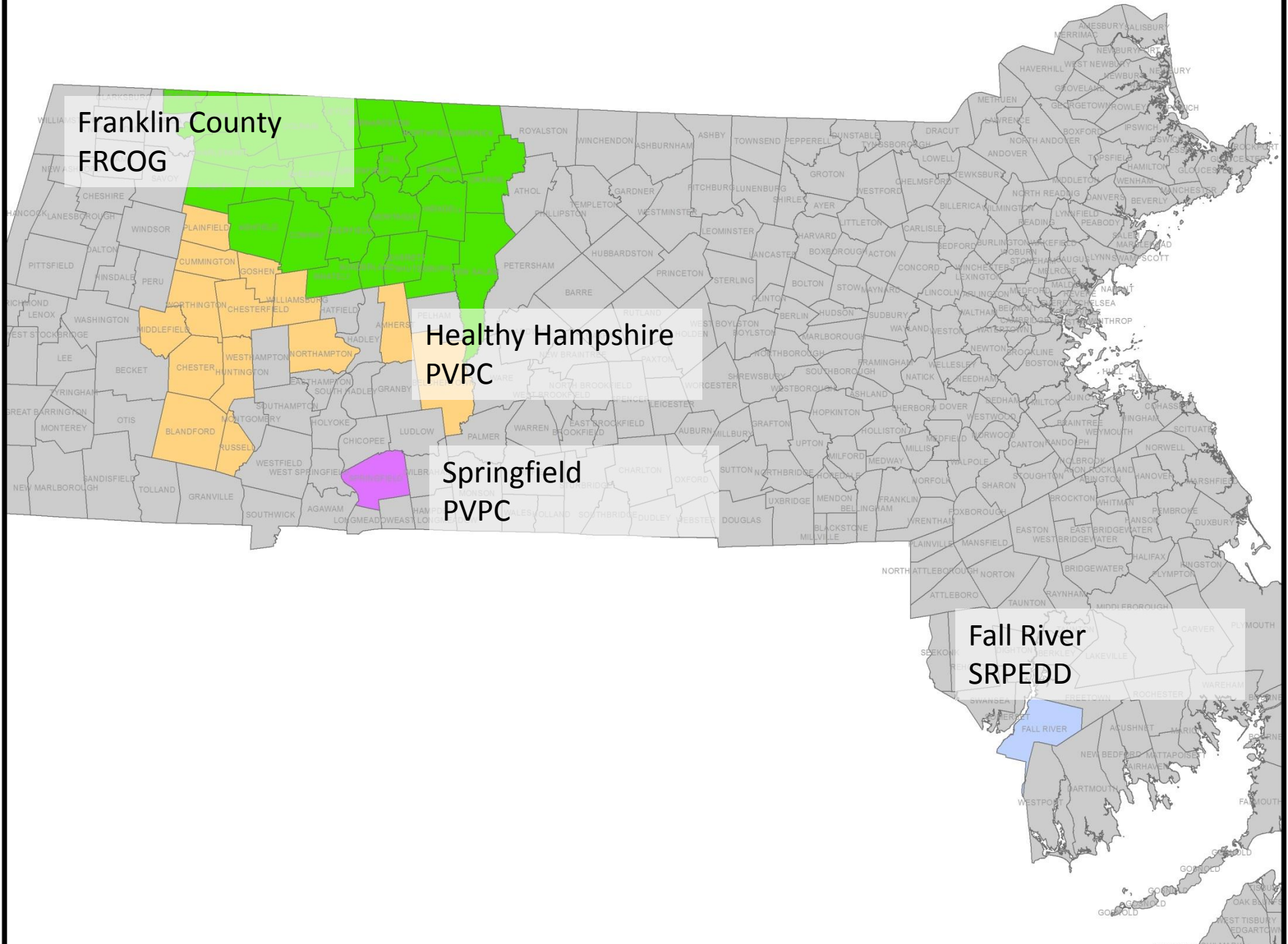
- Mix of count methods
  - Manual
  - Automated
- Outputs to serve as inputs
  - HEAT
  - ITHIM
- Use in other work
  - BP projects
  - HIAs





Transportation + Health

EXAMPLES OF LOCAL WORK


Franklin County
FRCOG
Healthy Hampshire
PVPC
Springfield
PVPC
Fall River
SRPEDD

Transportation + Health

OTHER RPA EXAMPLES

Additional RPA Transportation and Health Project Examples