Injury Prevention Advisory Council (IPAC) and Indiana Violent Death Reporting System (INVDRS) Meeting

Friday, March 20, 2020

Indiana State Department of Health

Trauma and Injury Prevention Mission

To develop, implement and provide oversight of a statewide comprehensive trauma care system that:

- Prevents injuries.
- Saves lives.
- Improves the care and outcomes of trauma patients.

Indiana State Department of Health

Email questions to: **indianatrauma@isdh.in.gov**

Trauma and Injury Prevention Vision

Prevent injuries in Indiana.

Indiana State Department of Health

Email questions to: **indianatrauma@isdh.in.gov**

Round Robin and Introductions

- Name
- Position
- Organization/ Association
- Updates
- Current Projects and Programs
- Upcoming events

@INDTrauma #SafetyIN

Email questions to: **indianatrauma@isdh.in.gov**

Indiana State Department of Health

Invite New Members

Please forward my contact information to colleagues interested in violence & injury prevention!

Indiana State Department of Health

Email questions to: **indianatrauma@isdh.in.gov**

Resource Guide App

- UPDATED!
- Free download for iOS & Android
  - phone & tablet capabilities
- Available in Apple & Google Play stores

Indiana State Department of Health

Email questions to: **indianatrauma@isdh.in.gov**

ISDH Updates

Indiana State Department of Health

Email questions to: **indianatrauma@isdh.in.gov**

Grant Activities

- Students Teachers and Officers Preventing (STOP) School Violence
  - Submitted

Indiana State Department of Health

Upcoming Events

- Youth Violence Prevention Day
  - March 30

Indiana State Department of Health

ISTCC/ITN Meeting Dates

- Indiana State Trauma Care Committee, Indiana Government Center, 10 am EST
  - April 17th
  - June 19th
  - August 21st
  - October 16th
  - December 11th
- Indiana Trauma Network, Indiana Government Center, 12:30 pm EST
  - April 17th
  - June 19th
  - August 21st
  - October 16th
  - December 11th

IPAC/INVDRS Meeting Dates

- May 15th
- July 17th
- September 18th
- November 20th

Indiana State Department of Health

Email questions to: **indianatrauma@isdh.in.gov**

Intentional Injury Prevention: Sexual Violence & Technical Package

Conner Tiffany, *Rape Prevention and Education Program Director*

Indiana State Department of Health

Email questions to: **indianatrauma@isdh.in.gov**

Brief introduction

- Sexual violence has had a traumatic impact on the lives of millions of people in Indiana.
- Almost two-in-five women in Indiana have ever experienced some form of contact sexual violence
- In 2019, the SVPPC decided to create the Data Sharing Technical Package to address the gap in data sharing in Indiana

Indiana State Department of Health

Goals

- The goal of creating this technical package is to increase data sharing among sexual violence stakeholders in Indiana, which will ultimately illuminate the scope and extent of sexual violence in Indiana.
- Further, having access to this data will allow stakeholders to create and implement targeted, programmatic strategies.

Indiana State Department of Health

		Type of Violence Perpetration							
		Child maltreat-ment	Teen Dating Violence	Intimate Partner Violence	Sexual Violence	Youth Violence	Bullying	Suicide	Elder Maltreat-ment
Risk Factors									
Societal	Cultural norms that support aggression toward others	x[33,76,77]	x[78,79]	x[53]	x[31]	x[80]			x[27,81]
	Media Violence				x[57,82]	x[83]	x[37]	x[84,85]	
	Societal income inequity	x[108]		x[86]		x[87,88,89]	x[47]		
	Weak health, educational, economic, and social policies/laws	x[90]		x[53]	x[31]			x[91]	
	Harmful norms around masculinity and femininity	x[92]	x[54]	x[53]	x[31,73,74]	x[93]	x[94]		
Community	Neighborhood poverty	x[42]		x[53]	x[31]	x[46]		x[95]	
	High alcohol outlet density	x[42]		x[96,97]		x[98]		x[99]	
	Community violence	x[42]			x[38]	x[100]	x[37]		
	Diminished economic opportunities/high unemployment rates	x[42]		x[28,19]	x[31]	x[46]		x[29,30]	
	Poor neighborhood support and cohesion	x[42]	x[45]	x[53]		x[46,20]		x[41]	
Relationship	Social isolation/Lack of social support	x[42]	x[45]	x[53]		x[46]	x[58]	x[41]	x[27]
	Poor parent-child relationships	x[42]	x[52,101]	x[53]	x[57,49]	x[46]	x[37]	x[55]	
	Family conflict	x[42]	x[52]	x[53]	x[31]	x[46]	x[37]		
	Economic stress	x[42]		x[53]		x[46]		x[41]	x[27]
	Associating with delinquent peers		x[45]	x[54]	x[31]	x[46]	x[37]		
	Gang Involvement		x[64]	x[64]	x[64]	x[46]			

		Type of Violence Perpetration							
		Child maltreat-ment	Teen Dating Violence	Intimate Partner Violence	Sexual Violence	Youth Violence	Bullying	Suicide	Elder Maltreat-ment
Individual	Low educational achievement	x[42]	x[52]	x[53]		x[46]	x[58]	x[55]	
	Lack of non-violent social problem-solving skills	x[42]	x[52]	x[53]	x[57,56]	x[46]	x[37]	x[55]	x[27]
	Poor behavioral control/ Impulsiveness	x[42]	x[52]	x[53]	x[31]	x[46]		x[41]	
	History of violent victimization	x[42]	x[102]	x[53]	x[31]	x[46]	x[67]	x[41]	x[27]
	Witnessing violence	x[42]	x[52]	x[45]	x[31]	x[46]	x[103,37]	x[85]	
	Psychological/mental health problems	x[42]	x[52]	x[53]		x[46]		x[41]	x[27]
	Substance use	x[42]	x[52]	x[53]	x[31]	x[46]	x[58]	x[41]	x[27]
Protective Factors									
Community	Coordination of resources and services among community agencies	x[39]		x[40]				x[41]	x[27]
	Access to mental health and substance abuse services	x[42]						x[41]	
	Community support/ connected-ness	x[42]		x[39]	x[38,44]	x[43]		x[41]	x[27]
Relationship	Family support/ connected-ness	x[42]	x[45]			x[46]	x[67]	x[41]	x[27]
	Connection to a caring adult		x[45]			x[46]		x[41]	
	Association with pro-social peers		x[45]			x[48]	x[104]		
	Connection/commitment to school		x[45,105]		x[49,50]	x[46]	x[77,47]	x[41]	
Individual	Skills in solving problems non-violently	x[106]	x[107]			x[46]		x[41]	

Areas for input

- Currently searching for databases/surveys that are reflected in the risk and protective factors on the previous slide
  - EX: R/P Factor: Neighborhood Poverty
  - Survey ID: American Health Rankings – Violent Crime in Indiana
- Needing input for Societal/Individual risk factors
  - Open to any and all ideas for each r/p factor

Indiana State Department of Health

How can you help?

- If you can identify a name and link for the database/source, that is all the information that I need to be logged within the survey monkey

- https://www.surveymonkey.com/r/TYBXGSX

Indiana State Department of Health

Thank You

- For more information about sexual violence primary prevention in Indiana or to sign up for the Sexual Violence Primary Prevention news blast, please do not hesitate to contact Conner Tiffany at CTiffany@isdh.IN.gov or via phone at (317) 234-1796.
- To access the Indiana State Sexual Violence Primary Prevention Plan, please visit https://www.in.gov/isdh/files/Indiana_Sexual_Violence_Primary_Prevention_Plan_2016-2021.pdf

Indiana State Department of Health

Contact Information

Conner Tiffany

Violence Prevention Program Director

Office of Women's Health

317-234-1796

CTiffany@isdh.IN.gov

Indiana State Department of Health

Adult Injury Prevention:
Vaping Trends in Indiana

Miranda Spitznagle
Tobacco Prevention and Cessation

Indiana State Department of Health

Intentional Injury Data: Youth Violence - Homicide

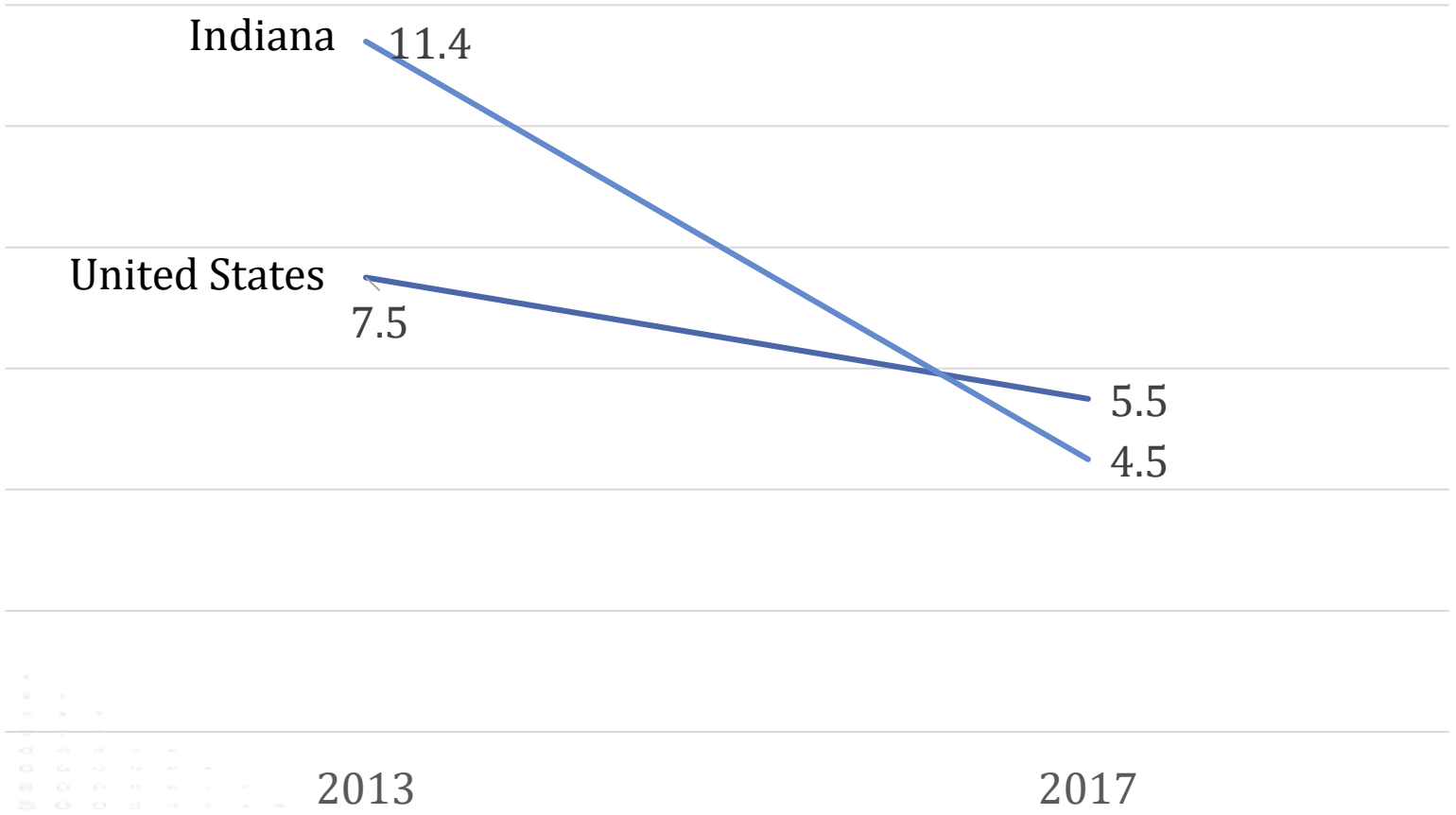
Morgan Sprecher, *INVDRS Epidemiologist*

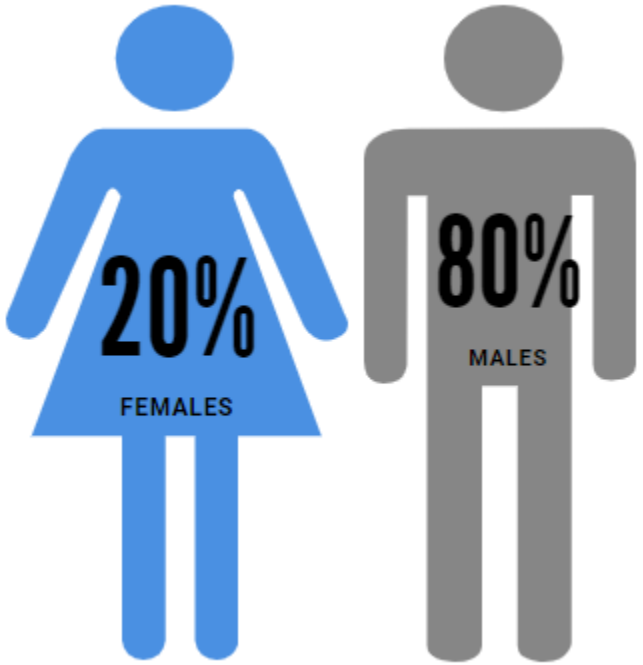
Indiana State Department of Health

Email questions to: **indianatrauma@isdh.in.gov**

Youth Homicide Rates

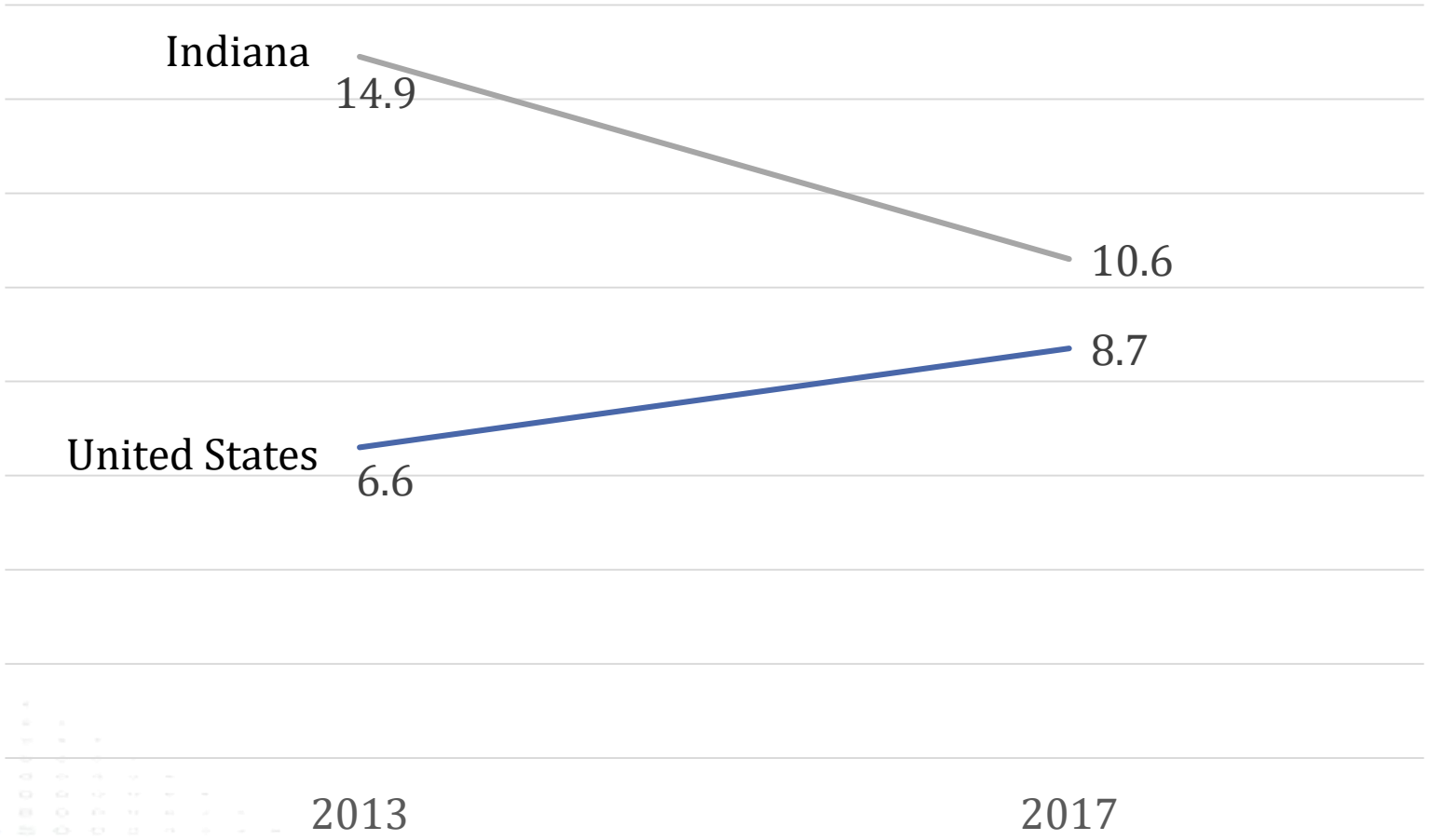
per 100,000

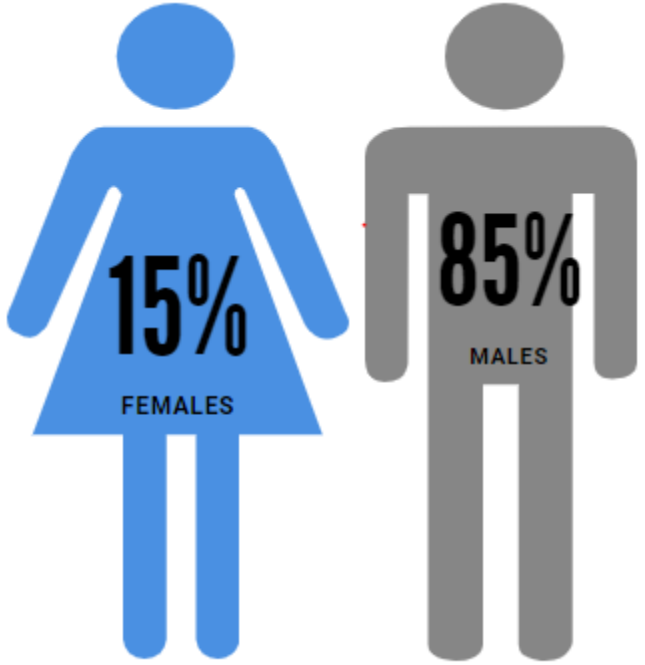




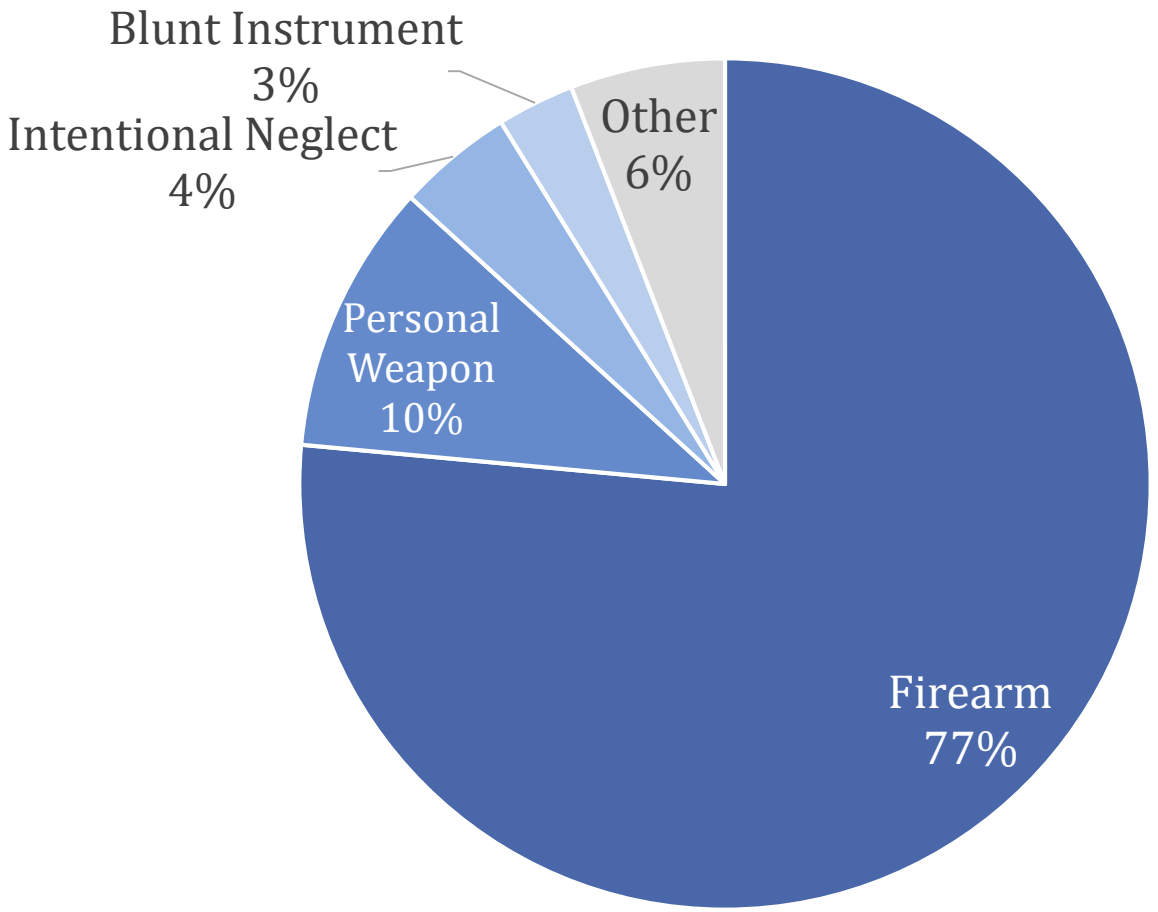
Teen (15-19) Homicide Rates

per 100,000





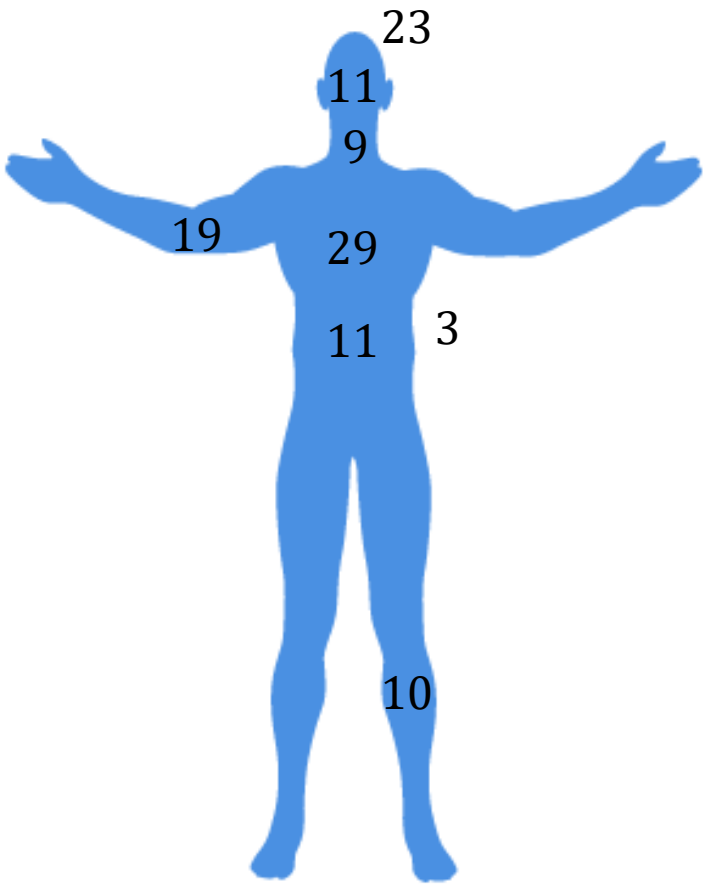
Weapon Type


Blunt Instrument
3%
Intentional Neglect
4%
Other
6%
Personal
Weapon
10%
Firearm
77%

Other Crime in Progress

- 8 Total
  - 2 Burglary
  - 1 Assault
  - 1 Drug Trade
  - 2 Other
  - 2 Unknown
- 4 Drive By Shooting
- 3 Random Violence
- 1 Unkown

Wound Locations



Contact Information

Morgan Sprecher, *INVDRS Epidemiologist*
Trauma and Injury Prevention Division
317.233.9825 (office)
msprecher@isdh.in.gov

Email questions to: **Indianatrauma@isd.in.gov**

Indiana State Department of Health

Regional PEDESTRIAN PLAN

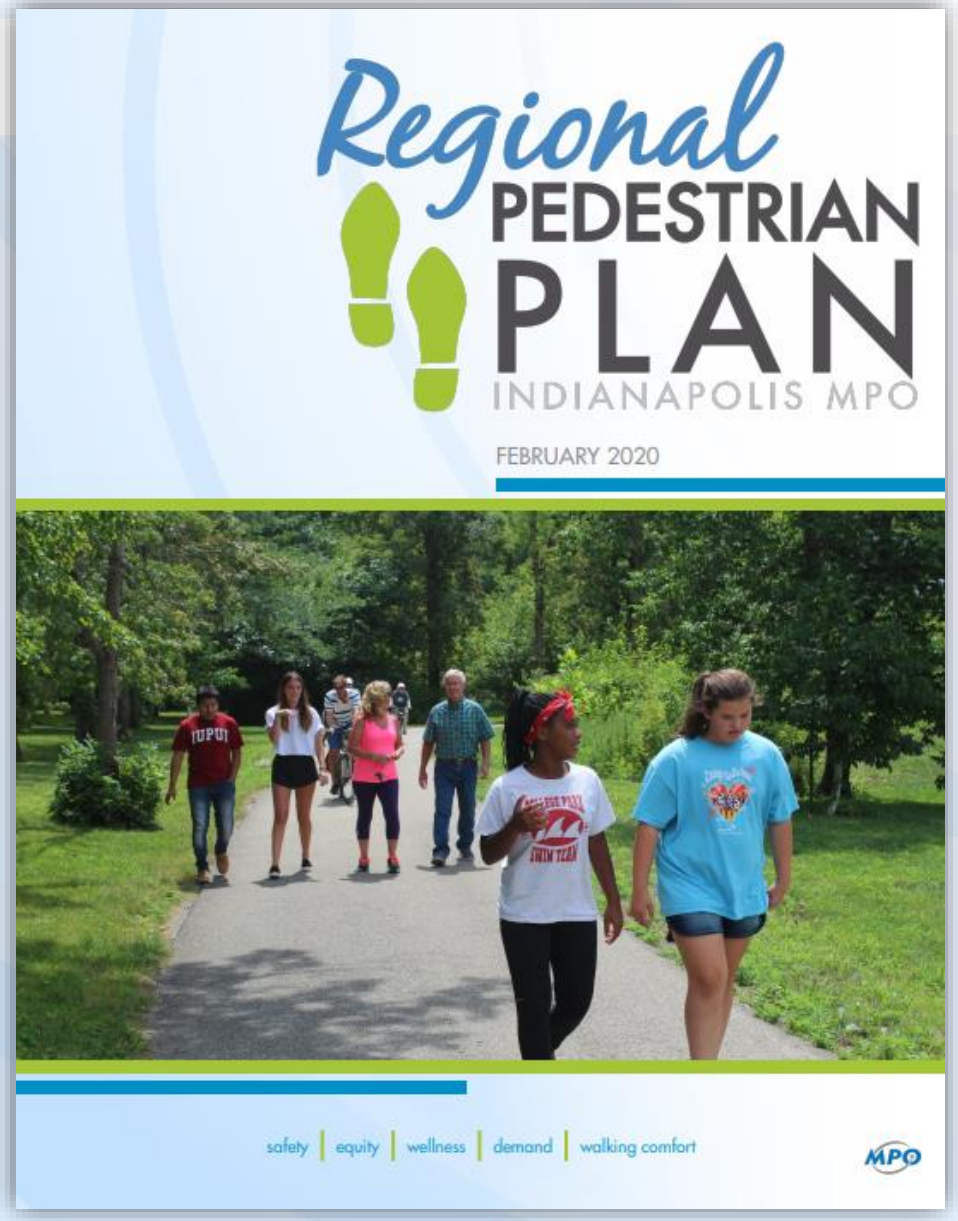
INDIANAPOLIS MPO

Approved: February 2020

ISDH: Injury Prevention Advisory Council (IPAC) +Indiana Violent Death Reporting System (INVDRS)

In the Plan

- Vision & Goals
- Investment Prioritization Methodology
- Implementation Recommendations



MPO Regional PEDESTRIAN PLAN INDIANAPOLIS MPO

Regional PEDESTRIAN PLAN

INDIANAPOLIS MPO

VISION & GOALS

Vision

Provide a safe, efficient, and balanced comprehensive pedestrian network that promotes local and regional connectivity, maximizes community benefit, and establishes pedestrian facilities as an equal component of the regional transportation network. This system should provide for residents' daily transportation, recreation, and everyday walking uses.

MPO Regional PEDESTRIAN PLAN INDIANAPOLIS MPO

Goals

Connectivity: Create a regional network of convenient, connected, and well-designed sidewalks and paths throughout the Central Indiana region.

Safety: Create a safe and inviting sidewalks and paths network throughout the MPA.

Wellness & Quality of Life: Create sidewalks and paths that promote walking, increase opportunities to walk, and connect people to meaningful destinations.

Community Benefit: Recognize and develop projects that provide additional community benefit beyond just the benefits of walking.

Collaboration & Education: Communities should work together, across municipal and county boundaries, to support sidewalks and paths that are enjoyable, useful, and have an impact on the most people's lives.

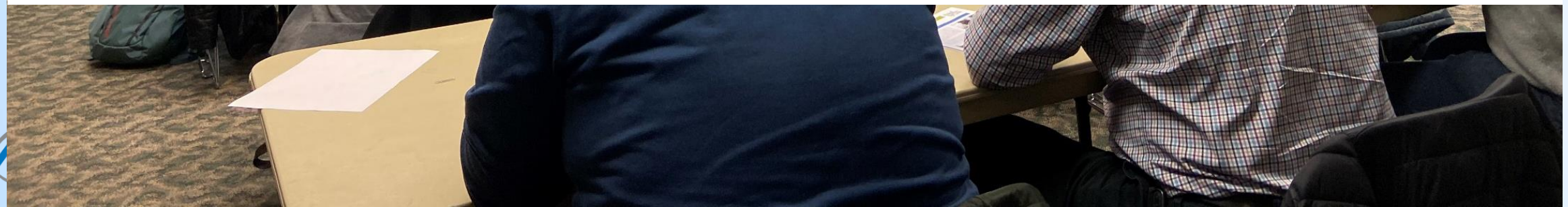
MPO Regional PEDESTRIAN PLAN INDIANAPOLIS MPO

Perspective

- Plan uses regional priorities to recommend investments
- May not match local priorities
- Plan does not propose what communities should do or build
  - data-driven analysis
  - resource for local pedestrian planning and implementation
  - Communities are encouraged to adapt the methodology to their own needs and apply their own priorities to this analytical process

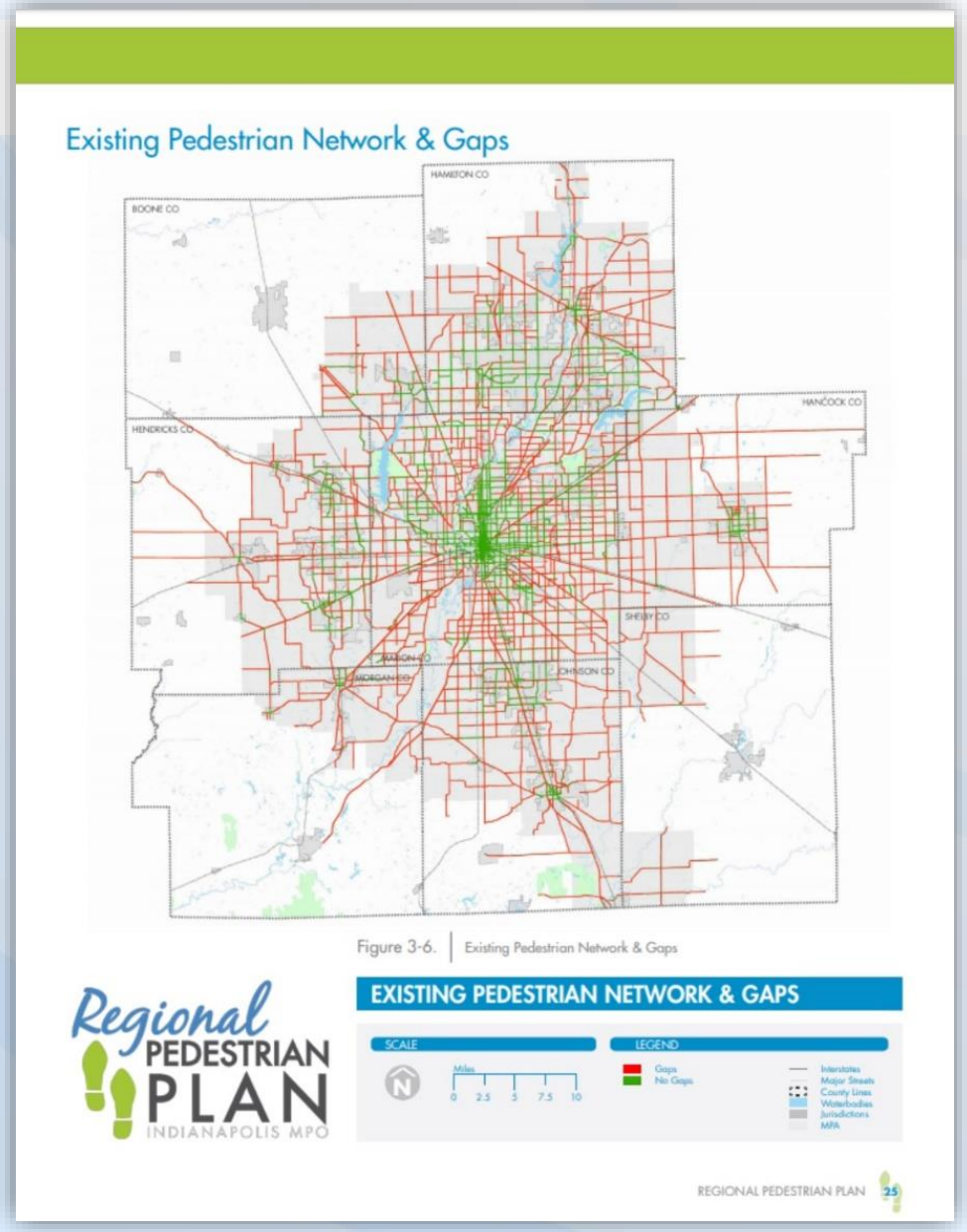
Regional PEDESTRIAN PLAN
INDIANAPOLIS MPO

Investment Prioritization Methodology



Identify Gaps

- Rather than proposing projects, identify gaps
- "Gaps" are missing segments of the pedestrian network
- Gaps create barriers between neighborhoods, public facilities, and people
- Gaps identification did not include neighborhood streets or interstates.



Gather Data

- Block/Block Group data for
  - youth, older adults, non-white, poverty households, zero-car households, population
- InfoUSA data for employment
- Points for
  - parks and recreation, healthcare facilities, educational facilities
- Crash Data (ARIES - Automated Reporting Information Exchange System)
- Lane Widths
- Traffic Volumes (AADT)
- Speed Limits

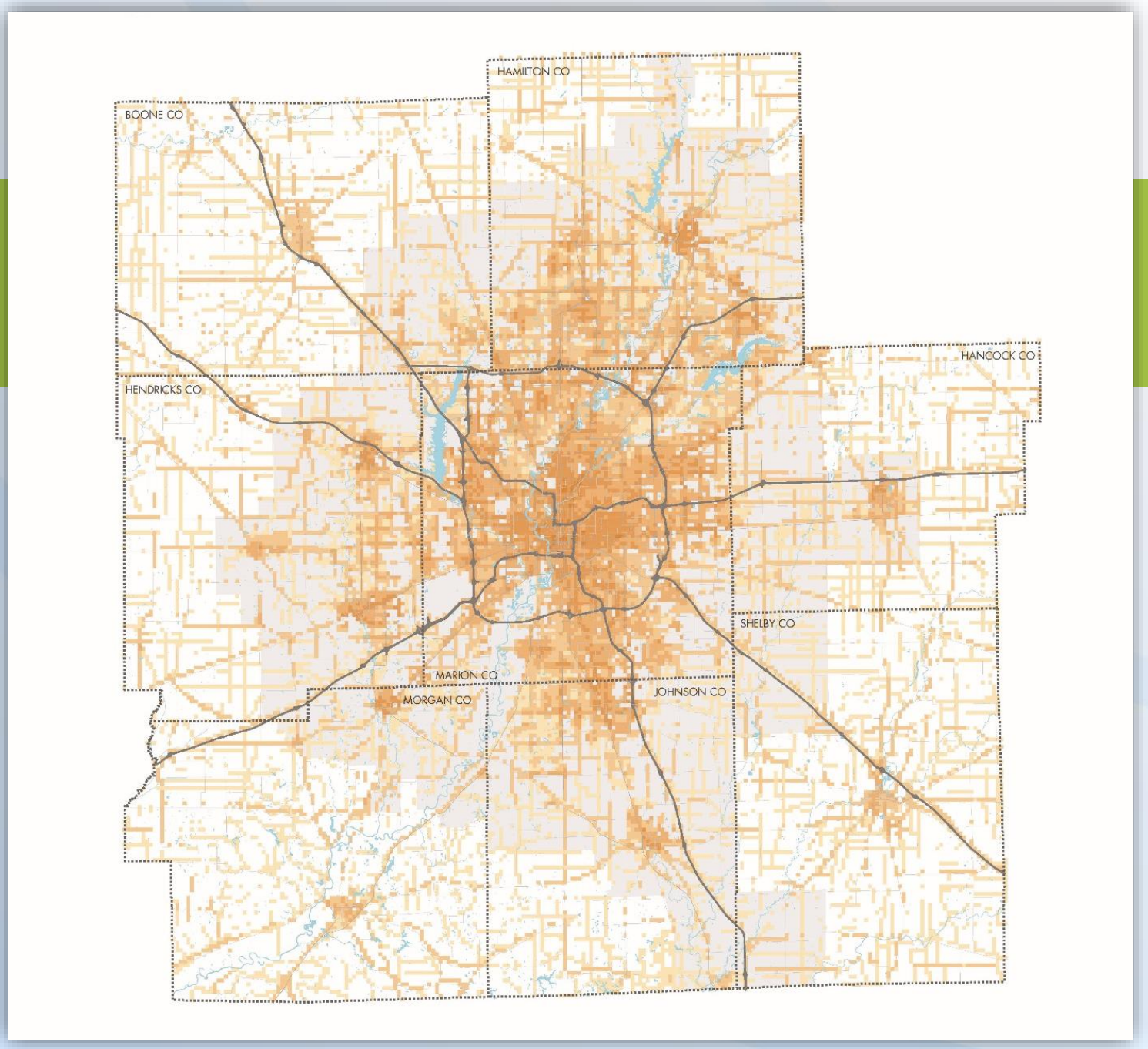
PRIORITY INVESTMENT AREA INDICES

PEDESTRIAN SAFETY

Prioritize investment in high-crash or likely risk areas to improve pedestrian safety.

Measures of Pedestrian Safety:

1. Density of Pedestrian/Vehicular Collisions
2. Existing Pedestrian Infrastructure Network
3. Lane Widths

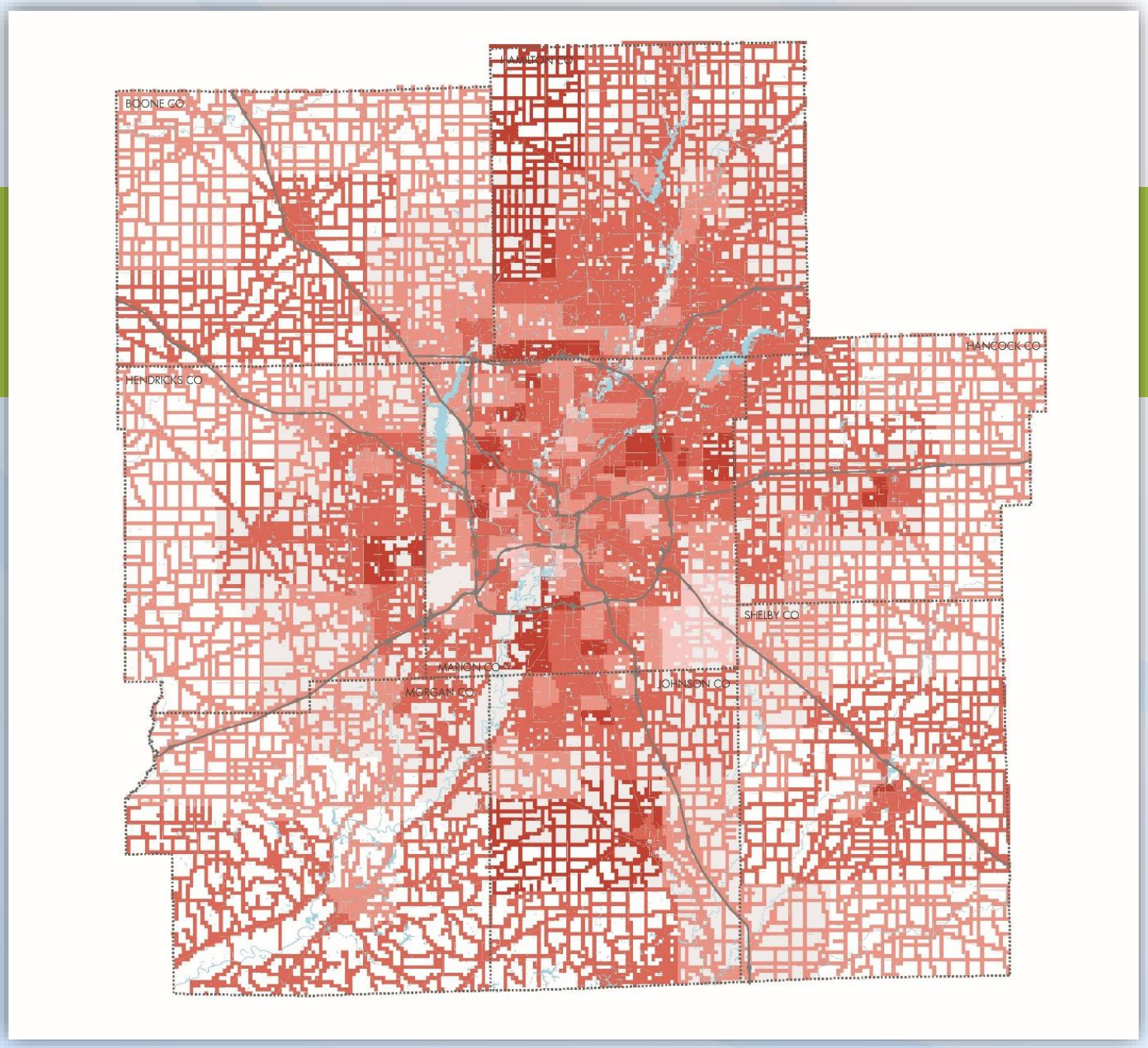

HAMILTON CO
BOONE CO
HANCOCK CO
HENDRICKS CO
SHELBY CO
MARION CO
MORGAN CO
JOHNSON CO

PRIORITY INVESTMENT AREA INDICES

Prioritize investment where people may be more dependent on walking or public transit for the majority of their trips.

Measures of Equity:

1. Densities of Youth
2. Densities of Older Adults
3. Densities of Minority Populations
4. Household Poverty Levels
5. Zero-Car Households

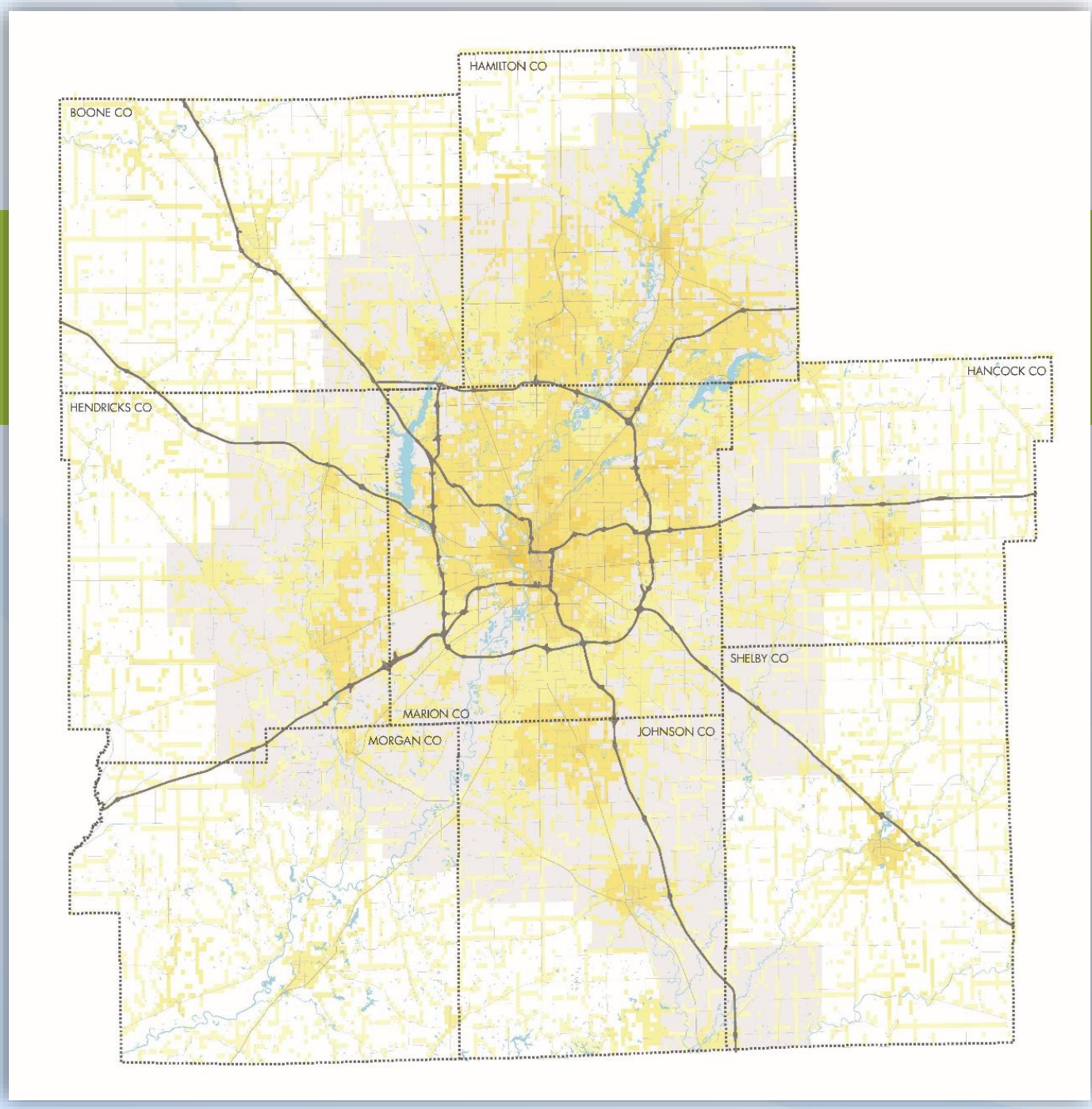

BOONE CO
HENDRICKS CO
HANCOCK CO
SHELBY CO
MARION CO
MORGAN CO
JOHNSON CO

PRIORITY INVESTMENT AREA INDICES
WELLNESS

Prioritize investment where the pedestrian environment can negatively impact the health of residents.

Measures of Health:

1. Lack of access to Parks and Recreational Opportunities
2. Lack of access to Healthcare Facilities
3. Density of Pedestrian/Vehicular Collisions


HAMILTON CO
BOONE CO
HANCOCK CO
HENDRICKS CO
SHELBY CO
MARION CO
JOHNSON CO
MORGAN CO

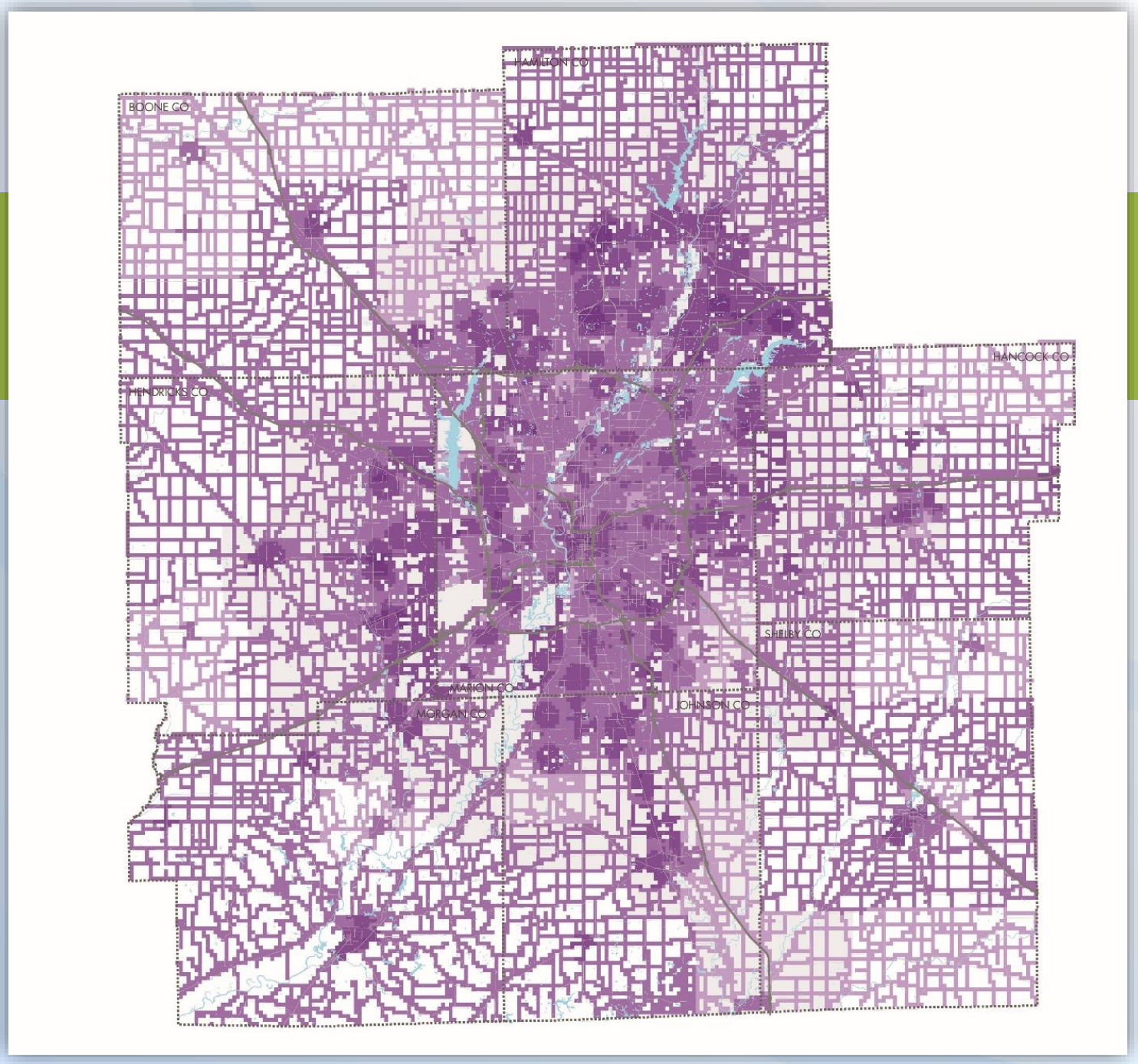
PRIORITY INVESTMENT AREA INDICES

PEDESTRIAN DEMAND

Prioritize investment in areas with higher pedestrian demand (the average volume of pedestrians on the pedestrian network).

Measures of Pedestrian Demand:

1. Population Density
2. Employment Density
3. Locations of Educational Facilities


HAMILTON CO
BOONE CO
HANCOCK CO
HENDRICKS CO
SHELBY CO
MARION CO
MORGAN CO
JOHNSON CO

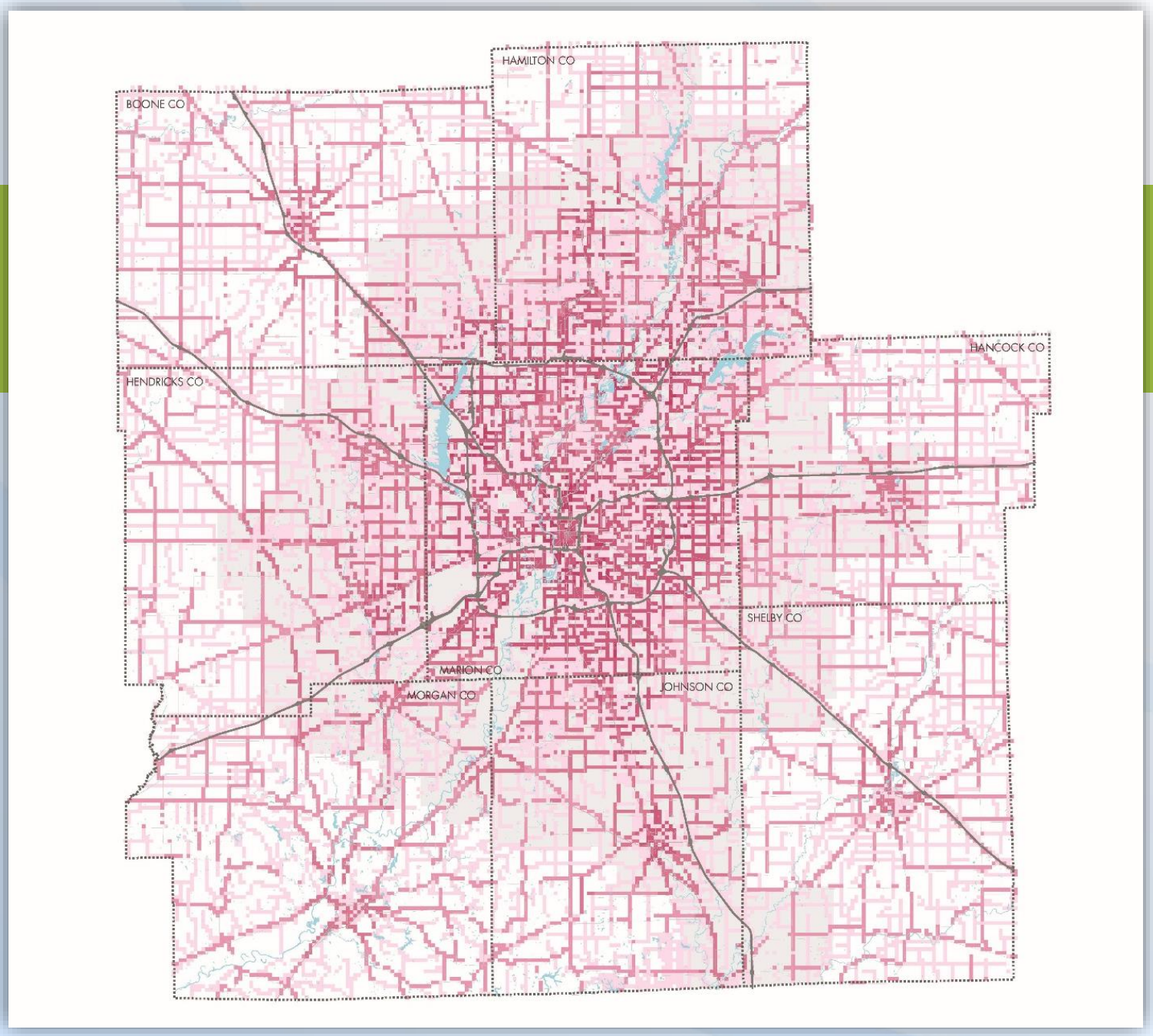
PRIORITY INVESTMENT AREA INDICES

WALKING COMFORT

Prioritize investment in areas where the level of walking comfort (the level of comfort people feel that the street provides for their mental and physical needs) can be improved.

Measures of Walking Comfort:

1. Traffic Volumes (AADT)
2. Speed Limits
3. Existing Pedestrian Infrastructure Network

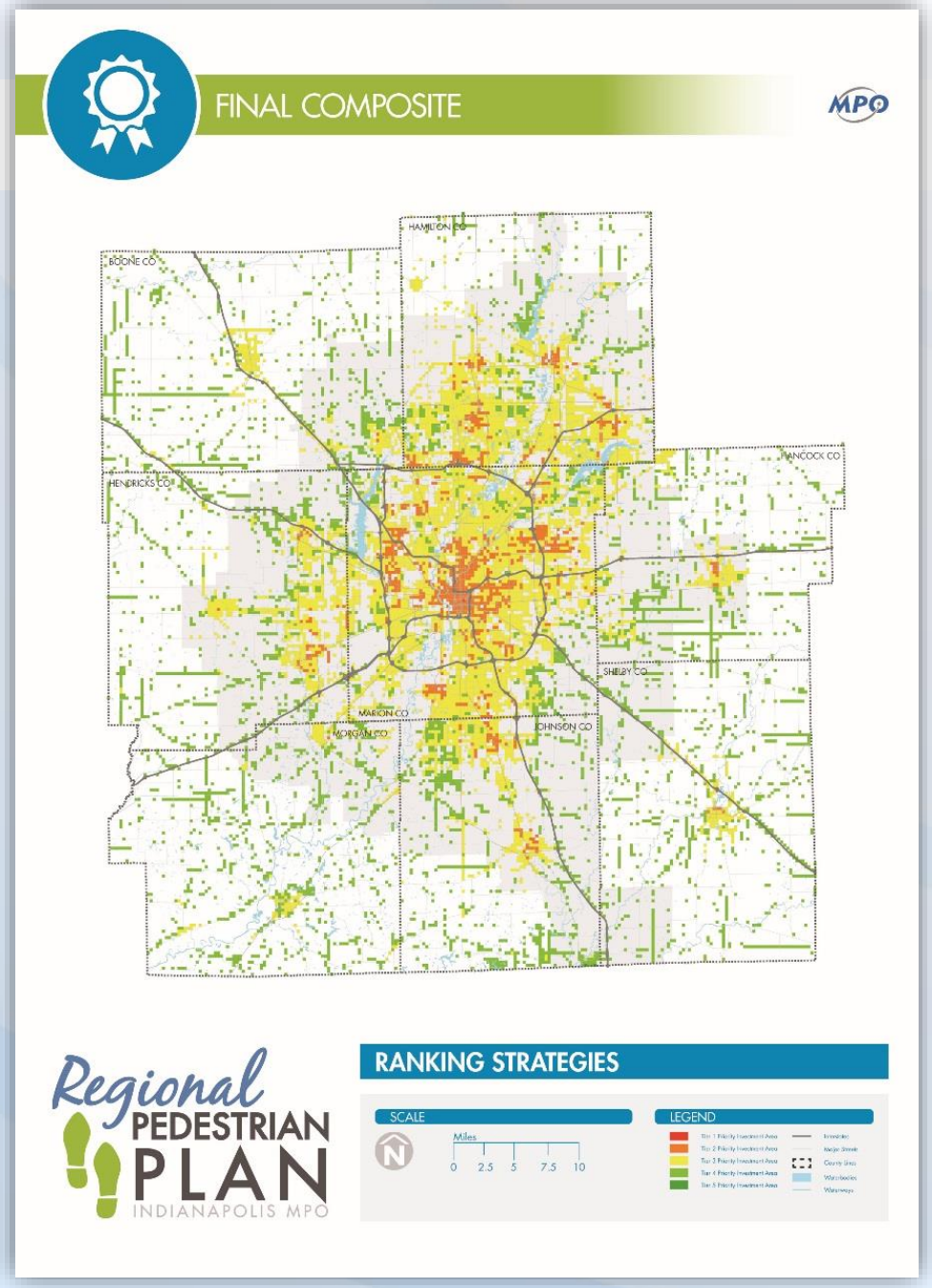

HAMILTON CO
BOONE CO
HANCOCK CO
HENDRICKS CO
SHELBY CO
MARION CO
JOHNSON CO
MORGAN CO

Layering

- Public survey
- Steering Committee input
- Regional Transportation Council input

Composite

- Prioritization results are as follows:
  - Pedestrian Safety
  - Equity
  - Wellness
  - Pedestrian Demand
  - Walking Comfort



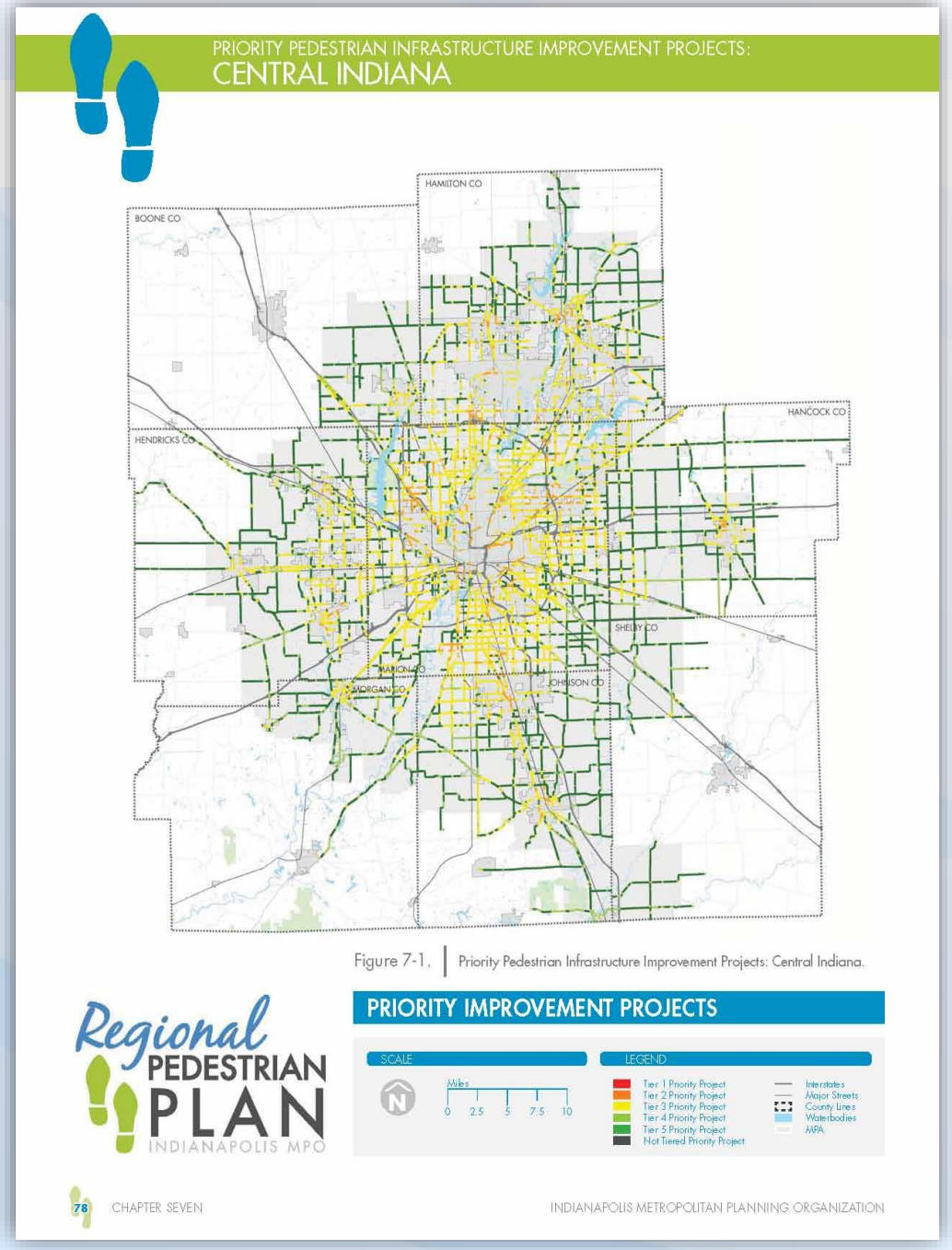
Tier 1 Priority Investment Area
Tier 2 Priority Investment Area
Tier 3 Priority Investment Area
Tier 4 Priority Investment Area
Tier 5 Priority Investment Area

MPO Regional PEDESTRIAN PLAN INDIANAPOLIS MPO

Gap Tiers

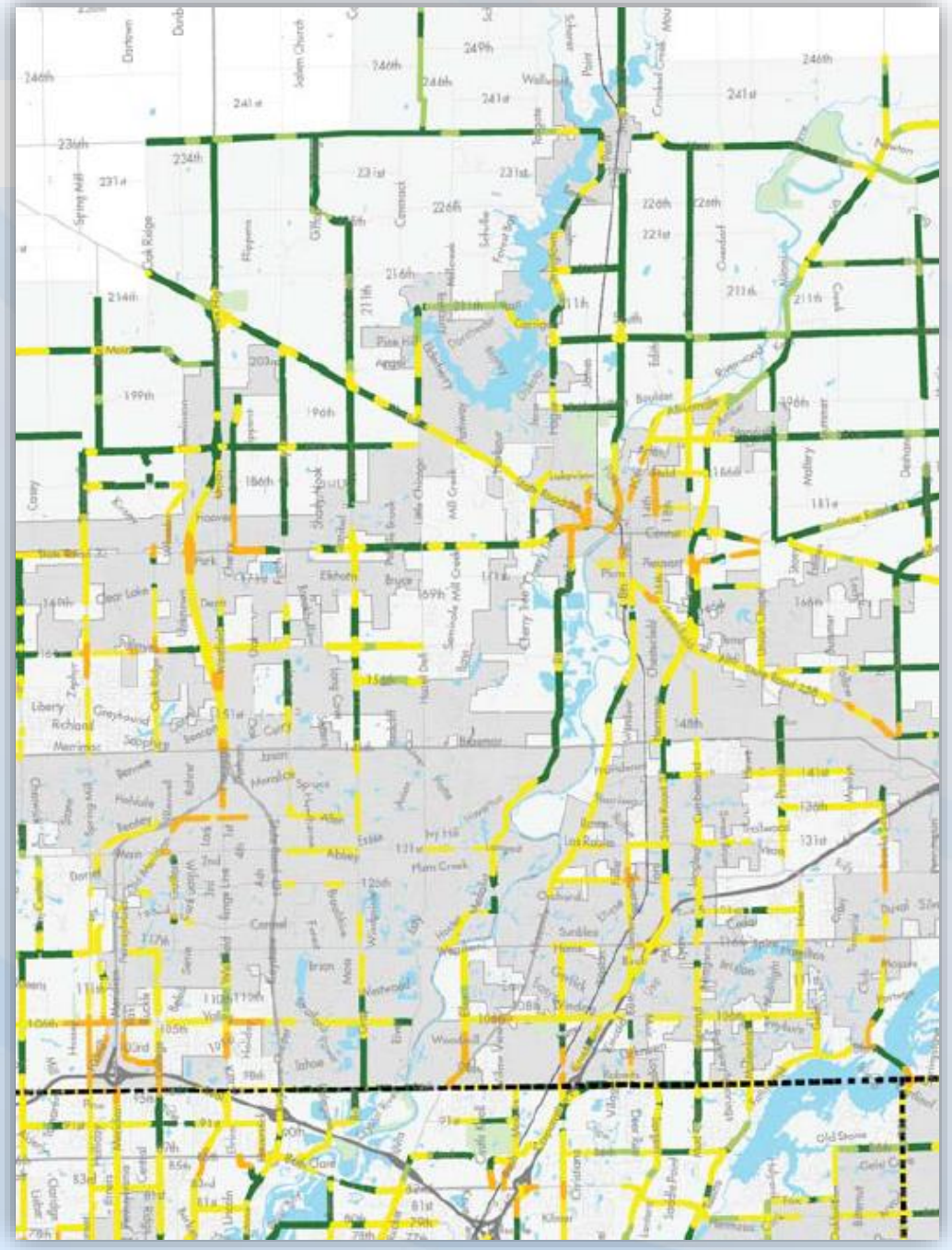
- Process:
  - 5-tier grid
  - Cross-referenced with gap network
  - Non-intersecting gaps were not assigned a tier
  - Individual county maps

- Tier 1 Priority Project
- Tier 2 Priority Project
- Tier 3 Priority Project
- Tier 4 Priority Project
- Tier 5 Priority Project
- Not Tiered Priority Project



Gap Tiers

- Process:
  - 5-tier grid
  - Cross-referenced with gap network
  - Non-intersecting gaps were not assigned a tier
  - Individual county maps



Tier 1 Priority Project
Tier 2 Priority Project
Tier 3 Priority Project
Tier 4 Priority Project
Tier 5 Priority Project
Not Tiered Priority Project

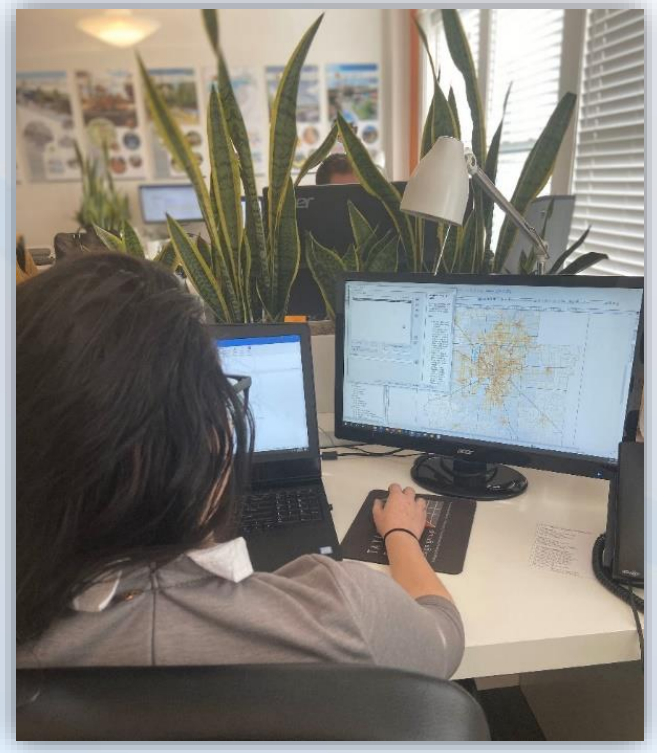
MPO Regional PEDESTRIAN PLAN INDIANAPOLIS MPO

Perspective

- Plan uses regional priorities to recommend investments
- May not match local priorities
- Plan does not propose what communities should do or build
  - data-driven analysis
  - resource for local pedestrian planning and implementation
  - Communities are encouraged to adapt the methodology to their own needs and apply their own priorities to this analytical process

Data Limitations

- Limited to data applicable to the entire MPA
- Incomplete data sets that excluded one or more county were not used to reduce bias
  - Fixed transit service
  - Health department data
- Local streets were left out for scale
- Communities and organizations with specific boundaries are encouraged to apply data that was left out of the regional analysis



IMPLEMENTATION RECOMMENDATIONS

Get more people walking

- Examine factors that affect how and where people are walking
- Examine concerns and challenges related to pedestrian connectivity
- Examine ways in which pedestrian infrastructure can impact the options and outcomes of walking

MPO Regional PEDESTRIAN PLAN INDIANAPOLIS MPO

Pedestrian Safety Measures

- Along the Roadway
  - Multi-Use Paths
  - Paved Shoulders
  - Sidewalks
  - Pedestrian Amenities

Pedestrian Safety Measures

Regional PEDESTRIAN PLAN INDIANAPOLIS MPO

ALONG THE ROADWAY

Multi-Use Paths

Multi-use paths, or shared-use paths, are wide, paved facilities that support non-motorized users such as pedestrians, cyclists, and skaters. These paths are located along or away from the roadway and may be found in transitional areas between residential, commercial, and rural uses. They connect our communities and serve as regional recreation destinations (FHWA, 2013).

Paved Shoulders

Paved shoulders are emergency stopping lanes for motorists. Shoulders are not intended for use by through traffic, and may be used by pedestrian and cyclists in areas without sidewalks or multi-use paths (FHWA, 2013). In rural areas, extra-wide shoulders separated from traffic with rumble strips may be appropriate. They may also be enhanced with colored or textured pavement to increase visibility.

Sidewalks

Sidewalks are exclusive, paved facilities for people to walk, run, and play away from motorized vehicles. They are the fundamental building blocks of the regional pedestrian system and provide access to high demand destinations such as employment centers, educational facilities, public transit, medical services, grocery stores, entertainment, and for exercise. Sidewalks may be located on one or both sides of the street and are commonly located in residential and commercial areas. Sidewalks offer safety and walking comfort for pedestrians in the regional transportation network (FHWA, 2013).

Pedestrian Amenities

Well-designed pedestrian environments may include pedestrian amenities such as benches, street trees, lighting, trash receptacles, and bus shelters to increase pedestrian comfort. Pedestrian amenities not only provide a place for pedestrians to stop, rest, and interact with others, they can also serve as protective barriers between the sidewalk and the street. Areas with pedestrian amenities should be maintained to prevent collection of debris, overgrowth, and potential tripping hazards to protect pedestrian mobility (FHWA, 2013).

MPO Regional PEDESTRIAN PLAN INDIANAPOLIS MPO

Pedestrian Safety Measures

- Across the Roadway
  - Accessible Curb Ramps
  - Automated Pedestrian Detection
  - Pedestrian Signalization
  - Crossing Islands
  - Curb Extensions
  - Raised Pedestrian Crosswalks
  - Marked Crosswalks
  - Pedestrian Overpasses/Underpasses
  - Advance Stop/Yield Lines
  - Road Diet
  - High-Intensity Activated Crosswalk Beacon (HAWK)
  - Rectangular Rapid Flash Beacon (RRFB)

Pedestrian Safety Measures

Regional PEDESTRIAN PLAN INDIANAPOLIS MPO

ACROSS THE ROADWAY

Accessible Curb Ramps

Accessible curb ramps provide access from the roadway to the sidewalk for people with mobility limitations (using assistive devices such as wheelchairs, walkers, or canes to move as a pedestrian), or those with visual or cognitive impairments. According to federal legislation, curb ramps must be installed at all intersections and midblock locations where pedestrians are crossing. Detectable warnings should be provided at the edge of the ramp to alert pedestrians they are about to cross the street (FHWA, 2013).

Automated Pedestrian Detection

Automated pedestrian detection devices are able to detect when a pedestrian is waiting at a crosswalk and send a signal to the system to switch to the "WALK" phase. Using the "DON'T WALK" signal, the devices are able to cut down on pedestrians crossing the road at inappropriate times. Automated pedestrian detection devices are beneficial in situations where pedestrians don't push buttons to cross the street, or where visually impaired pedestrians may not know there is a button to push. They provide convenient crossing indications and give pedestrians enough time to safely cross the street (FHWA, 2013).

Pedestrian Signalization

Where pedestrian volumes warrant them, pedestrian signals should be installed at controlled intersections to provide gaps in traffic flow and allow pedestrians enough time to safely cross the street. To encourage crossing compliance, signal timing should be convenient and favor the pedestrian. Crossing signals should be usable by pedestrians of all ages and abilities and provide both visual and audible cues (FHWA, 2013).

Crossing Islands

Crossing islands are protected refuge areas in medians that help pedestrians cross multi-lane roads. They increase walkability by allowing pedestrians to focus on one direction of traffic at a time. They reduce the amount of time pedestrians are exposed to vehicular traffic and provide adequate space to cross the road. They are appropriate at signalized and unsignalized intersections and mid-block crossings and increase pedestrian safety. Crossing islands should be paired with marked crosswalks to increase visibility and slow traffic (FHWA, 2013).

2

MPO Regional PEDESTRIAN PLAN INDIANAPOLIS MPO

Policies & Procedures

- Complete Streets Policies
  - Funding Policies
  - Planning Policies
  - Design Policies
  - Maintenance Policies

Policies & Procedures

Regional PEDESTRIAN PLAN INDIANAPOLIS MPO

COMPLETE STREETS POLICIES

Complete Streets policies address the funding, planning, and design of streets to ensure safe and equitable access for all users, including pedestrians, bicyclists, motorists, transit riders, and freight. In Central Indiana, the City of Indianapolis, the City of Westfield, the Indianapolis MPO, and INDOT have adopted Complete Streets policies. As of the writing of this plan, the town of Cumberland is currently in the process of adopting a similar policy.

The benefits of Complete Streets policies extend beyond the pedestrian; they also increase economic development, reduce transportation costs, and increase sustainability by encourage active modes of transportation (Federal

Complete Streets: Policy Typologies

Funding Policies

These policies set aside funding for new pedestrian improvement projects, programming, or maintenance of existing sidewalks and paths.

Planning Policies

These policies guide the identification and development of pedestrian improvement projects and programming.

Design Policies

These policies guide the physical design of street and pedestrian projects (materials, measurements, etc.).

Maintenance Policies

These policies specify how sidewalks and paths should be maintained (sweeping, snow removal, repair, etc.).

MPO Regional PEDESTRIAN PLAN INDIANAPOLIS MPO

Policies & Procedures

- Support Policies
  - Parking Policies
  - Encouragement Policies
  - Transit Integration Policies
  - Safety and Enforcement Policies
  - Education Policies

Policies & Procedures

Regional PEDESTRIAN PLAN INDIANAPOLIS MPO

SUPPORT POLICIES

Parking Policies

Parking policies are those that guide the pricing, location, and availability of vehicular parking opportunities. Where parking is expensive or limited, people may choose alternative modes of transportation, such as walking. Parking policies can improve the economy, environment, and overall wellness of our communities (Shoup, 2019).

Transit Integration Policies

Transit integration policies are those aimed at making the connections between walking and transit more convenient. These may include locating transit stops in areas with high population densities and/or high densities of people who may be more dependent on walking or public transit for the majority of their trips.

Safety and Enforcement Policies

Enforcement policies are those that guide the enforcement of existing traffic laws to increase pedestrian safety, access, and mobility. Effective safety enforcement policies partner with local organizations to expand pedestrian safety resources, coordinate with local officials to ensure that enforcement policies comply with local traffic laws, coordinate with design and planning personnel to determine locations where enforcement operations may be most effective, and offer public outreach opportunities to educate community members (National Highway Traffic Safety Administration, 2019)

Encouragement Policies

Encouragement polices are those that guide the encouragement of walking as an active, sustainable form of transportation. Encouragement policies such as social media campaigns, special events related to walking, community benefit programs, employer incentives, and collaboration with local bicycling and walking organizations can improve walkability (U.S. Department of Transportation, 2019).

Education Policies

Education policies are those that guide the instruction of safe and legal operation by road users and seek to reduce injuries and deaths through the education of residents.

2

MPO Regional PEDESTRIAN PLAN INDIANAPOLIS MPO

- Full Plan:
  - tinyurl.com/ulo2a8v
- Prioritization Maps:
  - tinyurl.com/u9m64da

Regional PEDESTRIAN PLAN

INDIANAPOLIS MPO

Approved: February 2020

ISDH: Injury Prevention Advisory Council (IPAC) +Indiana Violent Death Reporting System (INVDRS)

Unintentional Injury Data Presentation:
Pedestrian Fatalities in Indiana

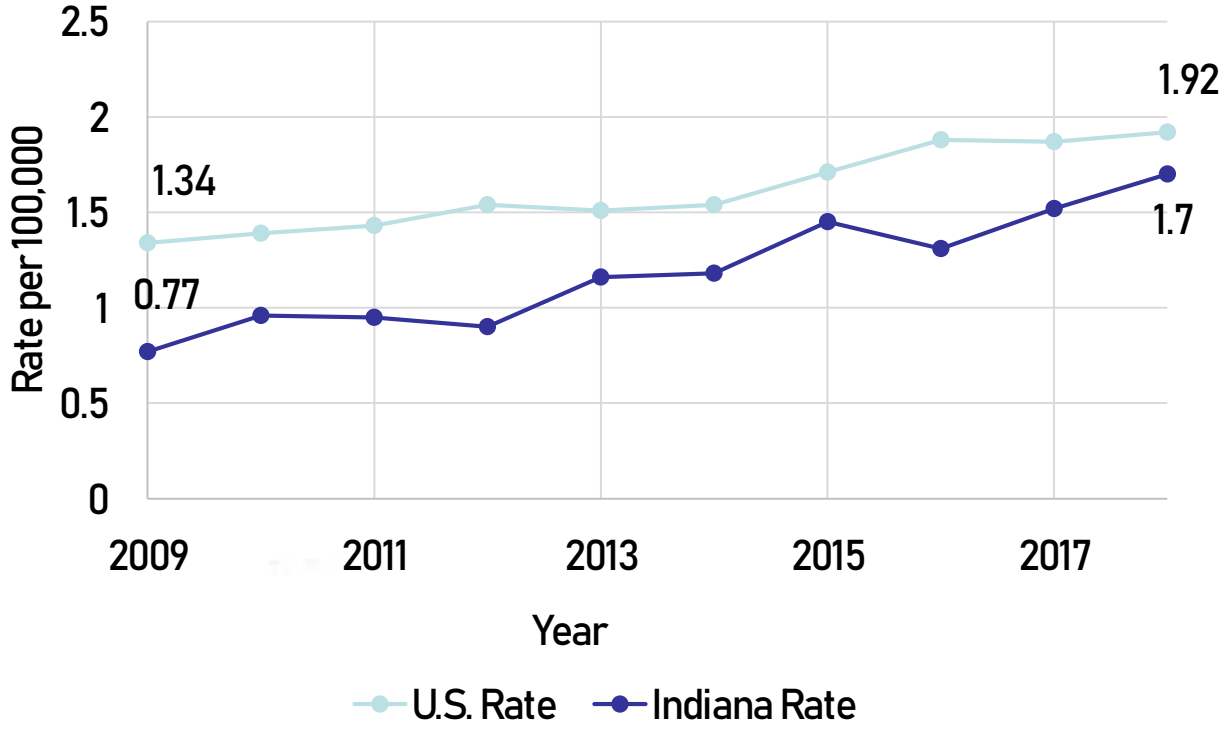
Andzelika Rzucidlo, *Injury Prevention Epidemiologist*
Trauma and Injury Prevention Division

Indiana State Department of Health

Email questions to: **Indiana trauma@isd.in.gov**

Pedestrian Fatalities

- Pedestrian fatalities have been steadily increasing across the United States and in Indiana
- Indiana's pedestrian fatality rate has more than doubled over the last 10 years

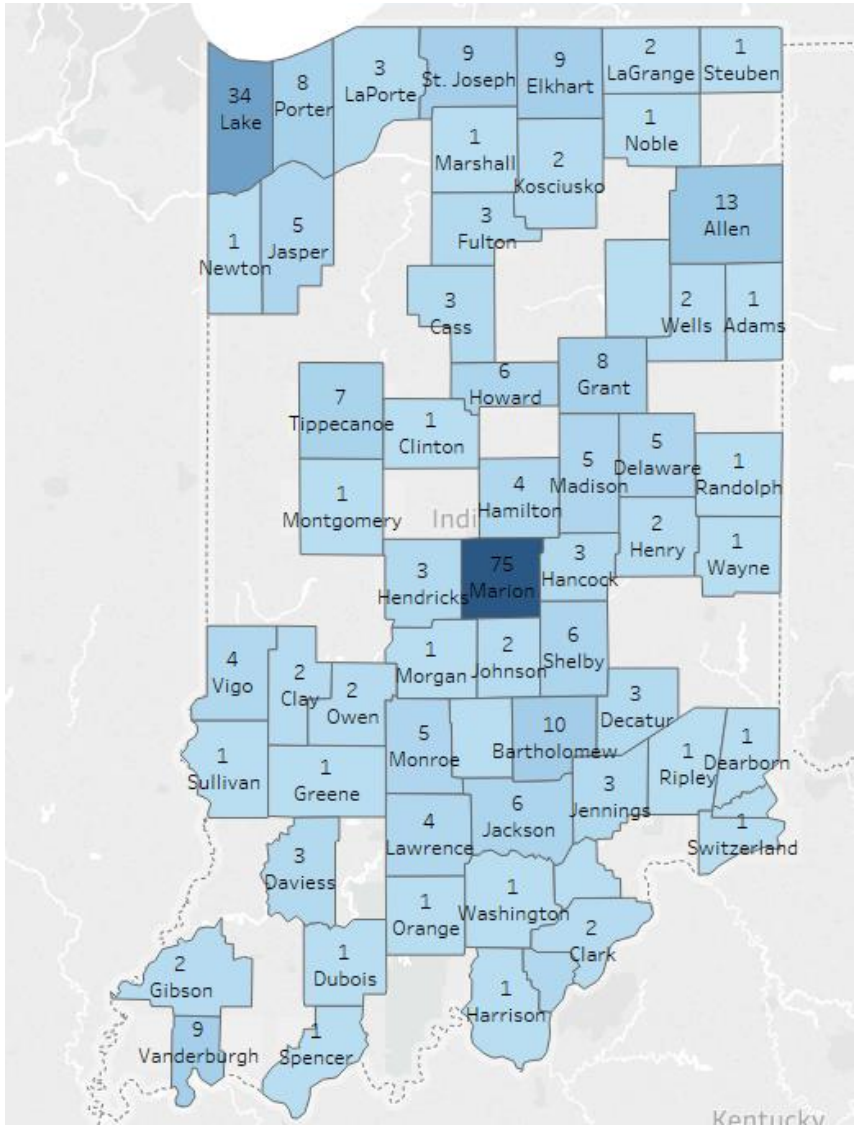


Data Source: Fatality Analysis Reporting System

Pedestrian Fatalities by Location (2016-2018)

- 302 fatalities in the past three years
- Marion County had the most fatalities (75)
  - Lake Co. had 34 and Allen Co. had 13 fatalities
  - These three counties encompass over 40% of all fatalities in the past three years
- Several counties had fatalities for all three years including:

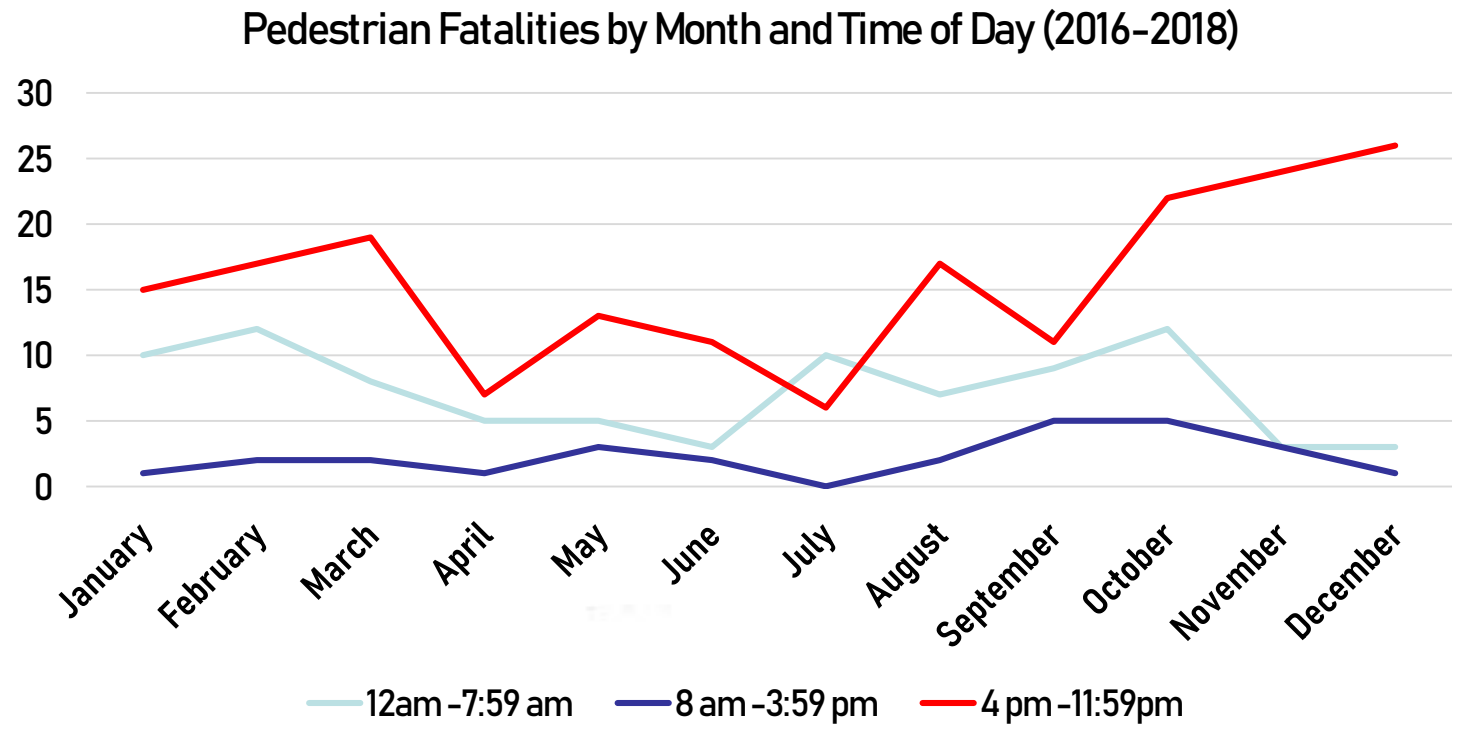
1. Allen
2. Delaware
3. Elkhart
4. Grant
5. Howard
6. Lake
7. Madison
8. Marion
9. Monroe
10. Porter
11. St. Joseph
12. Vanderburgh
13. Vigo



Data Source: Fatality Analysis Reporting System

Pedestrian Fatalities based on Dates and Time of Day

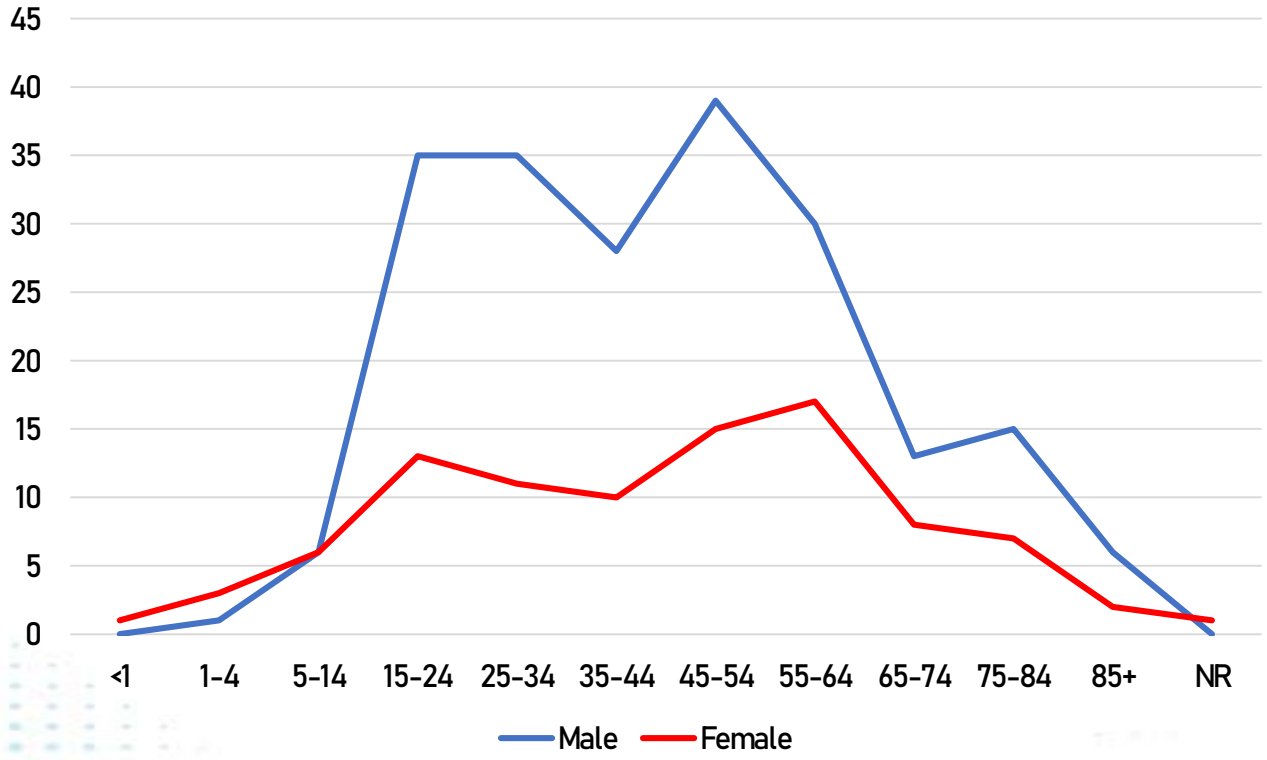
- October had the highest number of pedestrian fatalities
  - November and December both followed with the second highest



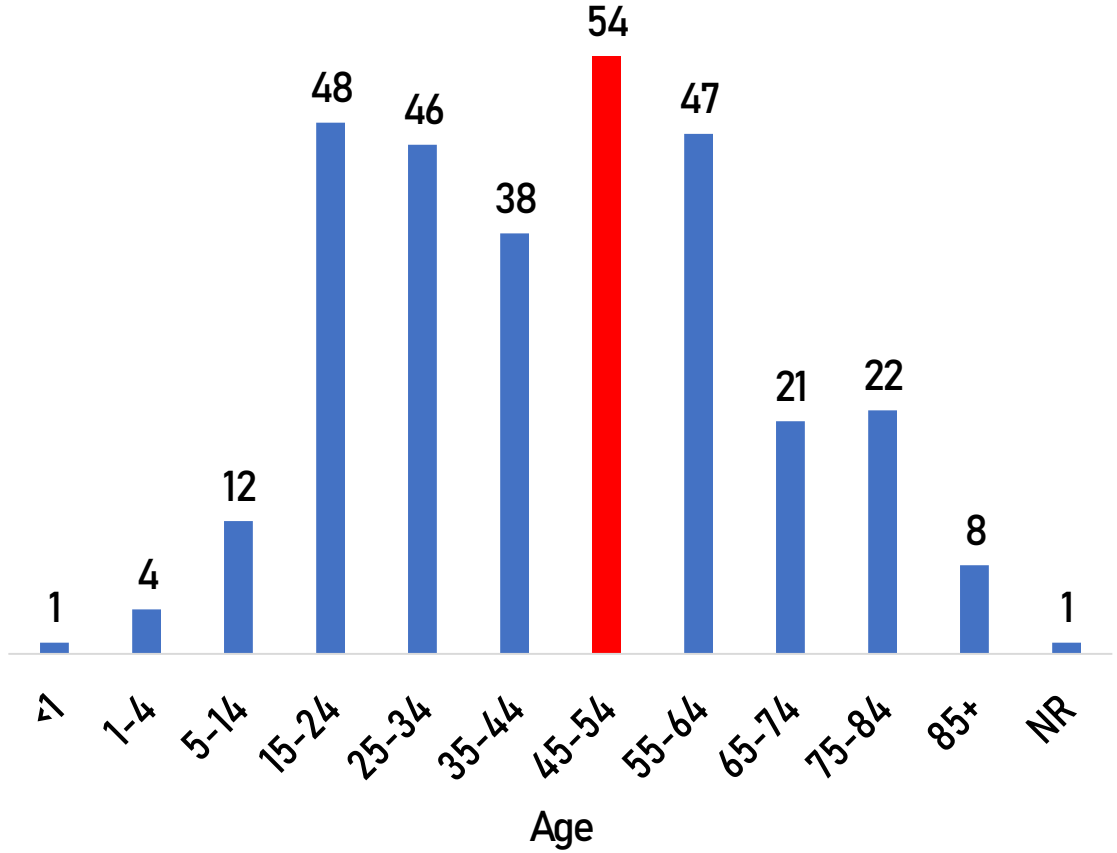
Data Source: Fatality Analysis Reporting System

Demographic Variables

Pedestrian fatalities are twice more likely to be male and be between the ages of 15-64



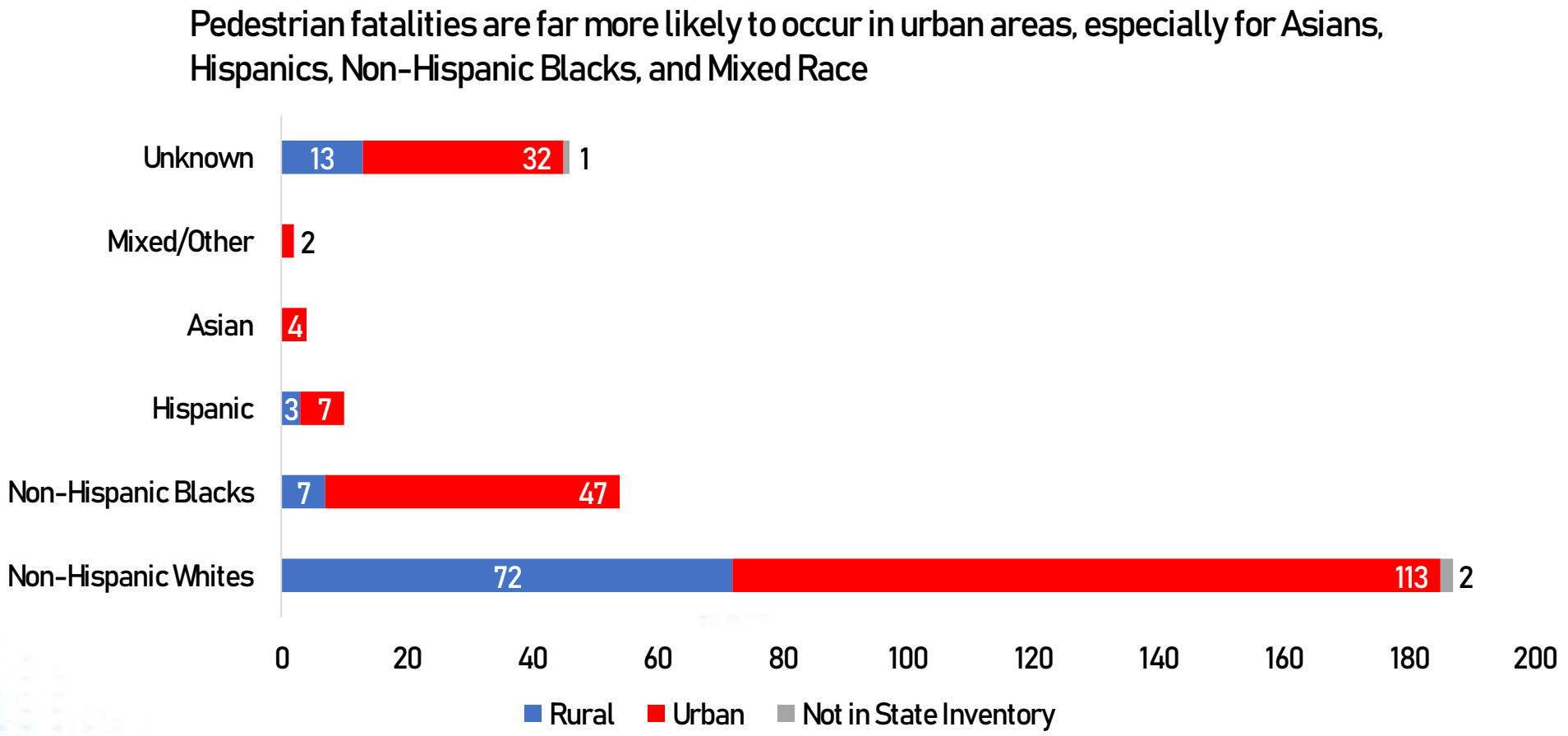
Pedestrians fatalities were highest for those aged 45-54 between 2016-2018



Data Source: Fatality Analysis Reporting System

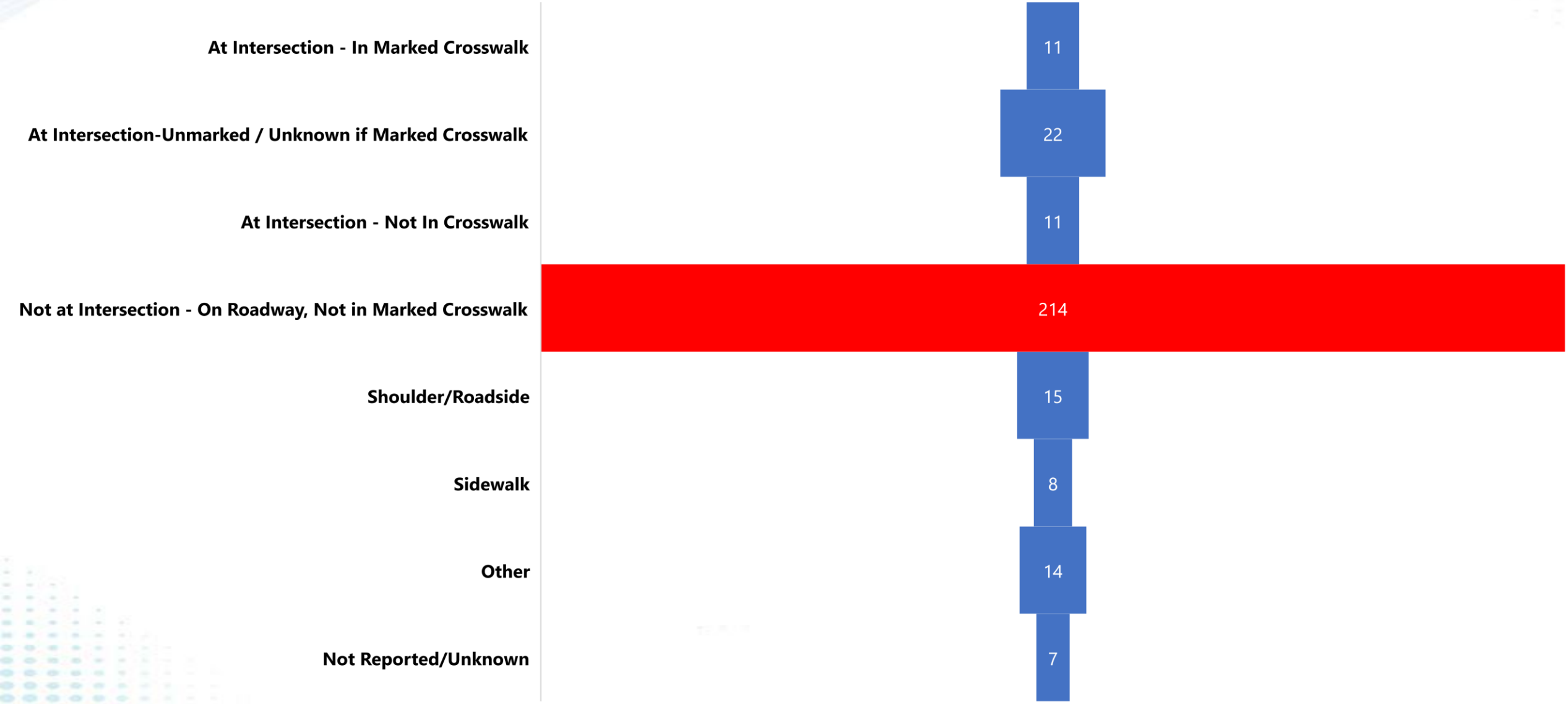
Demographic Variables (cont.)

- 67.9% of pedestrian fatalities occurred in an urban area



Data Source: Fatality Analysis Reporting System

Pedestrian Location at Time of Collision



Data Source: Fatality Analysis Reporting System

Conclusion

- Pedestrian fatality rate has more than doubled in the past ten years
- More pedestrian fatalities have:
  - Occurred in Marion Co., Lake Co., and Allen Co. (over 40% of total)
  - Happened between 4 pm and 11:59 pm
  - Ensued in urban areas
  - Been on a roadway that was not at an intersection or marked crosswalk area
- Males between the ages of 45-54 are most at risk

Data Source: Fatality Analysis Reporting System

Contact information

Andzelika Rzucidlo

Injury Prevention Epidemiologist

Trauma and Injury Prevention Division

317.234.7463 (office)

arzucidlo@isdh.in.gov

Email questions to: **Indiana trauma@isd.in.gov**

Indiana State Department of Health

Acquired Brain Injury: The Silent Epidemic

March 20, 2020

Wendy Waldman, BSW, CBIST
Rehabilitation Hospital of Indiana

Brain Injury – “The Silent Epidemic”

- The term “Silent Epidemic” is used to characterize the incidence of brain injury worldwide, in part because many cases are not recognized and are, therefore, excluded from official statistics
- You typically can’t “see” the disability after brain injury (that is why hundreds of different tests have been developed.
- Because of impaired awareness, most people with brain injury won’t report their injury or its effects
- Brain Injury does not discriminate, it can happen to anyone.

Acquired Brain Injury

An **Acquired Brain Injury** is an injury to the brain, which is not hereditary, congenital and degenerative.

- **All Brain Injuries** are considered **Acquired Brain Injuries.**
- Some examples of **Acquired Brain Injury** include stroke, intracranial hemorrhage, tumor, encephalopathy (e.g. hypoxia, infectious), neurotoxins or electric shock, TBI.

RHI

Acquired Brain Injury

Traumatic Brain Injury (TBI) is defined as an alteration in brain function, or other evidence of brain pathology, caused by an external force.

- Examples: motor vehicle accidents, motorcycle accidents, bicycle accidents, assaults, falls, gunshot wounds, concussions, sports accidents, etc.

- **Non-Traumatic Brain Injury**
  - Examples: Stroke, Aneurysm, Tumor, Overdose, Hypoxia or Anoxia, Disease process (non-progressive), Neurotoxins, Electric shock or lightening strike (ECT)

Mild TBI (mTBI)

- mTBI and concussion are often thought of as interchangeable terms
- Diagnostic Criteria for MTBI by the American Congress of Rehabilitation Medicine

A traumatically induced physiological disruption of brain function, as manifested by *at least one* of the following:

- Any loss of consciousness
- Any loss of memory before or after injury
- Any alteration of mental state
- Focal neurological deficit that may or may not be transient
- Severity of Injury does not exceed the following:
  - LOC ≤ 30 minutes
  - After 30 minutes, an initial GCS score of 13-15
  - PTA ≤ 24 hours

Common Effects after Brain Injury

- Cognitive:
  - Short-term memory loss - Awareness - Mental flexibility
  - Slowed processing speed - Lack of judgment - Lack of Initiation
  - Concentration/attention problems - Organizational Problems - Decision-making

- Physical
  - Seizures - Loss of smell and/or taste - Fatigue
  - Muscle Spasticity - Speech Impairments - Balance
  - Vision Issues - Headaches

- Emotional/ Behavioral
  - Depression - Irritability - Impulsivity
  - Anxiety - Egocentric Behaviors - Mood Swings

Populations at Risk of BI

- People with addiction issues
- People in domestic violence situations
- People in the criminal justice system
- People experiencing homelessness
- Athletes
- Males
- Veterans

Mental health population—may develop depression, anxiety, PTSD after the brain injury (up to 60% of TBI population has depression)

Undiagnosed Brain Injury

- “You just had a concussion”
- Never went to the doctor—lots of reasons!
- Other injuries distract
- Incorrect diagnosis

Important to ASK!

- OSU Screening Instrument
  - Originally published in 2007 by John Corrigan, PhD
  - A standardized procedure for eliciting lifetime history of TBI via a structured interview
  - Strong psychometric properties
- We utilize an adapted version of the OSU TBI-ID Short Version

Name:	Current Age:	Interviewer Initials:	Date:

RH

Ohio State University TBI Identification Method + ABI — Interview Form

Step 1

Ask questions 1-5 below.
Record the cause of each reported injury and any details provided spontaneously in the chart at the bottom of this page. You do not need to ask further about loss of consciousness or other injury details during this step.

I am going to ask you about injuries to your head or neck that you may have had anytime in your life.

1. In your lifetime, have you ever been hospitalized or treated in an emergency room following an injury to your head or neck? Think about any childhood injuries you remember or were told about.

   NO YES—Record cause in chart

2. In your lifetime, have you ever injured your head or neck in a car accident or from crashing some other moving vehicle like a bicycle, motorcycle or ATV?

   NO YES—Record cause in chart

3. In your lifetime, have you ever injured your head or neck in a fall or from being hit by something (for example, falling from a bike or horse, rollerblading, falling on ice, being hit by a rock)? Have you ever injured your head or neck playing sports or on the playground?

   NO YES—Record cause in chart

4. In your lifetime, have you ever injured your head or neck in a fight, from being hit by someone, or from being shaken violently?
   Have you ever been shot in the head?

   NO YES—Record cause in chart

5. In your lifetime, have you ever been nearby when an explosion or a blast occurred? If you served in the military, think about any combat- or training-related incidents.

   NO YES—Record cause in chart

Interviewer instruction:
If the answers to any of the above questions are "yes," go to Step 2. If the answers to all of the above questions are "no," then proceed to Step 3.

Step 2

Interviewer instruction:
If the answer is "yes" to any of the questions in Step 1 ask the following additional questions about each reported injury and add details to the chart below.

6. Were you knocked out or did you lose consciousness (LOC)?

   If yes, how long?

   If no, were you dazed or did you have a gap in your memory from the injury?

   How old were you?

Step 3

Interviewer instruction:
Ask the following questions to help identify a history that may include multiple mild TBIs and complete the chart below.

Have you ever had a period of time in which you experienced multiple, repeated impacts to your head (e.g. history of abuse, contact sports, military duty)?

If yes, what was the typical or usual effect—were you knocked out (Loss of Consciousness - LOC)?

If no, were you dazed or did you have a gap in your memory from the injury?

What was the most severe effect from one of the times you had an impact to the head?

How old were you when these repeated injuries began?

Ended?

Step 1	Step 2						
Cause	Loss of consciousness (LOC)/knocked out				Dazed/Mem Gap		Age
	No LOC	< 30 Min	30 Min-24 hrs	> 24 hrs	Yes	No	

If more injuries with LOC: How Many? ____ Longest knocked out? ____ How many ≥ 30 mins.? ____ Youngest age? ___

Step 3	Typical Effect				Most Severe Effect		Age	
Cause of repeated injury	Dazed/ memory gap, no LOC	LOC	Dazed/ memory gap, no LOC	LOC < 30 min	Dazed/Mem Gap	LOC > 24 hrs.	Begin	Ended

Step 4			
Cause	Medication Treatment (Y/N)	Hospitalization (Y/N)	Age

Step 4

Interviewer instruction:
Ask the following questions to help identify other Aquired Brain Injury (ABI) and complete the chart below.

I am going to ask you about any other illness or medical problem you may have had.

1. Have you ever been told that you have had a stroke or bleeding in your brain? *Other words you may have heard include "ruptured aneurysm" or "infarct"*

   NO YES—Record cause in chart

2. Have you ever been told that you have had a loss of oxygen to the brain? *This could result from losing consciousness or passing out after a drug overdose, strangulation, near-drowning, heart attack/heart stopping, breathing stopped or inability to wake up after a medical procedure, excessive blood loss, complications of anesthesia.*

   NO YES—Record cause in chart

3. Have you ever been electrocuted or struck by lightning?

   NO YES—Record cause in chart

4. Have you ever had an infection in your brain? *You may have heard the words "meningitis" or "encephalitis"*

   NO YES—Record cause in chart

5. Have you ever had a tumor in your brain?

   NO YES—Record cause in chart

6. Have you ever had brain surgery? *This could have been surgery for epilepsy, shunt placement, or tumor removal.*

   NO YES—Record cause in chart

7. Have you ever been exposed to toxic hazards? *This could result from exposure to lead, mercury, uranium/radiation, environmental hazards, or carbon monoxide.*

   NO YES—Record cause in chart

Adapted from the Ohio State University TBI Identification Method (Corrigan, J.D., Bogner, J.A. (2007). Initial reliability and validity of the OSU TBI Identification Method. *J Head Trauma Rehabil*, 22(6):318-329.

*Addition of **Step 4** is provided by the RHI Resource Facilitation Department.

Education and Resources for Individuals with ABI

Brain Injury Association of Indiana(BIAI)

www.biaindiana.org

- 1st Charter Chapter of Brain Injury Association of America (BIAA).
- Dedicated to reducing the incidence and impact of brain injury through education, advocacy, support, prevention and by facilitating inter-agency commitment and collaboration.
- Services Provided:
  - Statewide information, referral and connection to services, resources and support for individualized needs.
    - By phone, email and in person.
  - Advocacy by responding to their challenges and representing their concerns through legislative efforts and active support of programs created for their needs.
  - Support Groups
  - Etc.

Professionals that work with Acquired Brain Injury

- Neuropsychologists
- Neurologists
- Physiatrists (PM&R)
- Cognitive Rehabilitation Providers
- OT, PT, SLP
- Mental Health Professionals
- Social Services Providers
- Indiana Vocational Rehabilitation Providers
- Etc.

Resource Facilitation

- Specialized service for people with brain injuries who have a return to work or return to school goal
  - Funded by Vocational Rehab
  - Assists with access to services & supports
  - Coordination among those services & supports
  - Provide education on BI and resources
  - Provided by a team of brain injury specialists
  - Specific service is tailored to specific needs

Evidence-Based Group Interventions

- Brain Injury Coping Skills:
  - Manualized group intervention designed to help both survivors with brain injuries as well as family members or caregivers.
  - Large amount of education and training about the brain injury, as well as important therapeutic skills in learning how to deal with the effects of the injury.
  - Research shows participants report feeling more confident in their ability to handle their challenges than those who do not get BICS. They also report improvement in irritability, anger, impulsivity, and emotional challenges
- Couples CARE- Caring and Relating with Empathy
  - Manualized intervention designed to help a couple improve and enhance their relationship after a brain injury.
  - Couples CARE participants report significant improvements in their satisfaction, adjustment, and communication skills when compared to those who do not go through the program.

Concussion/ mTBI Services

- Post Concussion Syndrome (PCS) Service
  - Neuropsychologist leads an interdisciplinary team in managing persistent symptoms of concussion (
  - Services include neuropsychological consult, assessment, and individual and group treatment as indicated. The neuropsychologist works with the treatment team including speech therapy, vision therapy, vestibular and physical therapy to provide evidence-based treatment of PCS.

COPE Concussion Group

- 10-session group treatment which Integrates psychoeducation, psychotherapy, and cognitive rehabilitation strategies with the overall goal of improving coping and self-efficacy.
- Participants will learn about the effects of concussive injury, what to expect in terms of recovery, risk factors for prolonged recovery, and various treatments available for specific symptoms.
  - Including emotional regulation strategies based on Cognitive-Behavior Therapy (CBT) and Mindfulness-Based Stress Reduction (MBSR).
  - Including cognitive rehabilitation strategies to improve attention, memory, and executive functioning.

Indiana Brain Injury Support Groups

https://biaindiana.org/support/

WW- October 2017

Brain Injury Support Groups- Indiana

Bloomington (Monroe County)
IU Dept. of Speech & Hearing,
200 S. Jordan Avenue
Rebecca Eberle rebeberl@indiana.edu,
Laura Karcher, lkarcher@indiana.edu,
812.855.6251
1st Monday, 5:30 to 6:30 pm, followed by a half hour of social interaction time

Elkhart (Elkhart County)
Elkhart General Hospital, Cafeteria
600 East Boulevard
Dr. Wendell Rohrer
Christine Whitehead: 574.523.3242
3rd Tuesday, 5:30 – 6:30 pm

Evansville (Vanderburgh County)
HealthSouth Rehabilitation Hospital
4100 Covert Ave.
Dawn Westfall- 812.437.6157
2nd Thursday, 6:00 – 7:00 pm

Ft. Wayne (Allen County)
Parkview Regional Medical Center
11109 Parkview Plaza Dr.
Conference Room A, B & C
Kristin Smith- 260.373.9765
1st Monday, 6:30 – 8:30 pm

Ft. Wayne Group
NeuroSpine and Pain Center
Lutheran Hospital (Allen County)
7956 West Jefferson Blvd.
Cindy Shepherd- 260.435.6143
3rd Monday, 6:30-8:00 pm

Kokomo (Howard County)
Howard Regional Hospital
West Campus, Dining Rm.
1008 N. Indiana Avenue
Russ and Sue Ragland- 317.219.6116
3rd Monday, 7:00 – 9:00 pm

Lafayette (Tippecanoe County)
St. Elizabeth Outpatient Rehab.
1260 N. 17th Street
Quarterly meetings:
March 23rd 5-6 pm
June 22nd 5-6 pm
September 21st 5-6 pm
December 14th 5-6 pm
Amy Becker &Wendy Pullen-
765.423.6885

LaGrange (LaGrange County)
LaGrange County Council on Aging
125 West Fenn Street
Randy Packer- (work) 260.463.9280
(cell) 260.350.3626
4th Thursday, 6:30 pm

NW Indiana (Lake County)
Methodist Hospital
Pavilion B Conf Rm CACS
200 E 89th Ave
Merrillville, IN 46410
Cindy Johnson- 219.308.4579
4th Tuesday- 7pm-8pm CST

Northern Indiana/Michigan
2929 Niles Road, St. Joseph, MI
Jayne Daniel- 269.208.2862
Sheryl Haufman- 269.208.1506
3rd Wednesday, 7:00 – 8:30 pm

Bridging the Gap (Marion County)
RHI Neuro Rehab Center
9531 Valparaiso Court (Marion County)
Susie Crane- susan.crane@rhin.com ,
Pam Nihiser- pamela.nihiser@rhin.com,
317.329.2237
4th Monday, 6:30 - 8:30 pm

Indianapolis Southside (Marion County)
Faith Assembly of God Church,
186 Royal Road (Marion County)
Julia Pratt- 317.244.4463/ 317.430.1701
juliapratt1@hotmail.com
2nd Monday, 7:00 pm

Indianapolis – Westside (Marion County)
Rehabilitation Hospital of Indiana
4141 Shore Drive
Elaine and Paul Howard- 317.299.6433
1st Monday, 6:30 - 8:30 pm

Indianapolis (Marion County)
Community Rehabilitation Hospital
7343 Clearvista Drive
Mary Myers- 317.585.5426
4th Wednesday, 5:30-6:30 pm

"Heads or Tails" Support Group
"Twenties & Thirties" (Marion County)
Trader's Point Christian Church, B224
6590 S. Indianapolis Road, Whitestown
Susie Fitt- 317.408.2183
Wendy Waldman- 317.410.3532
2nd Tuesday, 6:30 – 8:30 pm

Marion Support Group (Grant County)
Marion General Hospital
330 Wabash Ave., Marion, IN
5th floor conference room
Gary Turner – 260.273.0529
2nd Monday, 6:30-8:30 pm

Muncie (Delaware County)
Family Practice Center
221 N. Celia Avenue
Patt Webb- 765.748.6957
1st Tuesday, 5:30-8:00 pm

Mishawaka (St. Joseph County)
St. Joseph Regional Medical Center
5215 Holy Cross Parkway, Mishawaka, IN 46545
Education Center A (in hospital)
Rachel Mosir- 618-719-4214
Penny Torma- 574-286-8767
4th Tuesday, 6:30 to 8:30 pm

WW- October 2017

Hearts of Hope (Marshall County)
St. Joseph Regional Medical Center-
Plymouth Medical Center
1915 Lake Ave. Plymouth, IN 46563
Boardroom
3rd Thursday, 6:30-7:30 pm EST
Kathy Schoff, Parent Advocate-
574.933.1808

New Albany (Floyd County)
Southern Indiana Rehab Hospital,
Theater
3104 Blackiston Boulevard
Bob & Beverly Setree- 502.452.9851/
502.819.2542
3rd Thursday, 7:00 – 8:30 pm

Batesville (Franklin County)
Margaret Mary Hospital
321 Mitchell Ave, Batesville
Brandi Hofer- 812-934-6638
2nd Wednesday - 5:30-6:30pm

Anderson (Madison County)
Anderson Public Library
Red Bud Room
111 E 12th St, Anderson, IN 46016
3rd Monday, 5:45 pm
Becky Jones Reed- 765.278.6331
Michael Boyer

Mooresville (Morgan County)
The Morgan County Miracles"
1st United Methodist- Mooresville
900 Indianapolis Road
Mooresville, IN 46158
Julie Workman- 317-525-5897
Last Thursday of each month- 7 pm

Richmond/Milton (Wayne County)
Milton Christian Church,
307 S. Central Ave., Milton
Matt Duffin- 765.259.2917
3rd Tuesday, 6:30 – 7:30 pm

Terre Haute (Vigo County)
Vigo County Main Library, Room A
7th and Poplar Streets
Bryan Gilbert- 812.223.5442
2nd Thursday, 7:00 – 8:30 pm

Vincennes (Knox County)
Good Samaritan Hospital
520 S. 7th Street
Barb Toole- 812.885.3613
2nd Monday, 6:00 – 7:30 pm

Wabash (Wabash County)
Parkview Wabash Hospital
Conference Room by cafeteria
710 North East Street
Trisha Robbins 260-388-7867
3rd Tuesday, 6:30- 8:30

Brain Injury Websites and Fact Sheets

- **Brain Injury Association of Indiana: biaindiana.org**
  - The Brain Injury Association of Indiana is a nonprofit 501 c (3) service organization dedicated to reducing the incidence and impact of brain injury through education, advocacy, support, prevention and by facilitating inter-agency commitment and collaboration.
- **Brain Injury Association of America: http://www.biausa.org/**
  - The Brain Injury Association of America (BIAA) is the voice of brain injury. We are dedicated to advancing awareness, research, treatment, and education and to improving the quality of life for all individuals impacted by brain injury.
- **Traumatic Brain Injury Model Systems: http://www.msktc.org/tbi/**
  - The MSKTC is a national center that helps facilitate the knowledge translation process to make research meaningful to those with spinal cord injury (SCI), traumatic brain injury (TBI) and burn injury (Burn).The MSKTC works closely with researchers in the 16 Traumatic Brain Injury (TBI) Model Systems to develop resources for people living with traumatic brain injuries and their supporters.
- **Resource Facilitation for Individuals with Brain Injury: http://www.resourcefacilitationrtc.com**
  - Prepare an individual with brain injury so they may return to the workforce. Resource Facilitation assists with access to services and supports to enhance recovery and make informed choices to meet their goals.

Brain Injury Educational Resources cont.

- **Brainline: http://www.brainline.org/**
  - BrainLine is a national multimedia project offering information and resources about preventing, treating, and living with TBI. BrainLine includes a series of webcasts, an electronic newsletter, and an extensive outreach campaign in partnership with national organizations concerned about traumatic brain injury.

- **Lash and Associates Publishing/ Training Inc.: http://www.lapublishing.com/home.**
  - Lash and Associates Publishing/ Training Inc. is the Leading Source of Information and Training on Brain Injury, Blast Injury and PTSD in Children, Adolescents, Adults and Veterans

- **United States Brain Injury Alliance: http://usbia.org/**
  - The mission of the United States Brain Injury Alliance is to engage the community in preventing brain injury and improving lives.

- **Center for Disease Control and Prevention- Traumatic Brain Injury: https://www.cdc.gov/traumaticbraininjury/**
  - CDC's research and programs work to prevent TBIs and help people recognize, respond, and recover if a TBI occurs.

- .

Brain Injury Educational Resources cont.

- **National Resource Center for TBI- Virginia Commonwealth University: http://www.tbinrc.com/**
  - The mission of the National Resource Center for Traumatic Brain Injury (NRCTBI) is to provide relevant, practical information for professionals, persons with brain injury, and family members. With input from consumers and nationally recognized experts, the NRCTBI have developed a wide variety of assessment tools, intervention programs, and training programs.
- **National Institute of Neurological Disorders and Stroke: https://www.ninds.nih.gov/**
  - NINDS's mission is to supports and performs basic, translational, and clinical neuroscience research through grants-in-aid, contracts, scientific meetings, and through research in its own laboratories, and clinics. NIND funds and conducts research training and career development programs to increase basic, translational and clinical neuroscience expertise and ensure a vibrant, talented, and diverse work force
- **ACRM- American Congress of Rehabilitation Medicine: https://acrm.org/resources/professional/**
  - ACRM is a vibrant group with diverse individual backgrounds from all over the world — all united with the common interests in rehabilitation and evidence-based research to enhance the lives of those with disabling conditions.

For more information on:

- Acquired Brain Injury
- Information, Referral and Triage for Brain Injury
- Screening for brain Injury and next steps
- Resource Facilitation
- Brain Injury Community Resources

Contact Wendy Waldman
wendy.waldman@rhin.com
317.329.2235

References

Alexander, 1992; Kreutzer, Seel & Gourley, 2001; Varney, Martzke & Roberts, 1987

Anstey KJ, 2004, Brain Injury.com

Bogner, J.A., Whiteneck, G.G., MacDonald, J., Juengst, S.B., Brown, A.W., Philippus, A.M., Marwitz, J.H., Lengenfelder, J., Mellick, D., Arenth, P., & Corrigan, J.D. (2017). Test-related reliability of traumatic brain injury outcome measures: A traumatic brain injury model systems study. *Journal of Head Trauma Rehabilitation, 32*(5): E1-E16.

Brain Injury Association of America: http://www.biausa.org/

Corrigan, J.D., Bogner, Ohio Valley Center for Brain Injury Prevention and Rehabilitation. With contributions from Minnesota Department of Human Services State Operated Services. *Accommodating the Symptoms of TBI*, https://tbi.osu.edu/modules/6

References cont.

Corrigan, J.D. & Bogner, J.A. (2007). Initial reliability and validity of the OSU TBI Identification Method. *Journal of Head Trauma Rehabilitation, 22*(6):318-329.

Corrigan, J.D., Bogner, J.A., Mellick, D., Bushnik, T., Dams-O'Connor, K., Hammond. F.M., Hart, T., & Kolakowsky-Hayner, S. (2013). *Archives of Physical Medicine and Rehabilitation, 94*:1940-1950.

McKinlay, A., Corrigan, J.D., Bogner, J.A., & Horwood, J.L. (2017). Obtaining a history of childhood traumatic brain injury using the Ohio State University TBI identification method to elicit adult recall. *Journal of Head Trauma Rehabilitation, 32*(6):E24-E28.

http://ohiovalley.org/informationeducation/screening/index.cfm

http://ohiovalley.org/tbi-id-method/

Traumatic Brain Injury Model Systems: http://www.msktc.org/tbi/

Questions?

Thanks for joining!

Feel free to invite new attendees for the next meeting on March 20th!

Indiana State Department of Health