National Collaboration

Bicycle, Pedestrian, and Accessibility Infrastructure Data

June 27, 2024

U.S. Department of Transportation
Office of the Secretary of Transportation

Bureau of Transportation Statistics

FGDC.GOV
FEDERAL GEOGRAPHIC DATA COMMITTEE

Facilitators

Co-Chairs

- **Anat Caspi**, University of Washington
- **Bahar Dadashova**, Texas A&M Transportation Institute
- **Jeff Whitfield**, Centers for Disease Control and Prevention

Bureau of Transportation Statistics

- **Grace Bowen**, ORISE Fellow
- **Cyrus Chimento**, ORISE Fellow
- **Jay Davis**, Presidential Innovation Fellow
- **Justyna Goworowska**, Spatial Transportation Data Analyst

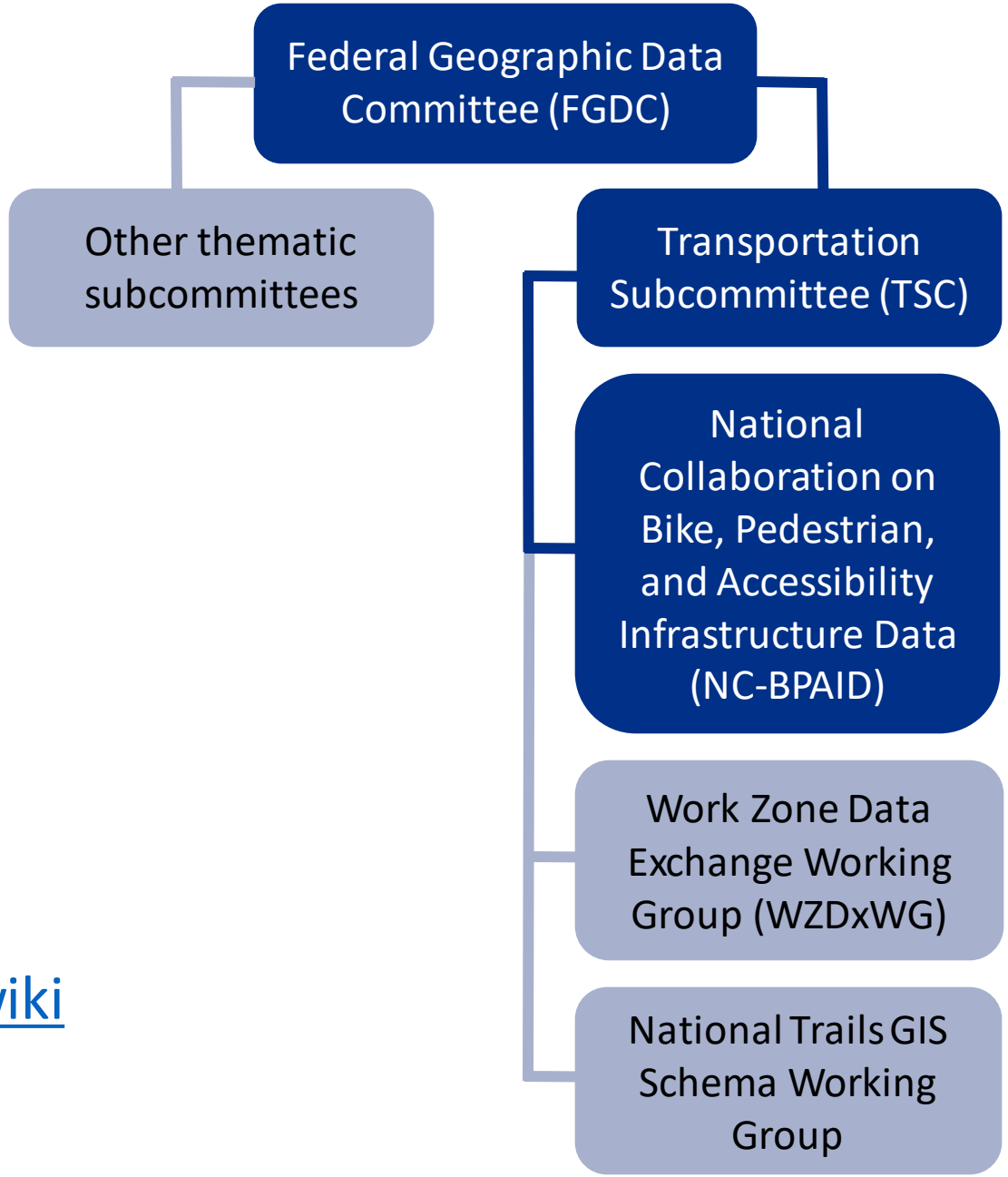
Housekeeping

- **This meeting will be recorded.**
- Please stay muted to reduce background noise. If you would like to speak or ask a question, please raise your hand and unmute when acknowledged.
- Please type your affiliation in the chat.
- Type any questions you have into the chat. We will be monitoring the chat and will respond or raise your questions.
- Slides, recording, and notes will be available within about a week at: https://github.com/dotbts/BPA/wiki

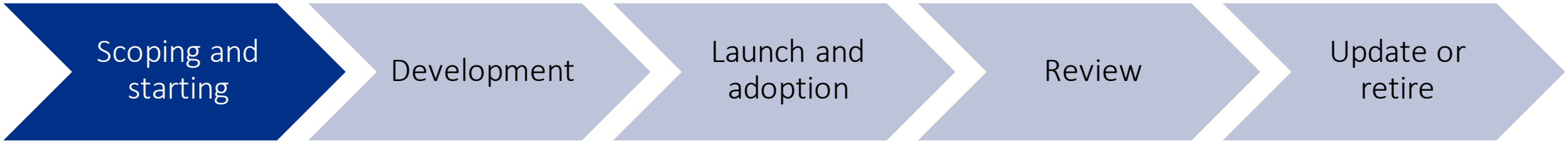
Context

- Why are we here?
- Why is the Bureau of Transportation Statistics (BTS) facilitating?
- What happened at the last meeting?

Details: https://github.com/dotbts/BPA/wiki



Context



Open Data Institute, CC BY-SA 4.0

Tasks

- Decide on the aims and objectives
- Choose the development method
- Plan the development

(Some) Expected Outputs

- Communications channels
- Scope, features, and use cases
- Governance methods
- Development plan

Objectives of Today's Meeting

1. Summarize what we've learned about data representations over the last two months.
2. Propose subgroup configurations and process for starting them.

Agenda

Welcome	5 minutes
NC-BPAID status updates and actions	5 minutes
Open floor for announcements	5 minutes
Data representations summary	15 minutes
Data representations discussion	15 minutes
Subgroups proposal + process	20 minutes
Q&A	25 minutes
Closing	<1min

NC-BPAID Updates

- The Collaboration Framework is adopted!
- Designating voting members

Open Floor for Announcements

Data Representations

Key Differences

Type	Data Representation	Example
1	• Location is denoted by measurements along a roadway centerline (i.e., a linearly referenced "event") • Attributes presence of infrastructure	
1.5	• Location is denoted by measurements along a roadway centerline (i.e., a linearly referenced "event") • Attributes presence of infrastructure, with unique ID • Relates other infrastructure attributes via ID	MDOT's Pedestrian Data Program
2	• Location is denoted by links and nodes making up a graph network aligned to the infrastructure of interest • Relates other infrastructure attributes via tagging links and nodes	OpenSidewalks

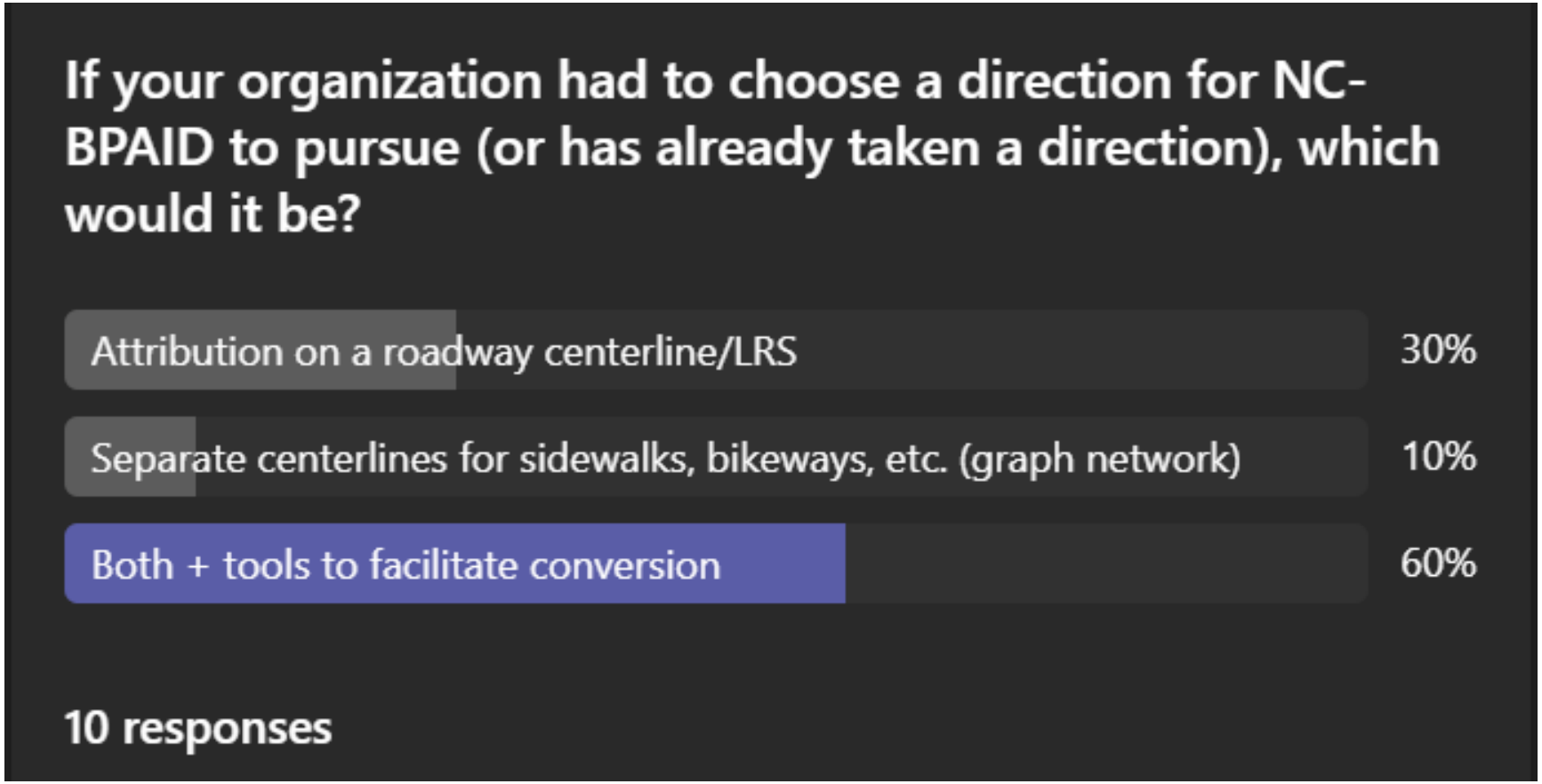
Key Differences

Type	Strengths	Limitations
1	• Uses existing tools/processes/knowledge related to LRS	• Location is ambiguous • Minimal data • Requires centrally-managed LRS
1.5	• Tiered data schema • Uses existing tools/processes/knowledge related to LRS	• Location is ambiguous • Requires centrally-managed LRS
2	• Location is not ambiguous • Extendable data schema • Uses existing tools/processes/knowledge related to common trip planning algorithms	• Requires new tools/processes/knowledge • Tagging slices up network • Higher storage/computation resource needs

Key Differences

Type	Fit for Purpose
1	• ADA inventory (limited) - location inventory only, not full compliance • Asset management (limited) - location inventory only, no detail • Routing (limited) - ambiguous infrastructure location and connectivity limits routing
1.5	• ADA inventory – full compliance inventory possible through relational database • Asset management – detailed attributes possible through relational database • Routing (limited) - ambiguous infrastructure location and connectivity limits routing
2	• ADA inventory – full compliance inventory possible through extendable tagging schema • Asset management (limited) - managing assets built directly into links/nodes difficult • Routing – unambiguous infrastructure location allows for use with common routing algorithms

May Poll Results



NC-BPAID Subgroups Proposal

Bahar Dadashova

What Are Subgroups?

> *"Co-chairs SHALL establish at least one subgroup, and MAY establish more, to accomplish the objectives and activities. Subgroup proposals SHALL be subject to 'lazy' approval by voting members. By default, subgroups SHALL adopt this collaboration framework for their decision-making procedure… Co-chairs SHALL oversee subgroup activities, and subgroup plans SHALL be subject to co-chair approval."*

Subgroups:

- Are the major way we will organize and carry out work
- Are created by co-chairs, who oversee activities & approve plans/direction
- Are led by chairs/co-chairs and made up of members from this group
- Use our same collaboration framework to make decisions

Subgroups Launching Now

	Specification Development	Data Practices
Goals	• Create minimum content specification(s) to digitally model routable bicycle and pedestrian infrastructure networks (incl inside transportation terminals) • Prioritize aspects related to physical accessibility and equity	• Facilitate adoption of standards and practices by data producers and consumers • Promote findability, accessibility, interoperability and reusability (FAIR) of datasets
Activities	• Field scan/gap analysis of existing specs • Prioritize spec development • Develop specs based on use cases • Test and collect feedback on proposed specs from subgroups/membership • Integrate feedback to create draft version	• Develop glossary • Catalog methods, tools and practices related to data collection, exchange, portability, refutability, findability, accessibility, interoperability, reusability, equity and more • Develop recommendations, best practices or case studies
Timeline	~ 1 year	~ 1 - 1.5 years

Subgroups Launching in Fall

	Affinity Groups	Outreach
Goals	• Provide subject matter and equity-centered review of draft specifications • Help to ensure that use cases are sufficiently satisfied *Potential groups: Bicycle; Pedestrian; Accessibility; ADA Compliance; Trip Planning and Navigation; Safety Analysis; Asset Management; Modeling (Transportation, Equity, Health, Climate); Planning and Performance Measurement*	• Work to ensure the specs are the industry standard and increasingly adopted/recognized by producers and consumers
Activities	• Identify topics • Clarify use cases • Help test specs and other materials • Document strengths/weaknesses of draft specs & propose improvements • Raise needs to other subgroups; assist with outreach	• Identify participation gaps by sector, region, level/type of government and expertise, and recruit • Identify gatherings and funding opportunities for working group • Recruit data producers/consumers to test specs • Work to promote adoption
Timeline	~ 1-2 years	~ 2 years (+)

What's Missing?

- Members of the working group can propose the formation of subgroups
- To do so, reach out to the co-chairs, who will review
- If accepted, co-chairs will put out a proposal for the subgroup to form

How to Get Involved

- **Become a chair:**
  - Each subgroup will have one or more chairs. *Only voting members may be chairs.*
  - Chairs:
    - Ensure the subgroup's work happens, from planning through execution
    - Decide how to organize the work within the subgroup
    - Steer subgroup decision-making processes
    - Coordinate with co-chairs and BTS admin team around the subgroup's work
- **Join a subgroup:**
  - *Any working group member can be a subgroup member.*
  - Members:
    - Contribute to the subgroup's work
    - If willing, take point on parts of the subgroup's work
    - Participate in voting and decision making
    - Provide subject matter and other expertise

Next Steps

- For Specification Development and Data Standards:
  - Proposal to form these subgroups goes through lazy approval
  - Via this online form, express your interest in leading and/or joining
  - Co-chairs will review interest, select chairs and recruit if more membership needed
  - Starting resources (ex. Existing specs for field scan) will be gathered and shared
  - Selected chairs convene their group and begin work
- For Specification Review Affinity Groups and Outreach:
  - Stay tuned until fall...
- For other proposed subgroups:
  - Add to GitHub Discussion

Let's Get Going!

Thank you!

Next full meeting: Thursday, July 25th @ 3pm ET

Suggestions? Email Cyrus (cyrus.chimento.ctr@dot.gov) or open an issue on GitHub (https://github.com/dotbts/BPA/issues)!