

Regional Health and Transportation



Access to Goods & Services

Disconnected



Connected



- Crow-Fly Buffer
 - Network Buffer
 - Sample Household
- | | |
|------------|---------------------------|
| Yellow | Single Family Residential |
| Orange | Multi Family Residential |
| Red | Commercial |
| Dark Red | Office |
| Grey | Industrial |
| Blue | Institutional |
| Green | Greenspace/Recreational |
| Light Grey | Parking |
| Dark Grey | Unknown |

Figure 1. Disconnected and connected community environments.

Physical Health & Obesity

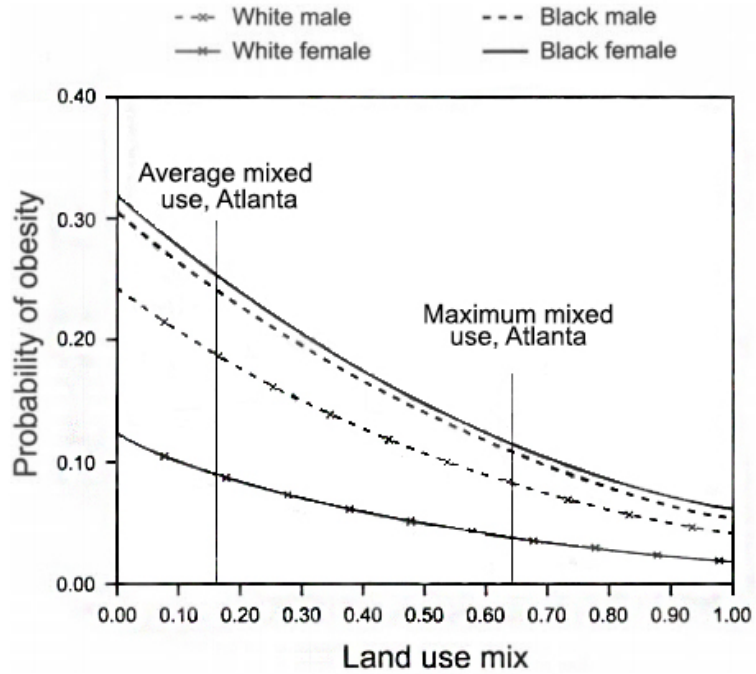


Figure 2. Probability of obesity in relation to land-use mix.

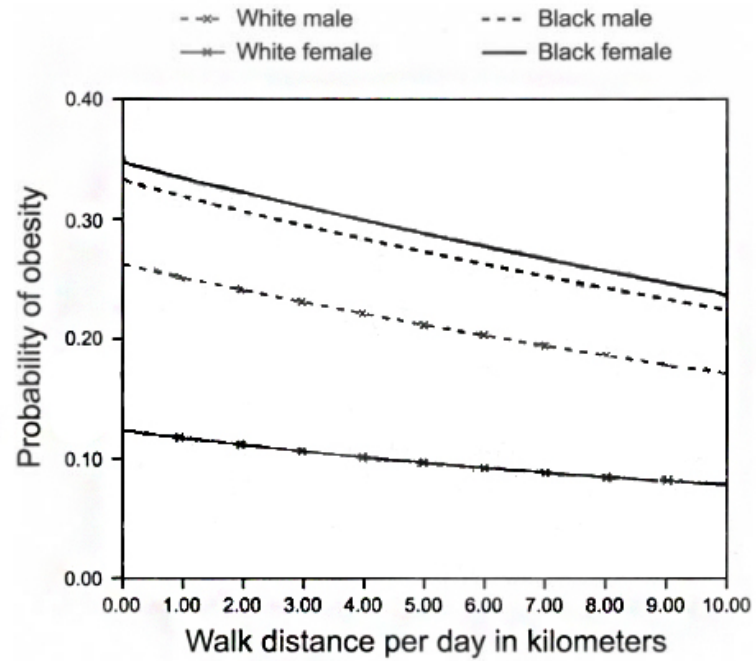
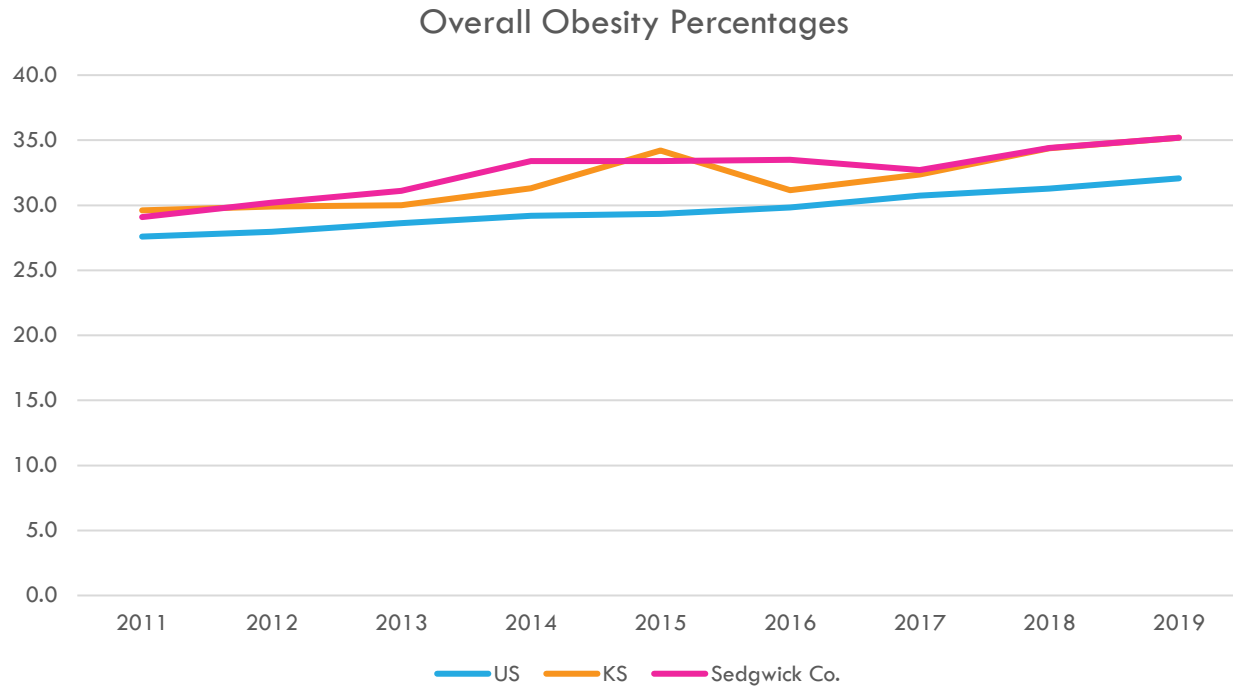


Figure 4. Probability of obesity in relation to time spent driving or as a passenger.

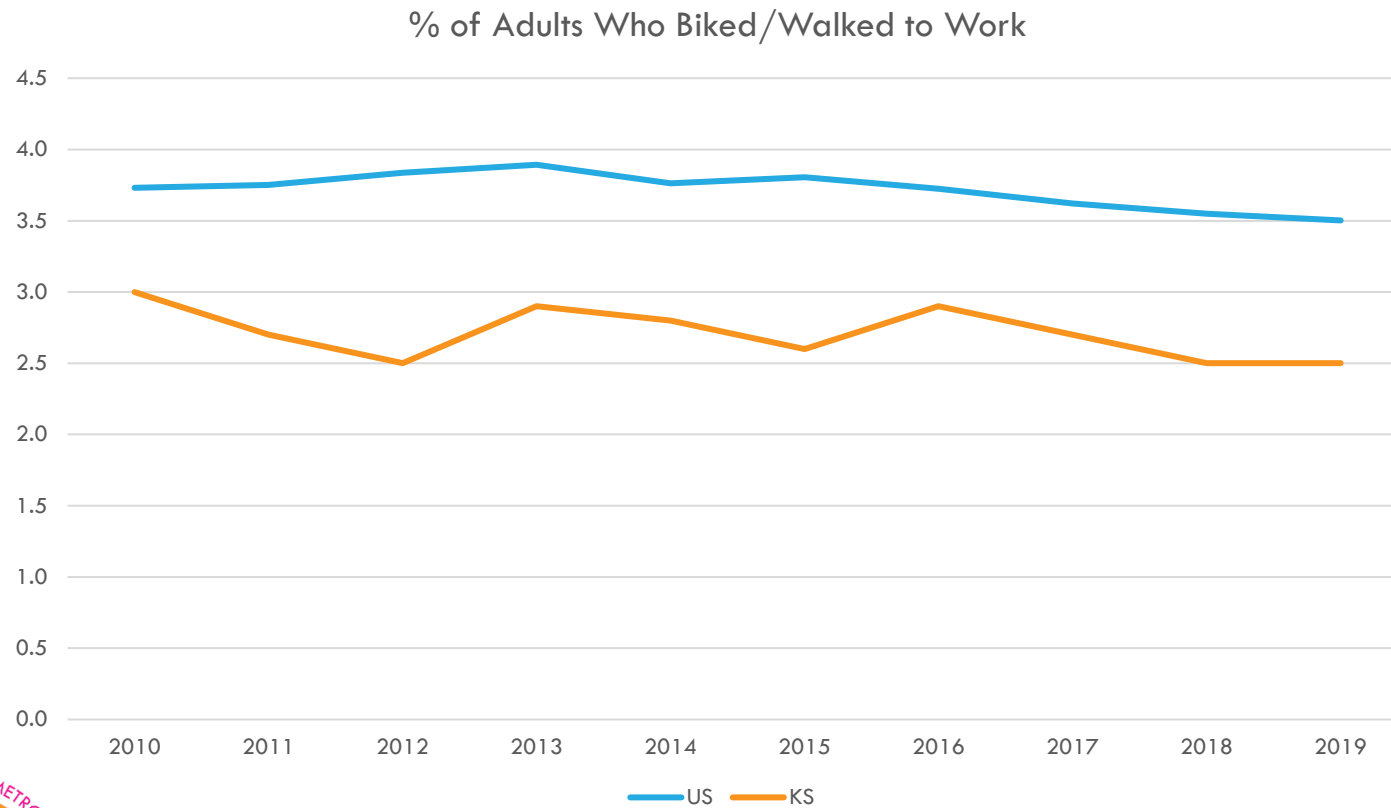
Overall Obesity



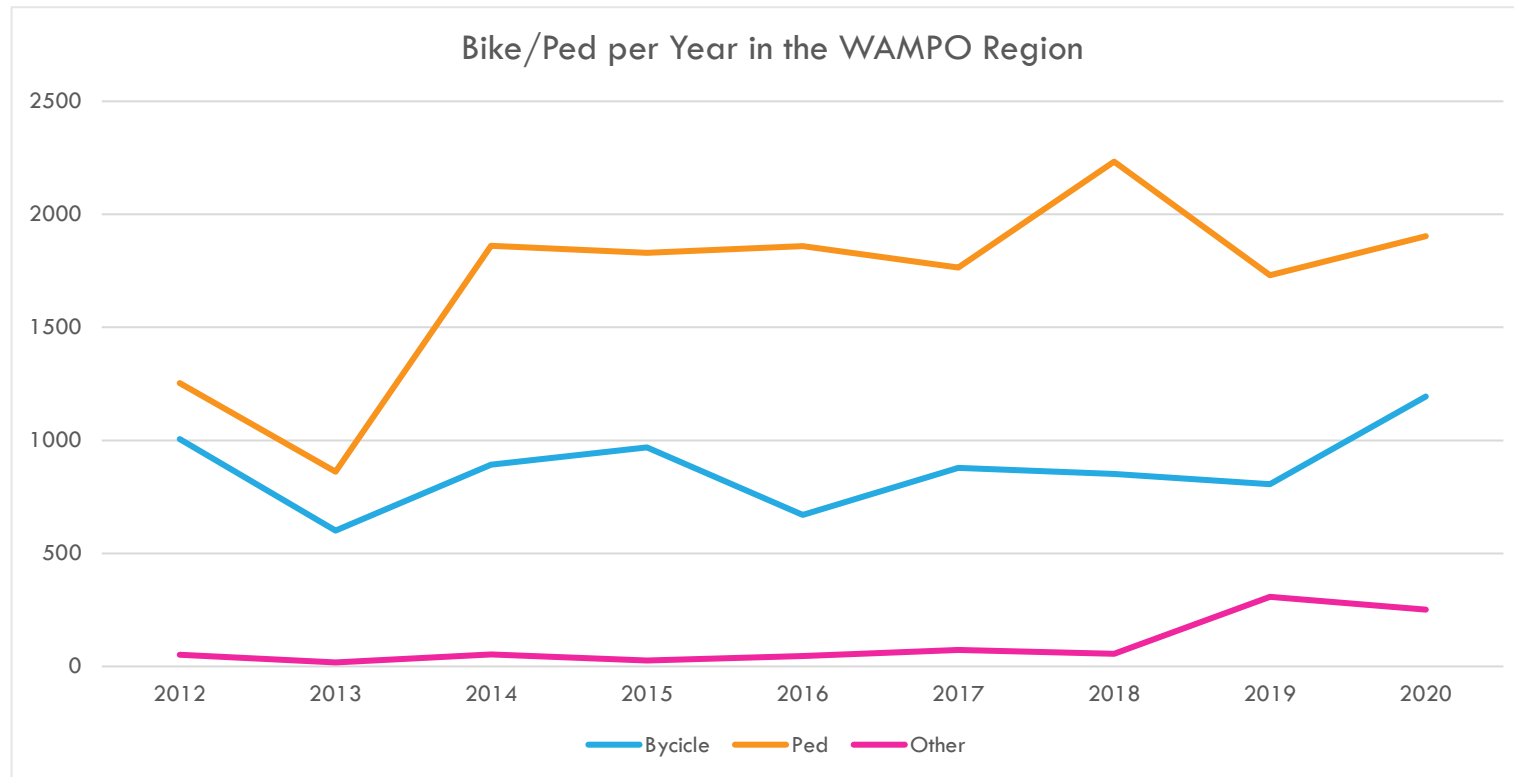
Every **60**
min. in a
car per
day raises
your odds
of obesity
by **6%**.



% of Adults Who Biked/Walked to Work



From the WAMPO count

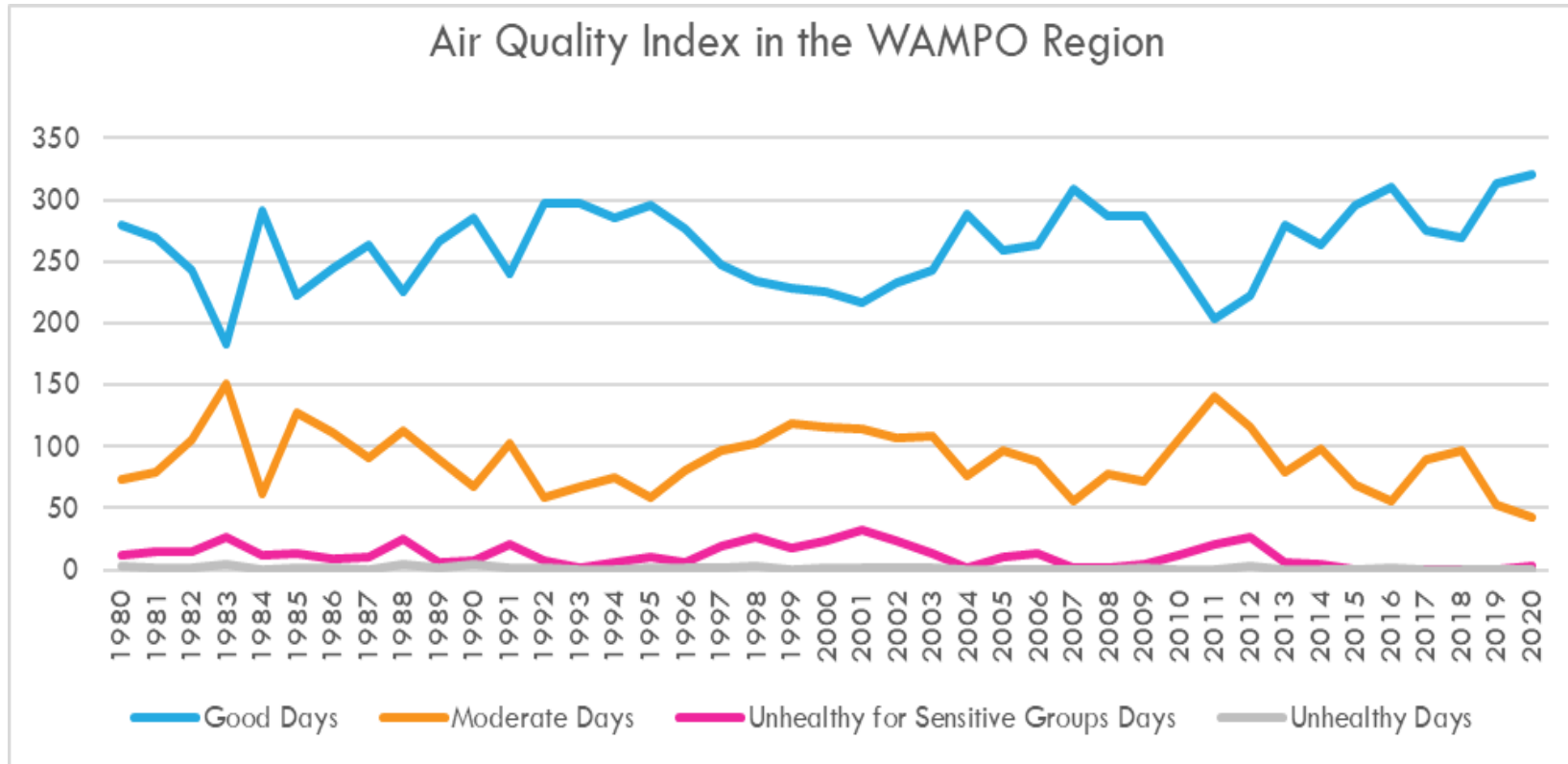


Mental Health & Stress

- Long commutes act as a stressor—by increasing the amount of time spent in a car, one decreases the amount of time available for family and friends.
- 80% of drivers expressed feeling anger/aggression/road rage at least once in the past month – AAA
- 93% of WAMPO region workers drove alone to work.
- 1,434 WAMPO region workers used Public Transportation.
- 23,039 WAMPO region workers carpooled to work.



Air Quality 1980-2020



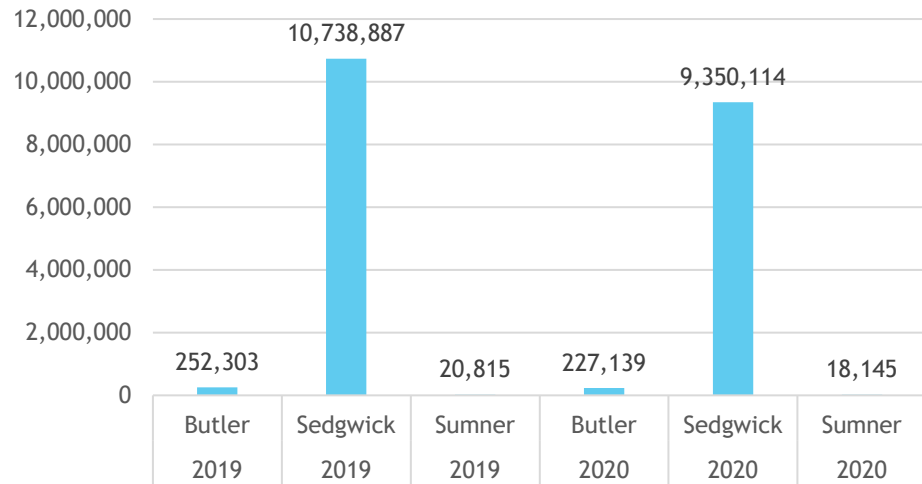
Air Quality Index

- ▶ Ground Level Ozone
 - ▶ O₃
- ▶ Particle Pollution
 - ▶ PM_{2.5} and PM₁₀
- ▶ Carbon Monoxide
 - ▶ CO
- ▶ Sulfur Dioxide
 - ▶ SO₂
- ▶ Nitrogen Dioxide
 - ▶ NO₂

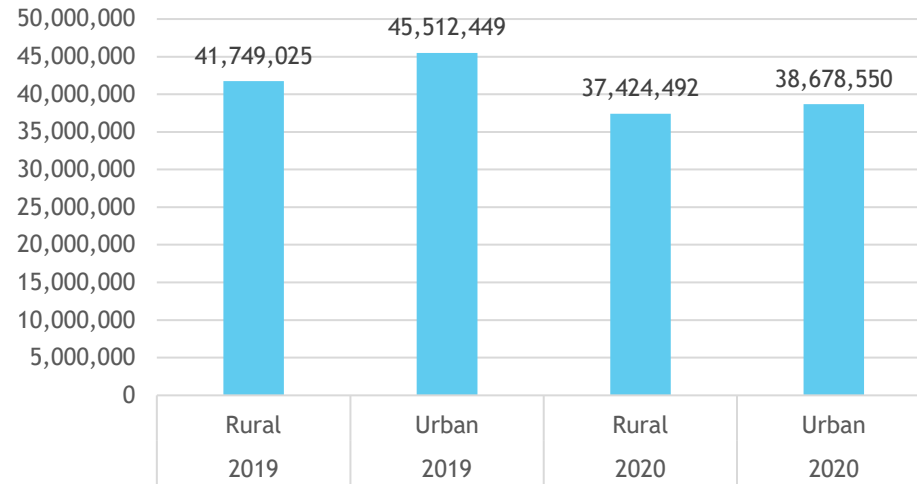
Air Quality Index	Protect Your Health
Good (0-50)	No health impacts are expected when air quality is in this range.
Moderate (51-100)	Unusually sensitive people should consider limiting prolonged outdoor exertion.
Unhealthy for Sensitive Groups (101-150)	The following groups should limit prolonged outdoor exertion: <ul style="list-style-type: none">• People with lung disease, such as asthma• Children and older adults• People who are active outdoors
Unhealthy (151-200)	The following groups should avoid prolonged outdoor exertion: <ul style="list-style-type: none">• People with lung disease, such as asthma• Children and older adults• People who are active outdoors Everyone else should limit prolonged outdoor exertion.
Very Unhealthy (201-300)	The following groups should avoid all outdoor exertion: <ul style="list-style-type: none">• People with lung disease, such as asthma• Children and older adults• People who are active outdoors Everyone else should limit outdoor exertion.

COVID-19 and Transportation

DVMT Per County



DVMT Kansas



Vision Zero in Metropolitan Planning Organizations



Nick Flanders
GIS Analyst/Transportation Planner

Vision Zero...

- ▶ ...Is a traffic-safety strategy that many local governments have adopted in some form.
- ▶ ...Sets a goal of zero fatalities and zero serious injuries from traffic collisions.
- ▶ ...Deprioritizes roadway capacity and travel speed.
- ▶ ...Accounts for the fallibility of human behavior.
- ▶ ...Uses a Systems approach, integrating many different kinds of measures.

Possible MPO Actions for Vision Zero (1)

- ▶ Be coordinating agency for coalition of local governments (e.g., through Safety & Health Committee).
- ▶ Increase emphasis on safety in MTP and other planning documents.
- ▶ Market safety goals to the general public.
- ▶ Set more ambitious targets for existing safety Performance Measures.

Possible MPO Actions for Vision Zero (2)

- ▶ Increase the weight assigned to safety considerations in project-selection criteria.
- ▶ Provide project sponsors with suggested kinds of safety improvements, indicating that projects with those elements are likelier to be funded.
- ▶ Maintain detailed, up-to-date safety data and maps and post them to the MPO website.
- ▶ Other suggestions?

Vision Zero Adoption

Danielle Gauna
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How to Adopt a Vision Zero Toolkit

- ▶ Step 1: Develop a Regional High Injury Network
 - ▶ Through the use of more detailed local crash data.
 - ▶ Identify the roadways with the highest numbers of fatal crashes and injury crashes that result in suspected serious injuries.

How to Adopt a Vision Zero Toolkit

- ▶ Step 2: Develop Crash Profiles, Behavior Profiles and Countermeasures
- ▶ Crash profiles describe the most frequently occurring crash types that result in fatalities or suspected serious injuries.
- ▶ Crash profiles from Denver Region were created according to area type:
 - ▶ Urban, Suburban, Rural, Limited-access highways - Interstates or other limited access state highways or other roads.

How to Adopt a Vision Zero Toolkit

- ▶ Step 2 Develop Crash Profiles, Behavior Profiles and Countermeasures
 - ▶ Behavior profiles describe human behavior that may have led to a crash
 - ▶ Infrastructure countermeasures provided for each crash profile can contribute to a safe system that integrates human failing.

How to Adopt a Vision Zero Toolkit

- ▶ Step 2 Develop Crash Profiles, Behavior Profiles and Countermeasures
- ▶ Example of a countermeasure
 - ▶ Road diets reassign space in the roadway from vehicle travel lanes to create room for bicycle facilities, wider sidewalks or center turn lanes.

How to Adopt a Vision Zero Toolkit

▶ Step 3 Speed Reduction

- ▶ Speed is a contributing factor to fatal and serious-injury crashes across all area types.
- ▶ Safe travel speed is a core Vision Zero
- ▶ Example: Reducing travel lane widths
 - ▶ Narrower travel lanes encourage lower vehicle speeds.

How to Adopt a Vision Zero Toolkit

- ▶ Step 3 Speed Reduction
- ▶ Misconception of Road Diets
 - ▶ Divert traffic from the area, effecting economic growth.
 - ▶ For the majority of Road Diets, the Average Daily Traffic (ADT) remains constant
 - ▶ Los Angeles, California saw bicycle traffic double as the result of the bicycle facilities provided by the Road Diet.

How to Adopt a Vision Zero Toolkit

▶ Step 4 Equity

- ▶ Agree that equity issues are a focus of Vision Zero and make a strong and firm commitment from the start.
- ▶ Include demographic data such as race, ethnicity, level of poverty, and household median income.
 - ▶ In the Denver region, 41% of the regional High-Injury Network occurs in areas with higher numbers of households in poverty and minority populations.

How to Adopt a Vision Zero Toolkit

- ▶ Step 4 Equity
- ▶ Seeking community input for qualitative data, into crash analysis.
 - ▶ How many people are killed in traffic crashes in our region each year?
 - ▶ What are the leading causes of deaths on roads in our region?

How to Adopt a Vision Zero Toolkit

- ▶ Step 4 Equity
- ▶ Seeking community input for crash analysis.
 - ▶ Denver had a booth at an the Colorado Open Streets Event included an oversized map of the region allowed event attendees to identify traffic concerns such as:
 - ▶ Distracted driving
 - ▶ Speeding
 - ▶ Red light and stop sign running

Adopt a Vision Zero Toolkit

- ▶ Achieving Vision Zero in the WAMPO region will take local action and collaboration.
- ▶ These actions help local governments make the right strategic decisions to get to zero deaths and serious-injury crashes.

Crash Data for the WAMPO Region

- ▶ 2008-2018 Fatal Crashes
 - ▶ 471 Crashes
 - ▶ 515 Deaths
 - ▶ 443 Occupant Deaths
 - ▶ 64 Pedestrian Deaths
 - ▶ 8 Pedal Cyclist Deaths

Crash Data for the WAMPO Region

- ▶ The US DOT defines a serious injury
 - ▶ laceration resulting in exposure of underlying tissues and significant loss of blood
 - ▶ Broken/distorted arm or leg
 - ▶ Crush injuries from being pinned under a vehicle
 - ▶ second and third degree burns
 - ▶ Paralysis

Crash Data for the WAMPO Region

- ▶ 2008-2018 Injury Crashes resulting in Suspected Serious Injuries
 - ▶ 1,320 Injury Crashes resulting in Suspected Serious Injuries
 - ▶ 1,857 Suspected Serious Injuries
 - ▶ 1,623 Occupant Suspected Serious Injuries
 - ▶ 165 Pedestrian Suspected Serious Injuries
 - ▶ 69 Pedal Cyclist Suspected Serious Injuries