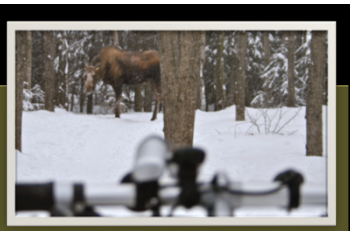
Tips and Techniques for Collecting and Leveraging Bike/Pedestrian Data

Marcia Howell
Marcia.Howell@alaska-ipc.org
907-929-3939

Counting Serious Bicycle Crash Injuries in Alaska

Crash Reports vs. Trauma Registry



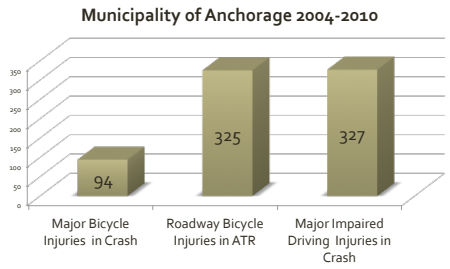
Speaking to the Choir

- We use data to:
  - Prioritize Funding for Safety Interventions
  - Determine Where Roadway Improvements are Needed
  - Define Performance Measures
  - Evaluate Success

What We Did

- Secured Statewide Data: Crash and Trauma
  - Reduced to Just Anchorage
  - Used SPSS for frequencies and to clean data
- Assumption: Hospitalization (24 hours + in hospital) = Major Injury
  - Typical Injuries included
    - Skull and other Fractures
    - Internal Organ Injury, Spleen, Kidney, Lung, Intestinal etc
    - Traumatic Brain Injury

Hmmmm



Challenges

- Accuracy of Trauma Narrative
- Missing Data Fields
- Pronoun Discrepancies
- Disparate Severity Ratings
- Multiple Spellings for Locations

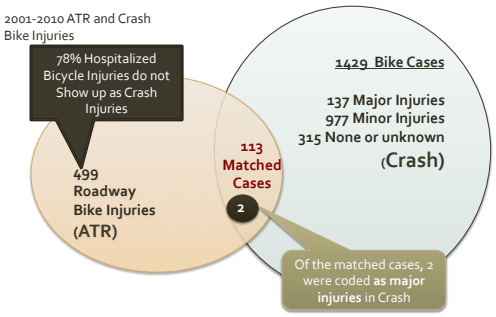
Case Definitions

- Crash:
  - Type = Bicycle
  - Crash Severity - Removed "Property Damage Only"
  - City = Anchorage Municipality
- ATR:
  - Injury Cause = Bicycle
  - Injury Place = Highway
  - Injury Region: Municipality of Anchorage

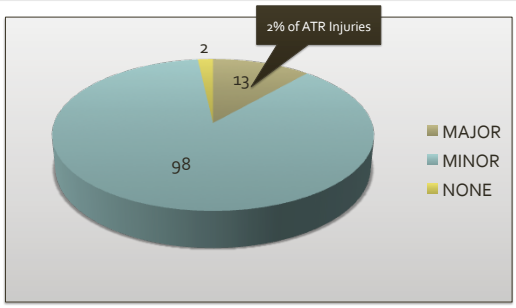
Linkage Variables Crash and Trauma

- Gender
- Date of Injury (with allowance for delay in seeking medical care)
- Age and
- Injury Time
- Then Reviewed Trauma Narrative

Findings



Matched Cases: Crash Severity Level



Stories

- Helmeted bicyclist who was struck by a boat trailer that became unhitched from vehicle it was attached to. Thrown 10-15 yards, and trailer rolled over him.
- Riding bicycle (approx 20 mph) collided w/vehicle entering intersection; hit brakes too fast & flipped over bicycle.
- Riding bicycle; hit a rock causing bicycle to stop abruptly; he fell over, hitting curb.

Different Data Sources: What are They Good For?

- Crash:
  - Use of safety equipment
  - Location of crash
  - Preceding behavior
  - Environmental conditions
- ATR:
  - Severity of injury
  - Medical outcome: TBI
  - Costs
- Both are now measures in our SHSP

Now What?

- Multi-Modal Road Use Is In
  - We need to better understand and plan for it
  - Need Denominator Data
- Linkage is Essential
  - Computerized system needed
- Collect Data Elements Appropriate to the Venue
  - Environmental - Crash
  - Injury Severity, Outcome and Cost – EMS, Hospital, Trauma Registry
- Develop Mechanism for Cyclists to Report