# Welcome! Advisory Council on Traffic Safety

April 10, 2024

Note: Today's meeting will be recorded for record keeping purposes only







#### Welcome and Introductions

- Chairs' Welcome and Introductions
- Approve Today's Agenda
- Approve Minutes from February 14 Meeting



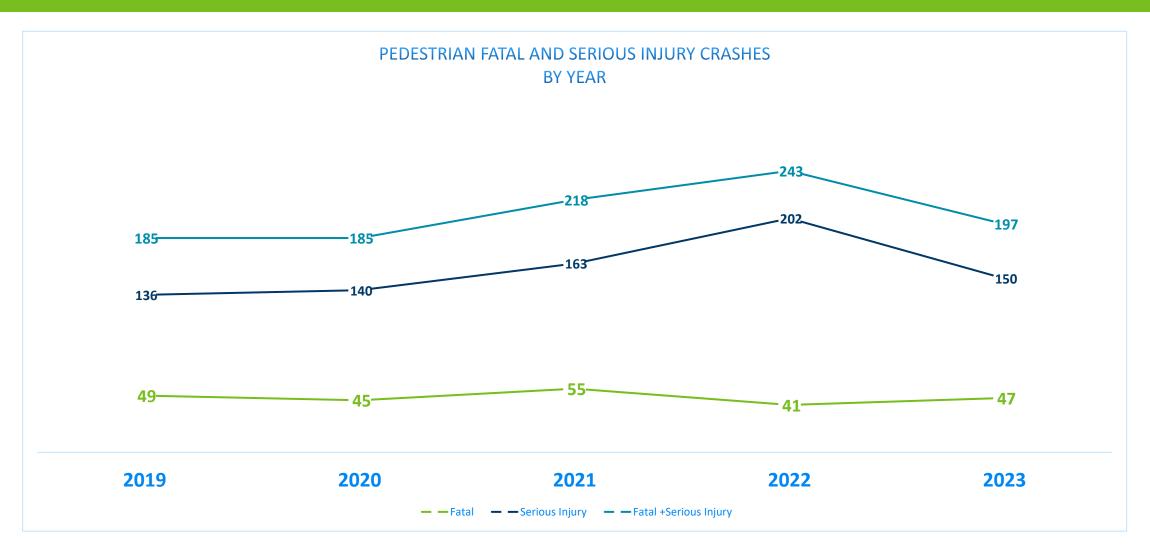
# Pedestrian and Bicycle Crashes in Minnesota

Derek Leuer, PE | MnDOT Office of Traffic Engineering

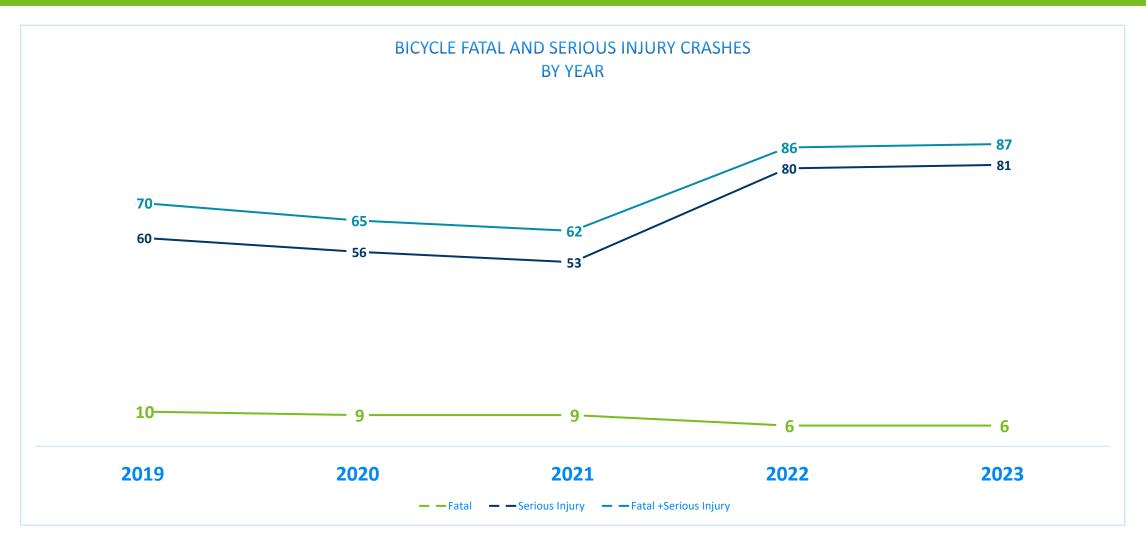


Website: mndot.gov/trafficeng/index.html
Photo Source: Toole Design Group

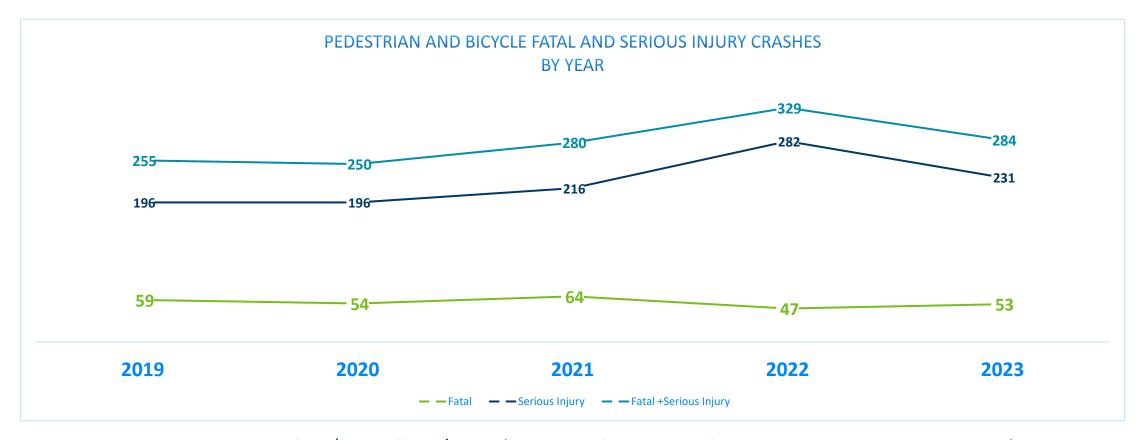
# Pedestrian and Bicycle Crashes; 2019-2023



# Pedestrian and Bicycle Crashes; 2019-2023



# Pedestrian and Bicycle Crashes; 2019-2023



Economic Impact estimated at \$1.2 Billion/ Year (MnDOT Planning and Programming Economic Costs)

Record High for Pedestrian Fatalities; 157 (1971) Record High for Bicycle Fatalities; 24 (1977)

#### Pedestrian Typology Study; Purpose

- Study Goal: Understand underlying systemic and environmental risk factors for pedestrian deaths and injuries
- Approach: Merge multiple existing statewide sources and analyze them in conjunction to better understand and explain pedestrian crashes



Photo source: Toole Design Group

# Approach

- This study is exclusively focused on pedestrian crashes
- Collected, inventoried, and consolidated data for systemic analysis:
  - Crash reports,
  - Roadway attributes, and
  - Land use characteristics



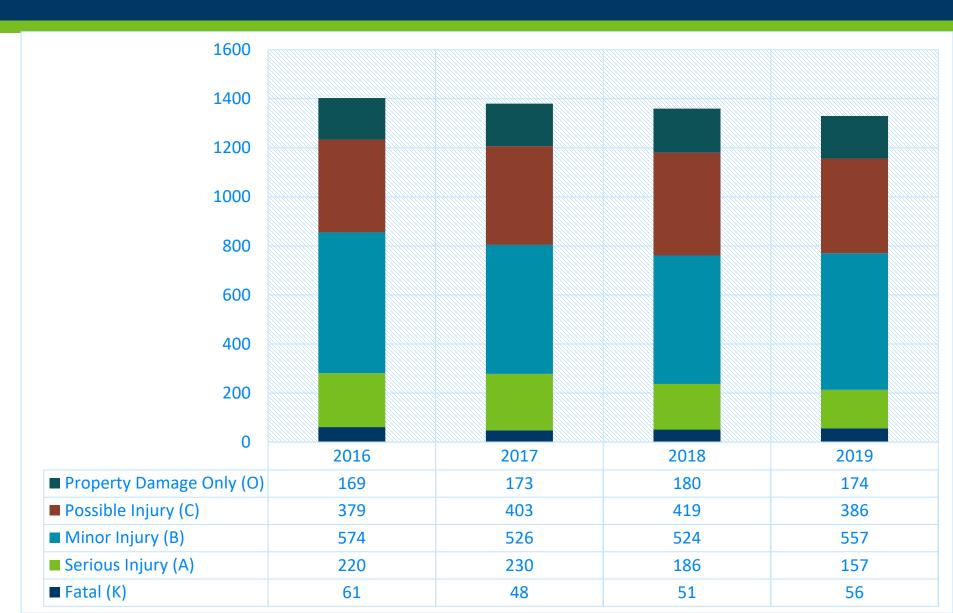
Photo source: Toole Design Group

#### Crash Data in Minnesota

- Crash data come from police reports aggregated by the Minnesota Department of Public Safety and shared with MnDOT.
- Study dataset: 2016-2019. DPS previously overhauled crash reporting system.
- Roadway and contextual data can be joined to crash data spatially to enrich our understanding of crash dynamics and context.
  - Some roadway variables are ONLY available for certain types or subsets of roadways

#### Year-to-Year Crash Data

- Year-to-year changes do not necessarily indicate a meaningful trend.
- Need to pool the data across several years to understand broader patterns.



#### Descriptive Analysis Results

- Crashes by SPACE score
- Crashes by underlying SPACE input data race, poverty status, reservations, and other attributes
- Crashes by location type and roadway type
- Note: different categories of severity analyzed, depending on data coverage, analysis type, and sample size

	Grouping 1 (Used for SPACE score analysis and Crash Trees)	Grouping 2 (Used for roadway attributes descriptive analysis)
Severe	Fatal (K) + Injury A	Fatal (K) + Injury A/B •
Non-Severe	Injury B/C + PDO	Injury C + PDO

#### Pedestrian Risk Factors: Correlation vs Causation



• e.g., conflicting movements

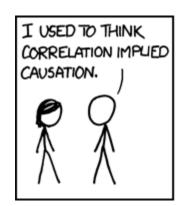
Factors associated with exposure

• e.g., pedestrian generators

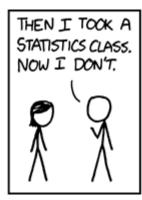
Factors associated with risk of a severe outcome

mndot.gov

• e.g., high motor vehicle speeds



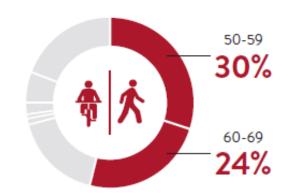






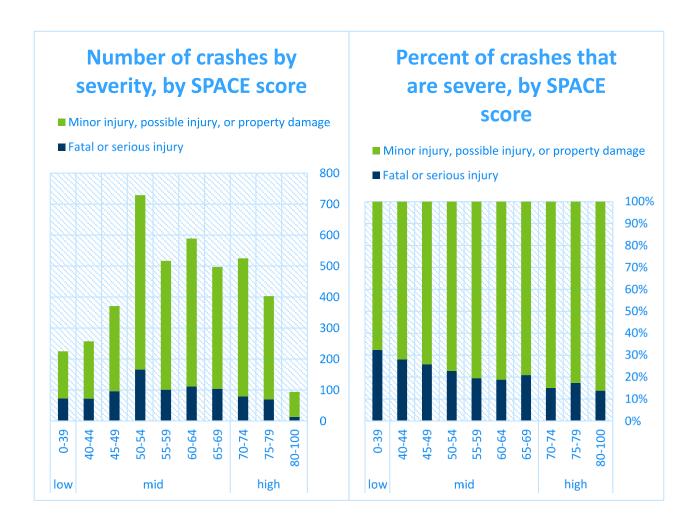
#### Pedestrian Crashes by SPACE Score and Severity

- Higher numbers of crashes occurred in areas with mid-range SPACE scores.
- The percentage of high-severity crashes did not follow this pattern.



#### More than half

of fatal and injury pedestrian crashes occur in areas with mid-range Suitability of Pedestrian and Cycling Environment (SPACE) scores (50-69).



# Crashes by SPACE Demographic Inputs: BIPOC Communities + Low Income



Areas with high poverty rates have 3.9x as many fatal and injury pedestrian crashes per square mile as high income/low poverty areas.

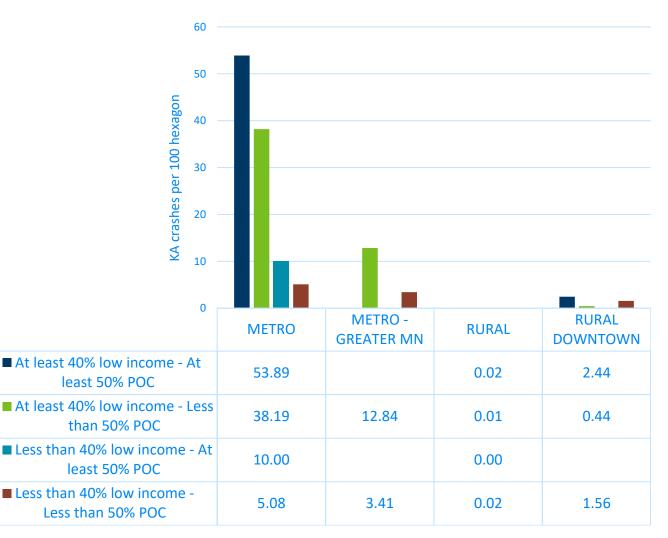


Areas where a majority of residents are

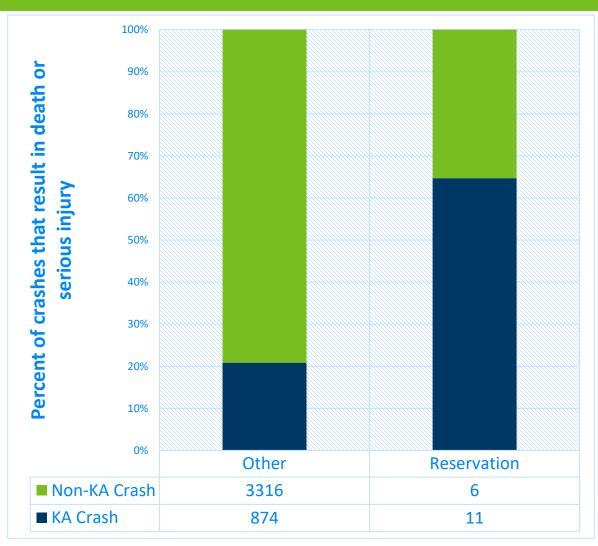
Black, Indigenous, and People of Color have almost

as many fatal and injury pedestrian crashes per

square mile as majority white areas.

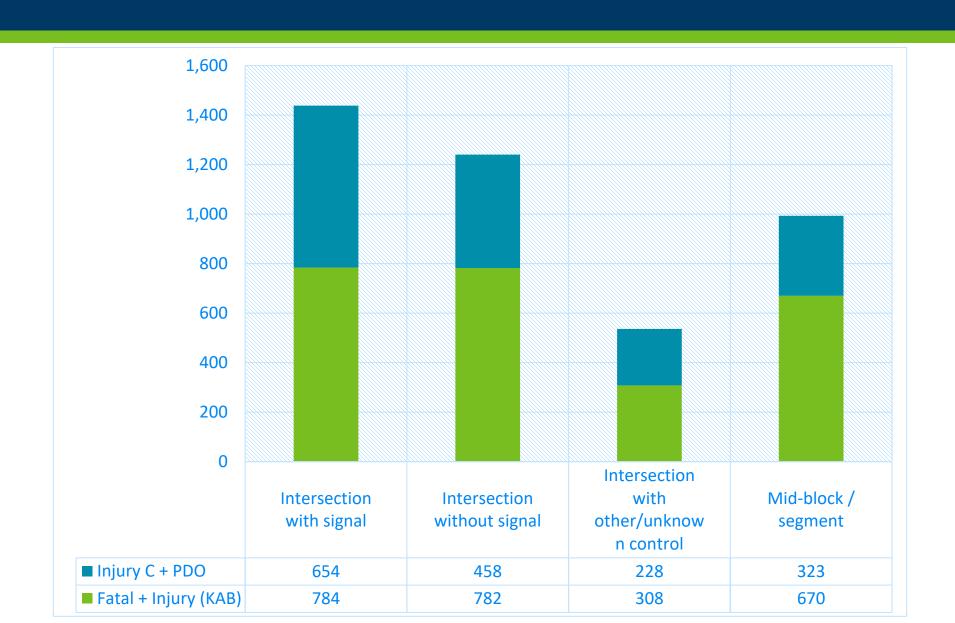


# Crashes by SPACE Demographic Inputs and Severity: Reservations



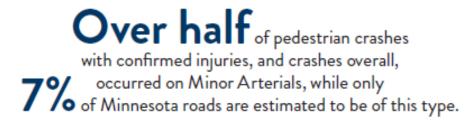
Note: Crashes on reservations may be under-reported in DPS/MnDOT's database.

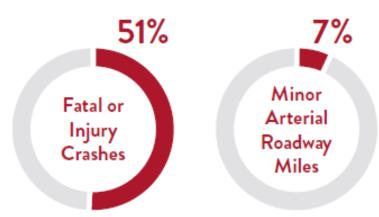
# Crashes by Location Type and Severity



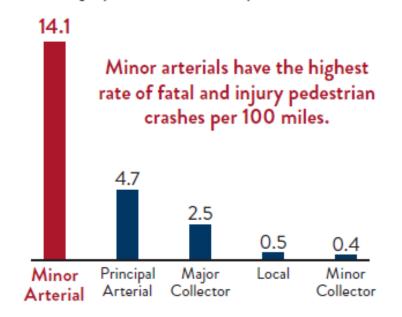
# Pedestrian Crashes by Functional Class

Functional classification is the grouping of streets and highways into classes or systems according to the character of service they are intended to provide.



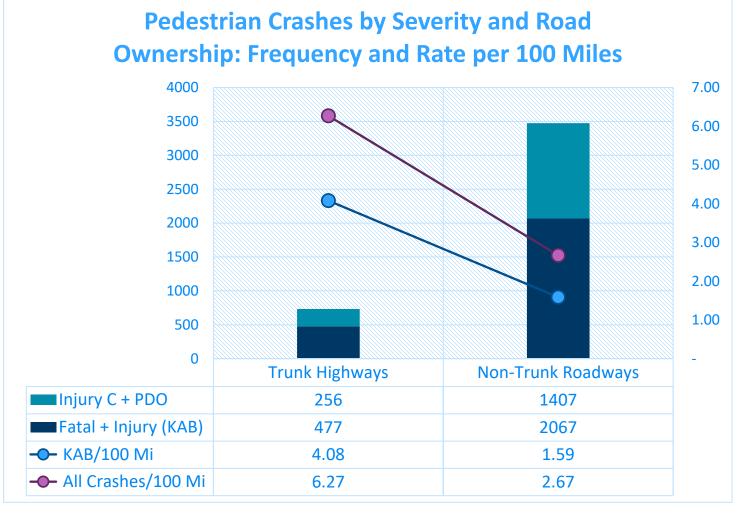


Minor arterials had **over 28x** as many pedestrian injury and fatal crashes per mile as local roads.



mndot.gov 17

# Pedestrian Crashes on and off MnDOT Trunk Highways



Trunk highways are MnDOT's network of highways and roads owned and managed by the state.

They range from major freeways to small town main streets where a state highway passes through to busy urban arterials like Central Entrance or Snelling Avenue.



#### Trunk Highways

Trunk highways had

# over 2x

as many pedestrian fatal and injury crashes per mile as non-trunk highways.

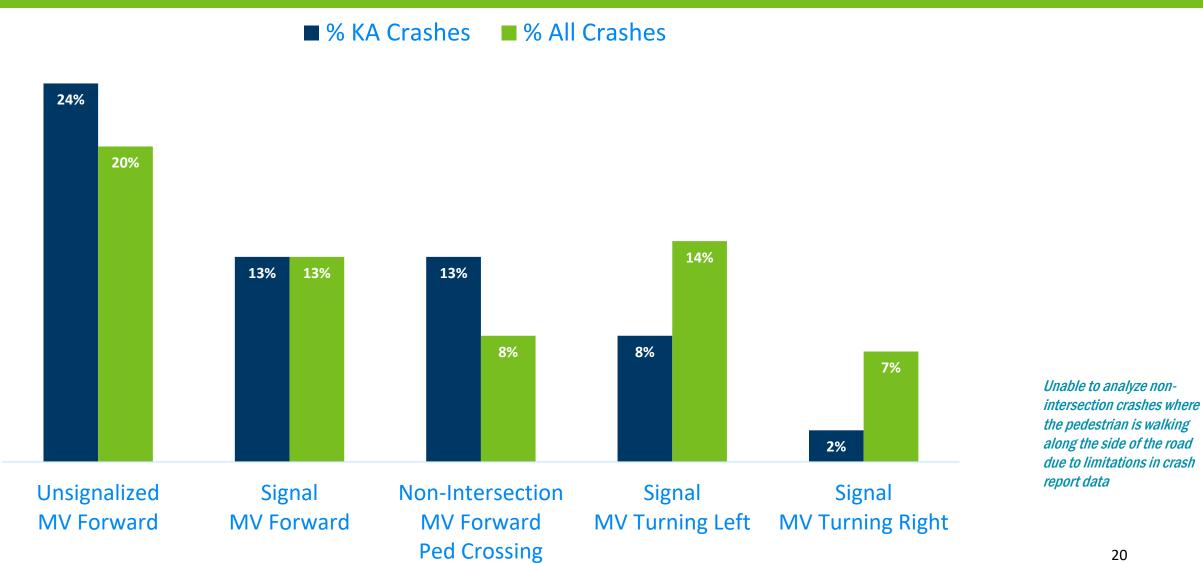
# Crash Typology

#### **Pedestrian Crash Typology**

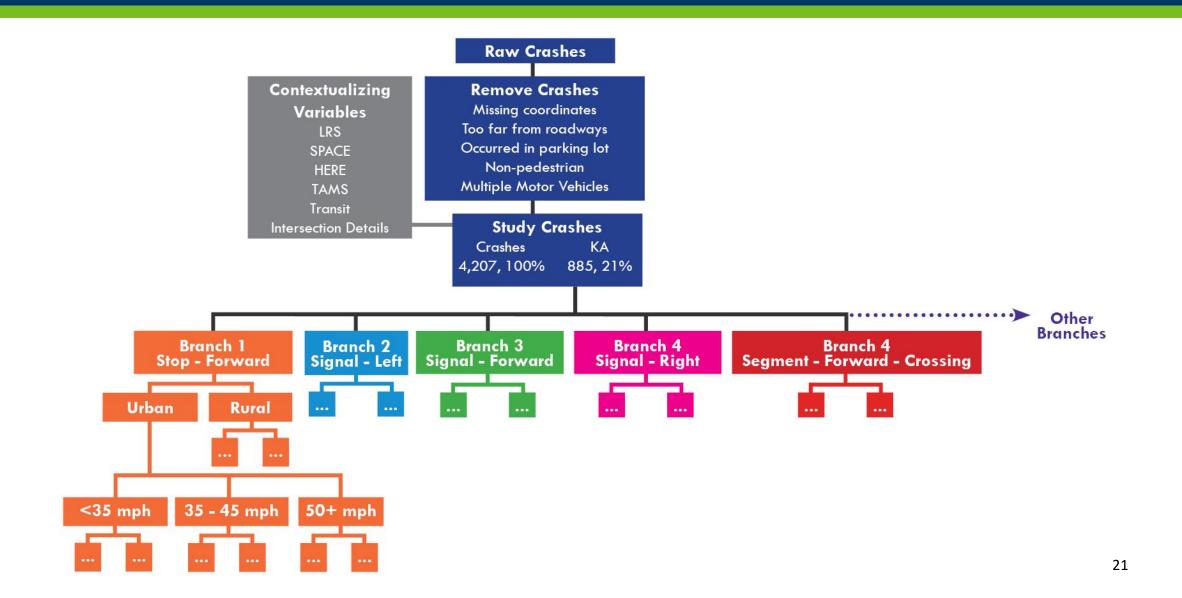


Crash typology adapted from Schneider and Stefanich 2016 Application of the Location—Movement Classification Method for Pedestrian and Bicycle Crash Typing <a href="https://doi.org/10.3141/2601-09">https://doi.org/10.3141/2601-09</a>

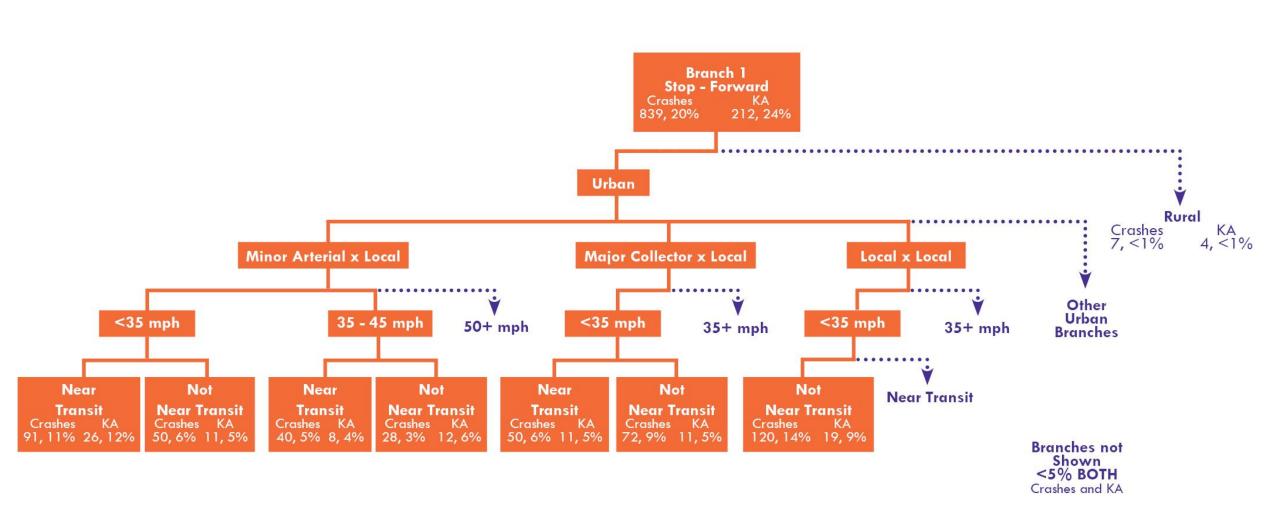
# Crash Types



#### Crash Tree Analysis to identify Common Crash Circumstances



#### Unsignalized Intersection – Forward – Analysis Process

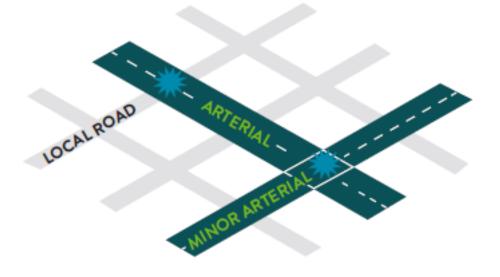


#### Unsignalized Intersection – MV Forward – Analysis Results



# Motor vehicle going straight

- + Unsignalized intersection
- + Pedestrian crossing
- ▶ 24% of all pedestrian fatal and serious injury crashes
- Severe outcomes linked to different functional classes coming together at an intersection, oftentimes with partial stop control. For example, a pedestrian attempting to cross an uncontrolled minor arterial at an intersection with a stop-controlled local road.



► These crashes occur in almost all land use contexts, with and without transit, shopping, restaurants, and entertainment.

#### Signalized Intersection – MV Forward







- + Signalized intersection
- + Pedestrian crossing
- ▶ 14% of pedestrian fatal and serious injury crashes

- ▶ 96% of crashes in this branch occur in urban areas
- Over 2/3 of these crashes occurred at an intersection where:
  - » Intersections with a posted speed limit of 35 mph or below



- » Minor arterial on intersection approach
- » Near transit stops
- » Near food, entertainment, or commercial establishments

#### Not at Intersection – MV Forward – Ped Crossing

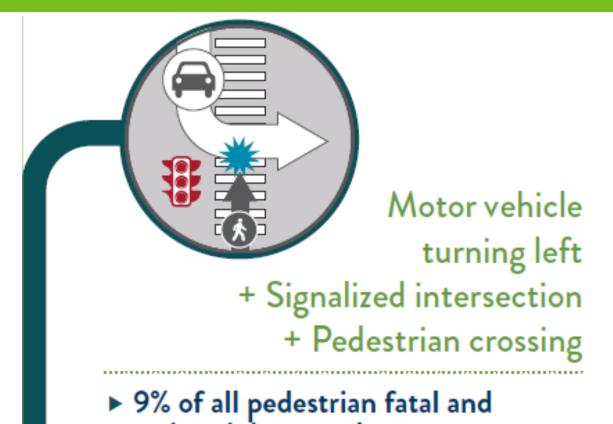


Motor vehicle going straight

- + Not at intersection
- + Pedestrian crossing
- ▶ 13% of all pedestrian fatal or serious injury crashes

- ▶ 1/4 of fatal or serious injury pedestrian crashes in this branch occur in **rural areas**.
- These crashes most often occur in urban areas with a 30-35 mph speed limit on 2 lane streets not near transit, shopping, entertainment, or restaurants.

# Signalized Intersection – MV Turning Left

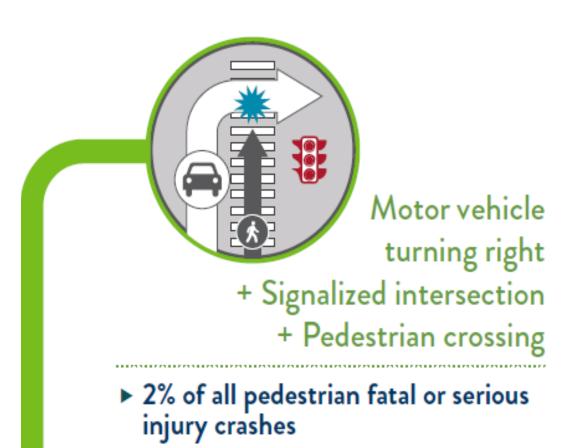


serious injury crashes

- Over 2/3 of fatal or serious injury pedestrian crashes occurred at an intersection where:
  - » Minor arterial on intersection approach
  - » Intersections with a posted speed limit of 35 mph or below
- SPEED LIMIT

- » Near transit stops
- » Near food, entertainment, or commercial establishments

# Signalized Intersection – MV Turning Right



► These crashes most often occur in urban areas with a 30-35 mph speed limit at intersections with a minor arterial road near shopping, entertainment, or restaurants.

# Key Project Takeaways

- SPACE Tool useful for understanding safety
- Systemic risk factors from consolidated data and engineering judgment can help fill in other data gaps
- Don't wait for crashes to happen!
  - Identify proactive safety improvement opportunities that address these types of crashes
  - Low-cost, systemic pedestrian safety projects
  - Reach out to Sonja/MnDOT OTE for help or implementation guidance



Photo source: Toole Design Group

#### Conclusion

- Ensuring pedestrian safety on Minnesota's roadways can be challenging, but we can use common attributes to identify areas where safety improvements may be needed:
  - Motor vehicle volume
  - Motor vehicle speed
  - Pedestrian-oriented land use characteristics
- Tools and resources are available to improve pedestrian safety
- Now is the time the deploy these measures in a systemic way, to reduce and eventually eliminate pedestrian fatalities and serious injuries

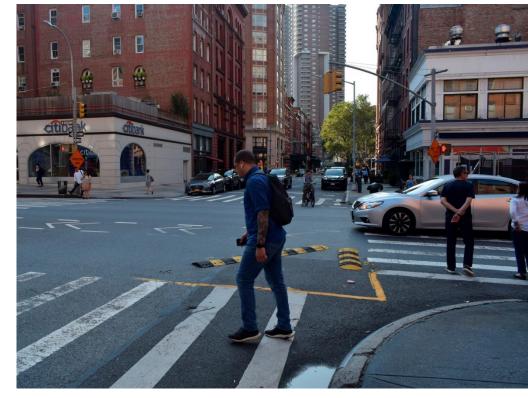


Photo source: Toole Design Group

#### **MnDOT** Resources

- MnDOT Office of Safety
- Pedestrian and Bicyclist Safety Handbook
- Bicycle Facility Design Manual
- Traffic Engineering Manual
- MnDOT Website:
   https://www.dot.state.mn.us/peds/design-engineering.html



Photo source: Toole Design Group

# Thank you

Derek Leuer, PE
State Traffic Safety Engineer
MnDOT
derek.leuer@state.mn.us





Photo source: Toole Design Group

# Traffic Safety Data Analytics Center

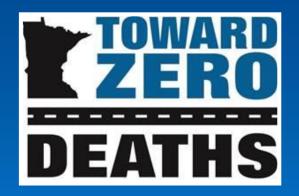
- Presentation: Traffic Safety Data Analytics Center
  - Mike Hanson, Minnesota Department of Public Safety
  - Rachel Horne, Minnesota IT Services
- Member discussion following presentation

#### **Traffic Safety Data Analytics Information Center**

**Advisory Council on Traffic Safety** 

Director Michael Hanson
April 10, 2024

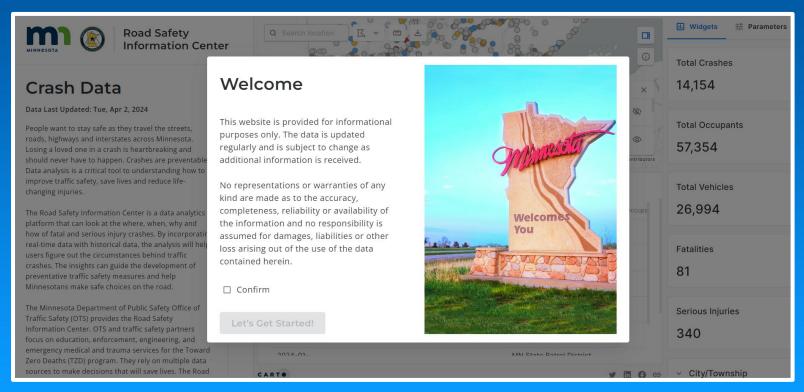




Our TZD mission is to create a culture for which traffic fatalities and serious injuries are no longer acceptable through the integrated application of education, engineering, enforcement, and emergency medical and trauma services. These efforts will be driven by data, best practices, and research.



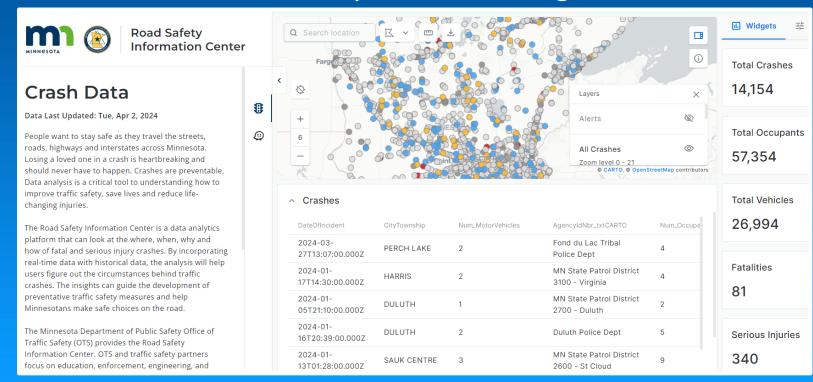
Minnesota Department of Public Safety Office of Traffic Safety (OTS) has launched a data analytics platform.





#### **Road Safety Information Center**

#### roadsafetyinfocenter.mn.gov





The Road Safety Information Center (RSIC) is the cornerstone of the Data Analytics Information Center, which will increase analysis capabilities:

- Data Initiative + Visualization
- Integrates multiple data sources
- Expands analytic capabilities
- Better data and more timely analysis
- Improved preventative safety measures



#### Crash Data

Data Last Updated: Tue, Apr 2, 2024

People want to stay safe as they travel the streets, roads, highways and interstates across Minnesota. Losing a loved one in a crash is heartbreaking and should never have to happen. Crashes are preventable. Data analysis is a critical tool to understanding how to improve traffic safety, save lives and reduce lifechanging injuries.



#### Phase 1 – Approach

We are being deliberate in development, recognizing we all have different data needs. We want to provide a tool that complements other resources to work on solving problems.

Three Goals: Data Pipelines/Warehouse, Public Platform, Internal Platform.

#### Data Included:

- MNCrash
- Waze (traffic flow)
- Moove.ai (hard braking)
- MNDRIVE (DVS)
- ROAR (OTS)









#### Phase 1 – Where are we now?

Foundational framework is built. We are on a long journey to iterate and refine the platform to increase its analytical abilities.

#### Two platforms:

- Public RSIC Crash and Waze data.
- Internal RSIC, requires logged-in authentication Crash, Waze, data models and hard braking data.



#### Road Safety Information Center Application Examples

- View crashes and filter by selected MNCrash fields, including severity.
- View crashes and traffic congestion in one map display.
- Draw shapes on the map to view crashes that may have overlapping boundaries.
- Search around a specific location.
- Export MNCrash and Waze data.





#### Value to Minnesotans – TZD stakeholders

Allows users to understand the types and quantities of crashes in their city/town/regions.

It can highlight factors in many of the crashes and fatalities, such as:

- Speeding
- Distracted driving
- Intoxication
- Lack of seat belt





#### Value to Minnesotans – Parents

Keeping their kids safe is a top priority for every parent.

Driving to daycare, school, hockey practice, dance, and Dairy Queen are all daily/weekly trips for parents.

Allowing parents to see routes or times of day that are more prone to crashes, keeps them on the road--and their kids safe and sound.





#### Value to Minnesotans – Commercial/Trucking Industry

Time and safe travel across Minnesota roads are critical to drivers.

Allows drivers to consider insights around frequent crash locations.

Examine historical traffic considerations in their routes and for route planning.



#### Value to Minnesotans – Academia/Students

Allows students and researchers to study/access new and more data regarding fatalities and crashes.

Serves as a valuable data source and application to help students learn about Minnesota's roads. Especially relevant for soon-to-be new drivers.



Provides a new way for academia to bring data into their research; and to teach engineering, public safety and even technology to their students.



#### What's Next after Phase 1?

The RSIC is a foundational framework we plan to build and grow through partnerships with other TZD stakeholders.

We need your help to get the word out, share the platform and give us feedback:

OTSRoadSafety.public@state.mn.us



## Speed Safety Camera Project Update

- Introduction and Background
  - Mike Hanson, Minnesota Department of Public Safety
- Presentation: Speed Safety Camera Project Update
  - Karen Sprattler, The Sprattler Group

Speed Safety
Camera
2024 Legislative
Report

Karen Sprattler Sprattler Group

MN Advisory Council on Traffic Safety April 10, 2024

## Legislative report requirement: HF 2887

#### Sec. 126. LEGISLATIVE REPORT; SPEED SAFETY CAMERAS.

- (a) By November 1, 2024, the commissioner of public safety must submit a report to the chairs and ranking minority members of the legislative committees with jurisdiction over transportation policy and finance that identifies a process and associated policies for issuance of a mailed citation to the owner or lessee of a motor vehicle that a speed safety camera system detects is operated in violation of a speed limit.
- (b) The commissioner must convene a **task force** to assist in the development of the report. The task force must include the **Advisory Council on Traffic Safety** under Minnesota Statutes, section 4.076, a representative from the **Minnesota County Attorneys Association**, and a person with expertise in **data privacy** and may include **other members** as the commissioner determines are necessary to develop the report.

- (c) At a minimum, the report must include consideration and analysis of:
  - (1) methods to <u>identify</u> the owner, operator, and any lessee of the motor vehicle;
  - (2) <u>compliance</u> with federal enforcement requirements related to holders of a <u>commercial driver's license</u>;
  - (3) authority of individuals who are **not peace officers** to issue citations;
  - (4) data practices, including but not limited to concerns related to data privacy;
  - (5) due process, an appeals process, the judicial system, and other legal issues;
  - (6) technology options, constraints, and factors; and
  - (7) recommendations regarding <u>implementation</u>, including but not limited to any legislative proposal and <u>information on implementation</u> <u>costs</u>.

## Big questions

- Where/how to start?
- Program ownership and mechanics
- ► Fines and thresholds
- > \$\$\$\$\$\$\$ program start up and revenue disposition
- Messaging to stakeholders
- Messaging to the public
- Equity considerations

#### **Speed Safety Camera Task Force**

- April 25th 1:00-4:00pm St. Paul
- At least two additional meetings by October 1
- Report and recommendations due November 1



# Interested in helping?

Karen Sprattler

karen@sprattlergroup.com

651.343.7763

Please contact by April 19th



## Break

## Legislative Updates

- Agency Updates
- Member Updates
- Process for Gathering 2025 Legislative Recommendations

### 2025 Legislative Recommendations Process

- Members will submit a short application form that outlines their proposed idea, budget, champion, and timeline. The application form is still in development; a draft will be shared with the Council in May for discussion at our June meeting.
- Once finalized, the application form will be available on the ACTS website throughout the year so members can submit ideas at any time.
- Proposals will likely be due by mid-July each year.
- A Council subcommittee will be created to review applications and select proposals to move forward. Council members will not be allowed to serve on the subcommittee if their organization has submitted an application.

#### **Council Business**

- Safe Road Zone and Rural High Risk Roadways Working Group Updates
  - Derek Leuer, Minnesota Department of Transportation
- Advisory Council Budget
  - Brian Sorenson, Minnesota Department of Transportation
- Near-Term Project Idea Application Process
  - Brian Sorenson, Minnesota Department of Transportation

- Strategic Highway Safety Plan
  - Derek Leuer, Minnesota Department of Transportation
- Safe Road Zone and Rural High Risk Roadways
  - Derek Leuer, Minnesota Department of Transportation

#### Strategic Highway Safety Plan

- Currently 11 Members Volunteered
- Paul Aasen, Luis Flores, Chris Hartzell, Kristine Hernandez, Pete Hosmer, Lisa Kons, Annette Larson, Judge Kerry Meyer, Cheryl Quinn, Michael Wojcik, Heidi Schallberg
- Support: Whitney Mason, Michelle Pooler, Tim Burkhart, Major Joe Dwyer, Major Jeff Huettl, Mike Hanson

- Strategic Highway Safety Plan
- Met on March 8th
- Discussed the following:
  - Crash Data, Equity Data, Interplay
  - Interaction between SHSP, ACTS, and ACTS Work Group
  - Develop Recommendations from ACTS Work Group to ACTS
  - The New SHSP becomes the "playbook" for ACTS
  - The ACTS Work Group will emphasize what the SHSP Action Item(s) we work on?
- Next Meeting: May 10, 2024

- Strategic Highway Safety Plan Status
- Crash Data Analysis finalizing
- Engagement!
  - TZD Workshops (April-June)
  - Online Survey
  - Online Map
  - More to Come!



Next ACTS: Crash Data Presentation? Engagement Results (Preliminary)?

- Strategic Highway Safety Plan
  - Derek Leuer, Minnesota Department of Transportation
- Safe Road Zone and Rural High Risk Roadways
  - Derek Leuer, Minnesota Department of Transportation

#### Safe Road Zone and Rural High Risk Roadways

- Group has met five times
- Reviewed Legislation, Intent, Constraints, Goals
- Developed the Rural High Risk Roadways Program and Solicitation
  - \$10M ready for safety projects on Minnesota Trunk Highways
  - Goal to "Reduce Speeds and Conflicts on Rural Highways"
- Solicitation has been out and completed!

#### **Rural High Risk Roadways**

- Known Constraints
  - Must be spent on the Trunk Highway Network
  - Must be "let" by June 30, 2026
  - Definition of Rural; State Aid: "area outside municipal boundaries of 5,000 or more"
  - Project types suggested: Roundabouts, J-turns, horizontal curve delineation, dynamic speed feedback signs in transition zones, curb extensions, median refuge islands, trails/sidewalks, bike lanes. (Not exclusive list)

#### **Rural High Risk Roadways**

- Opened February 14 and closed March 29<sup>th</sup>
- Local Agencies and MnDOT applied for funding
- Currently Scoring and Review Applications
- 5 members of ACTS have volunteered to help score
  - Paul Aasen, Becky Putzke, Rahya Giesler, Clevan Duncan, and Cheryl Quinn

#### **Rural High Risk Roadways**

- 15 Projects were submitted
- Over \$14M in requested funds
- Project Types: Roundabouts, Dynamic Speed Signs, Transverse Rumbles,
   Diverging Diamond Interchange (1), J-turn study
- Will need to decide if some meet the intent of the program

#### **Rural High Risk Roadways Timeline**

- Reviewed/Sent to the Team completed
- Now-April 30: Team is reviewing applications
- May 1<sup>st</sup>: Team meets to review/finalize scores
- Award letters our shortly after

#### **Safe Road Zones**

- Solicitation out there, Closes May 3rd
- Local Agencies and MnDOT can apply for funding
- \$1M for establishment of zone and \$1M for added enforcement
- Can be used for studies, infrastructure, education, social media campaigns, etc
- Next meeting is April 20, 2024

#### **Safe Road Zones**

- Many inquiries and questions coming in!
- Goal to complete selection by end of May/Early June
- Funds awarded/distributed July 1 (new State Fiscal Year)

## Advisory Council Budget

## Advisory Council for Traffic Safety Annual Operating Budget DRAFT April 2, 2024

Description	FY24		FY25		FY26		FY27	
	Revenue	Expense	Revenue	Expense	Revenue	Expense	Revenue	Expense
Revenues								
State appropriation to OTS	\$2,000,000		\$2,000,000		\$2,000,000		\$2,000,000	
Previous year carry forward			\$225,000		\$185,000		\$107,000	
Subtotal	\$2,000,000		\$2,225,000		\$2,185,000		\$2,107,000	
Expenses								
Consultant supportCTS		\$250,000		\$250,000		\$265,000		\$265,000
Staff supportOTS program management		\$125,000		\$131,250		\$140,000		\$145,000
Stoff support OTS research (date anchoris		¢125 000		¢120.000		¢1.40.000		¢4.4F.000
Staff supportOTS research/data analysis		\$125,000		\$130,000		\$140,000		\$145,000
Staff supportcommunications		\$75,000		\$78,750		\$83,000		\$85,000
Traffic Safety Conference		\$0		\$250,000		\$250,000		\$250,000
Project allocations		\$1,200,000		\$1,200,000		\$1,200,000		\$1,200,000
Subtotal		\$1,775,000		\$2,040,000		\$2,078,000		\$2,090,000
NET	\$225,000		\$185,000		\$107,000		\$17,000	

#### Eligibility

- Any organization is eligible to apply for funding. This may include, but is not limited to: state, regional, local, and tribal agencies; non-profit organizations; educational institutions; community coalitions; and consultants. Organizations do not need to be based in Minnesota, but the project must demonstrate benefits to the state.
- Partnerships are encouraged but not required.
- Projects can focus on local, regional, and/or state issues.
- Work must be done within the state of Minnesota and can focus on any traffic safety topic(s).
- Projects may not exceed \$250,000 and must be completed in two years or less.
- Matching funds are not required.

#### Timeline

- Materials will be posted on the ACTS site no later than May 3, 2024.
- Applications are due by 8:00am on Monday, June 3, 2024. Late application forms will not be accepted.
- Decisions will be communicated by July 1, 2024.
- All project funds must be spent by June 30, 2025.

#### Selection Criteria

- Applications will be scored using the criteria below. Funding awards will take into account the location of fatalities and serious injuries in the metro and greater Minnesota (currently approximately 60%/40%, respectively) when application scores are similar.
- Up to \$1.2M is available for projects.
- Priority will be given to projects that focus on one (or more) of the top four contributing factors to fatal and serious injury crashes in Minnesota: distraction, impairment, speed, and lack of seatbelt use.
- Additional consideration will be given to unique and innovative projects and align with themes in the <u>Minnesota Strategic Highway Safety Plan</u> (SHSP) and the <u>Minnesota Highway Safety Plan</u> (HSP), including the FFY24 Annual Grant Application (a link will be provided with the final solicitation materials).
- Priority will be given to projects with matching funds of 20% or more.
- The State of Minnesota values diversity and inclusion. Consideration will be given based on how the proposed project supports Attachment A: Equity Scores by County.

Maximum points	Scoring Criteria Description				
25	Description of project and importance of problem it addresses				
25	Goals/outcomes address the problem				
25	Connection to contributing factors, SHSP, and HSP				
25	Experience and qualification of project team, including connections with new traffic safety partners				
25	Integration of diversity, equity, and inclusion				
25	Benefit/cost, including match contributions				
150	Total Points				

#### Review and Selection Process

A subcommittee of 4-6 ACTS members will be created to review proposals. Council
members from organizations who submit a proposal will not be eligible to serve on the
subcommittee. The subcommittee will submit a ranked list of proposals to the ACTS
Executive Committee, which will make all final decisions. If an Executive Committee
member organization submits a proposal they will be required to excuse themselves
from the decision—making process.

#### Application Instructions

- Applications due by 8:00am Central Time on Monday, June 3, 2024. Late application forms will not be accepted.
- Proposers must submit one PDF containing the following, in order, for the application to be considered complete:
  - Contact Information for Lead and Partner Organizations
  - Application
  - Budget Summary
  - Letter(s) of Support, if applicable

#### **Public Comment**

Public comment is limited. The number of commenters and length of time permitted is at the discretion of the chair, and is subject to change.

## Thank You





