
Terps for Bike Lanes

Data Aggregation

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Agenda

01

Literature
Review

02

Findings

03

Recommendations

01

Literature Review



Bike Data Collection



Self Reporting

Pros	Cons
★ Can easily get quantifiable data	★ Underreporting → skewing accuracy ★ Detail vs. workload of analysts ★ Statistical significance



Technology

Pros	Cons
★ Eliminates human error	★ Expensive ★ Labor-intensive

College Campus Data Collection



Low response rates

Solution: Increase sample size



Underreporting

Solution: Mixed-methods approach



Selection bias

Solution: Random sampling or census-sampling

02

Our Findings



Strategy

Our Team

Bike Advocacy

Washington
Area Bicyclist
Association



Bike Data

Department
of Transportation



UMD



SCHOOL OF
ARCHITECTURE,
PLANNING & PRESERVATION

Student Data

Office of
Diversity and
Inclusion



Title IX



OFFICE OF
CIVIL RIGHTS &
SEXUAL MISCONDUCT

Important Findings

01

ArcGIS Crash Report Form
Development Goals

02

WABA Form Effectiveness
and Methodology

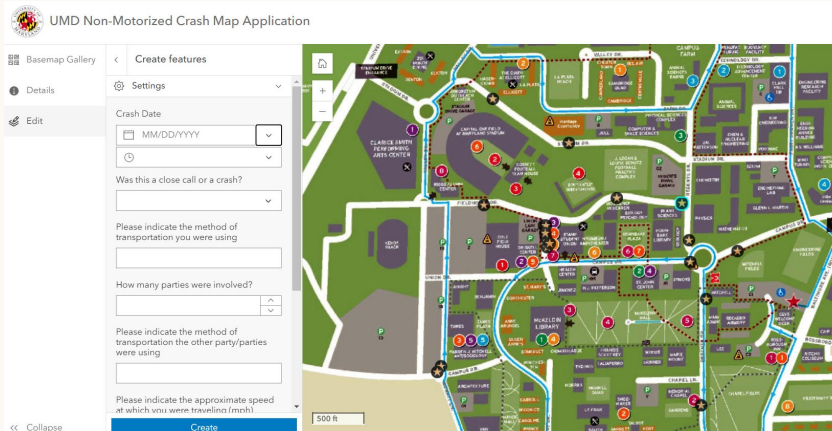
03

University Surveying
Methodologies

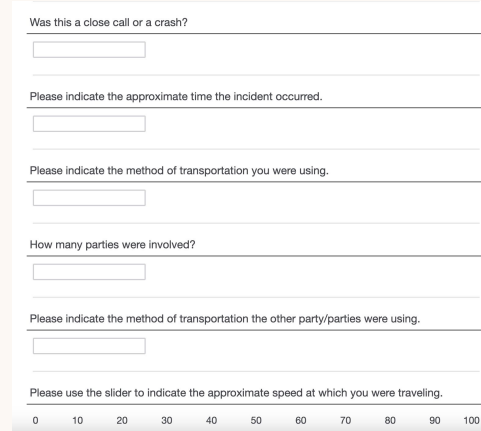
External Vs Internal Data Collection

Non-Standardized. Department and
Jurisdiction dependent

ArcGIS + Qualtrics Crash Reporting Form



Andrew Bernish: Lecturer at UMD School of Architecture, Planning and Preservation; Planner & GIS Analyst for the Maryland State Department of Transportation (MDOT)



- ★ Designed for internal data collection and reporting
- ★ Questions range in quantifiability
 - Open-ended → hard to quantify results
- ★ Hard for public audience to understand
- ★ Establishes existing infrastructure for data collection

Washington Area Bicyclist Association Reporting Form

CRASH TRACKER AND REPORTING FORM

If you are here to report a car parked in the bike lane, a crash, a near-miss, or a dangerous road, your report will help us advocate for lasting change for the road. We're so sorry if you've been in (or witnessed) a crash or altercation. We hope you're OK.

You can find more information on what to do after a crash [here](#).

This form will ask you questions so that we can gather information regarding traffic incidents in the Washington area to make sure that all road users are treated fairly by local government officials when they are involved in an incident and to track areas of concern to make sure we advocate for better infrastructure.

The information you submit is not passed on to any police department or corporation and any names and email addresses will be kept strictly confidential. However, you will have the option to send your report to your local elected official and department of transportation to encourage them to make the necessary changes to the road.

We may also use aggregated information from the database to illustrate issues facing road users—dangerous intersections, flawed administrative processes, or unsafe infrastructure.

Please share our tool with friends and families. And feel free to bookmark the link on your phone and desktop web browser.

Helpful definitions:

Near-Miss: A near miss is an unplanned event that doesn't result in injury or death, but could have (definition taken from the National Safety Council).

Dangerous Location: Unsafe road conditions that are likely to cause a crash. Among them are deep potholes, uncleared ice and snow, and unannounced changes in the road surface (e.g., uneven lanes).

☐ Pedestrian ☐ Scooter ☐ Unsafe Condition or Dangerous Location

Who was affected? *

Check all that apply. In the case of a Dangerous Locations report, indicate the type of road user typically at risk.

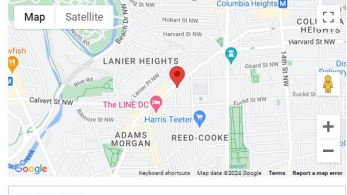
☐ Bicyclist ☐ Person Harmed ☐ Person Walking

☐ Person Driving ☐ Person Riding Scooter ☐ Person With Disability

☐ Myself ☐ Vehicle Passenger(s)

Location of incident (you can move the pin around) *

On a computer, drag and drop the pin to the correct location. To adjust the map and reposition the pin on mobile devices, use two fingers to scroll the map.



Enter a location

Pros	Cons
★ Detailed instructions and definitions ★ Google Maps integrated location reporting ★ Multiple choice → easily aggregated responses	★ Maps integration requires contracting ★ Coordinated advertisement needed to collect data



Jeremiah Lowery:
WABA Director
of Advocacy

Bias Incident Support Services Reporting Form

Your full name:

[Learn more](#)

Your email address:

[Learn more](#)

Type of Incident (Required):

[Learn more](#)

Target Identity (Required):

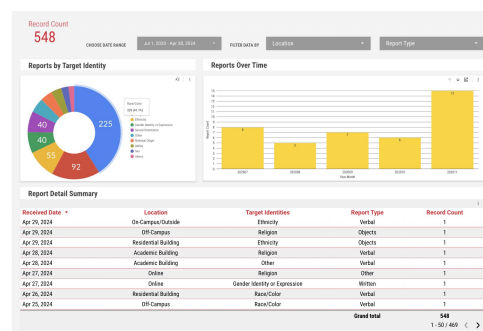
[Learn more](#)

Date of Incident (Required):

Location of Incident (Required):

Specific Location:

Bias Reporting Dashboard



Pros	Cons
★ Students can provide additional detail, but important data points are drop-down questions (type of incident, location) ★ Broad and specific location options ★ Actively track reports in real time ★ Ask if the incident has been reported to relevant UMD offices (UMPD, OSC, OSCRSM) ○ Relevant for Terps for Bike Lanes	★ Required questions don't provide a lot of detail or information ★ No information about how this form is advertised or how frequently students actually use it

Sexual Harassment and Sexual Misconduct Reporting Form

Your full name:

Your affiliation with UMD:
[Learn more](#)

Your phone number:

Your email address:

UID:
[Learn more](#)

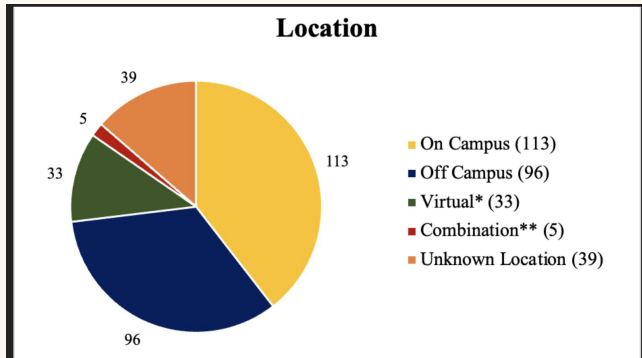
Date of incident (required): [Learn more](#)

Time of incident:

Location of incident (required):

Specific location:

☒ On Campus - Residence Hall (includes Commons & Courtyards)
☐ On Campus - Not Residence Hall
☐ On Campus - Fraternity or Sorority House
☐ Off Campus - Fraternity or Sorority House
☐ Off Campus
☐ Online/Virtual
☐ Other
☐ Unknown



Pros	Cons
★ Categorizes locations by what would be most relevant to their research ★ Collects information that would allow OCRSM to follow-up, but students can remain anonymous ★ Clarifies the purpose of the form and will be done with the information	★ No option for students to categorize the incident ○ Annual report shows that OCRSM manually did so ★ Several open-ended questions that could be dropdowns or select all

Note: UMD also conducts the SEES survey to fully capture the scope of this issue

Surveys on Campus

Census-sampling

Sent out to all students on-campus
(Ex. SEES survey)

Incentives

Encourage student participation
(Ex. Offering \$10 Terrapin Express;
extra credit for course evaluations)

Question format

Multiple-choice or select all, not
open-ended

Can rate on a scale

Detail vs. Range

Pick and choose when more or less
detail is needed

Offer students option to provide
more specific information within a
broader category

03

Recommendations



Overall Recommendations

Report Form

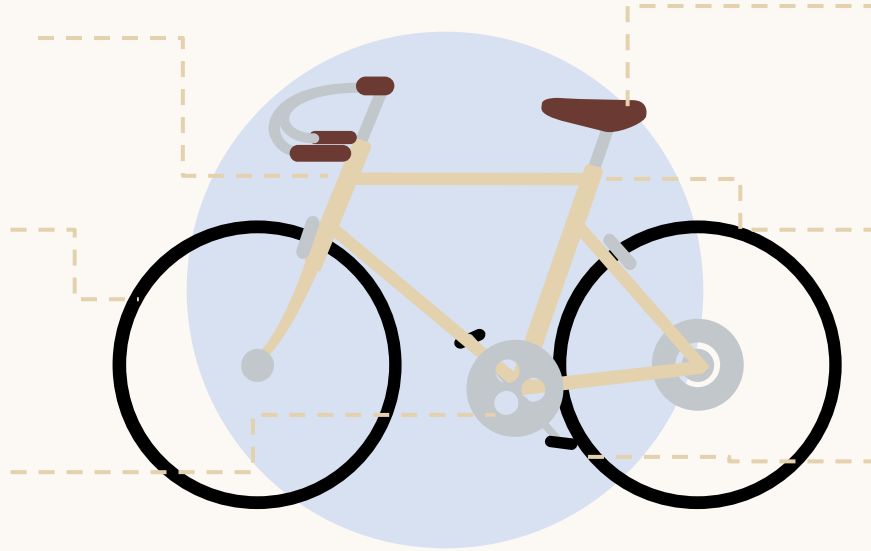
General information about incident + optional details

Follow-up

Follow up with respondents about experience and locations

Observe

Observe + record suspected high risk locations



Advertise

Work with DOTS to advertise reporting form + survey

Survey

Campus-wide survey that touches on students feelings about safety

Incentivize

Offer incentives for students who participate

Using Both Reports and a Survey



Incident Reports

- ★ Purpose: Collect real time data/statistics
- ★ Develop a better integrated map
- ★ Provide clear and detailed instructions with relevant definitions
- ★ Use a primarily multiple-choice question format with option to include additional details
- ★ Include optional qualitative questions
 - Pictures, descriptions, follow-up option



Survey

- ★ Purpose: Collect general information about student experience/feelings
- ★ Multiple Choice/Select All Questions: "Have you ever experienced..."
- ★ Rate from 1-5: Feelings of safety, efficacy of response, etc. ,

Big Picture – SGA Advocacy



UMD Community – 40K

Insight into how the issue of biking and safety impacts UMD as a whole → shows that significance extends beyond biking community



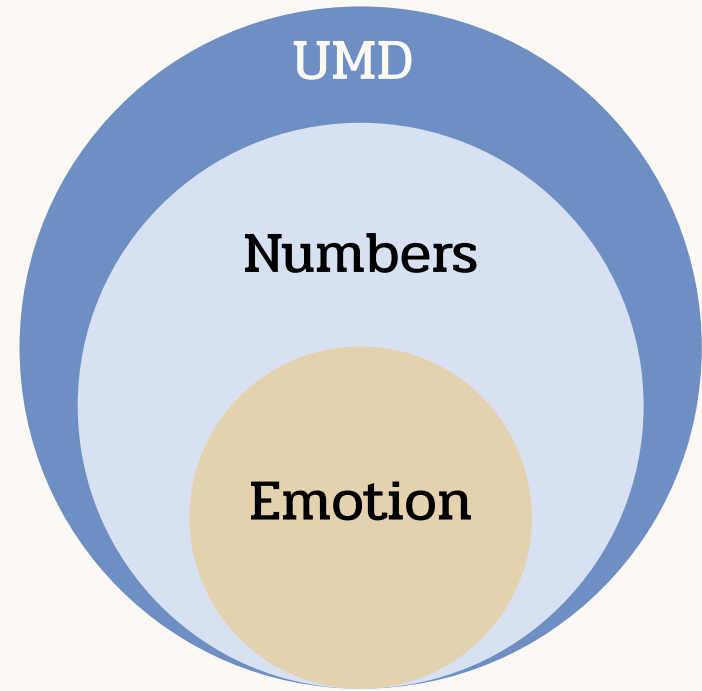
Reports

Numbers + data of how many incidents are being reported, where they are + what is being done → shows the scope of the problem



Interviews

Quotes/testimony from students who filled out the report form → emotional appeal



Thanks!

Any questions?

