MONTANA WILDLIFE AND TRANSPORTATION

DATA AND INFORMATION WORKGROUP

Thursday, June 23rd, 2022

Meeting Notes

Meeting Notes structure is different than normal. Beta test responses were captured and collated for discussion and action by the DI group

Overall

- Colors- should they be consistent across all maps or does that generate confusion regarding the fact that the district maps are relative heat within that district?
    - Are colors color blind friendly (8% male population). If not, can we change to color blind friendly? Consider Viridis color ramps.
- Is there a way to link to more specific data used in the tool (in summary document maybe it already is), e.g. AADT data from MDT, FWP polygons for species, etc. This would be used in the finer analysis of segments/locations identified from this tool.
- Discussed below, but what is the output that users can get from this map so they can save/collect information from this tool without simply writing everything down? Export tool from attributes table? How to snap a screen shot of map or print a map view?
- Can the zoom area (e.g. area of interest) be held throughout moving to other maps or adding other layers so don't have to zoom back in every time?
- Name for NAC 5 needs to be changed to "**Highways and** Adjacent Linear Infrastructure that May Impede Wildlife Movement" throughout tool and documentation, including appendices.
- Add MWT Partner logos and branding to the maps and documents

Final Analysis Map

- How to select multiple segments (user guide topic as well) of roadway?
    - Can these then show up in the attribute table together?
    - How to export this data for analysis? Can we export multiple segments at once?
    - Screen shot of map for export.
    - Can folks get an average score for length of road (e.g. 10 miles) for analysis?
- Segment pop-up:
    - Segment score not necessarily consistent across entire segment listed in some maps (adjacent segments listed across range when selecting only one segment). Needs to be fixed
    - How are segments selected (add to user guide?)
    - Enable selection and display of multiple segments.
    - Have all NAC scores contribution to the total listed on the pop-up for each segment.
    - Pop up should show, Route and MP range(s), NAC roll up score, each NAC contributing score to total for that segment (range)
- Traffic layer will not load – needs to be fixed.
- Allow swipe between individual NAC maps, not just with final analysis map
- Can we include tribal boundaries as a layer?
- County Boundaries layer?
- Is there some way to alert users to limitations for tribal and NP areas in pop-up? In these areas can we have something on the pop-up that says "Incomplete Data. See Limitations Section of the Summary Document."

    - Andrew to add something to the effect of "Contact tribal or NP personnel to discuss the limited data/needs for these areas" to the limitations section of the Summary document.
- NAC Maps in this Final Analysis Map still go out to 6 decimal places, seems to be fixed in other maps. Desire to round all to whole numbers throughout.
- NAC 5 map shows blank values for some route names – check and fix throughout
- Verify or rectify consistency between all maps pop up and attribute displays (e.g. whole numbers, routes, mile posts, etc.)
- Make it easier to click on road segments to view scoring pop up when other layers are turned on. In other words, click has to be very precise to get the pop up when other layers are on.
- Can mile marker reference layer be on as a default?
- More location/reference detail could be helpful (e.g., more town names, more highway numbers, etc.)
- It could be helpful to provide users the opportunity to turn on and off layers for a couple different percentile cutoffs
- Is there a way to quickly access individual criterion maps without having to scroll through story map?

District Maps

- Color scheme: Why are district map colors so drastically different? Group split on if this was good or bad. Assume it was done because these maps are drastically different than NAC and overall maps. Maybe shouldn't be the same as NAC maps but should be similar. The black/red/gray/white color scheme was not working for most.
- Generally clunky to move around in compared to NAC maps and "look weird". Make more similar in function and feel as NAC maps. Ensure location of tools (legend, arrows, etc.) are similar between NAC maps and District maps.
- Floating title covers part of maps.
- Remove "top 10%" from legend (Districts 2-5, Missoula ok)
- Zoom issue-Maps do not zoom all the way back out when switching between districts (do we care?), Glendive district specifically brought up.

Story Map

- Can we have hyperlinks to summary document throughout the story map in appropriate areas?
- On first page NAC list, can we add "of overall weight" after the % for each NAC? Is there a way to visually demonstrate the contributions of each criterion (e.g. pie chart)?
- In text for NAC 5 explanation add "Highways and" in front of Adjacent in the title. Title should be "Highways and adjacent linear infrastructure…"
- Make Title more pronounced, bigger font, underlined, something to make it stand out, in Individual Criteria Map Text. Increase font size of storymap text.
- Some discussion of text for Individual Criteria maps was too long, to scientific, whatever. Was discussion of PIT crew taking yet another stab at this? Use paragraph breaks to add clarity to the text narrative. Is there a way to make the story map more interactive with visual examples rather than so much text?
- While Individual Criteria Maps show NAC Specific Score, NAC 3 specific map says Final NAC score, others just say NAC score. May have confused some folks. Maybe list in the User guide that Final Analysis Map has final score, Individual NAC maps have individual NAC score, District Maps show final score. (Example; looked at US 12 curve, MP 27.613-31.867).

- Link to the summary report from within the app at various spots (e.g. live link to NAC layer lists and discussions from story maps/individual NAC maps to summary report/excel table of layers)
- There was some confusion about the scrolling and folks not noticing the maps changing in the Individual Criteria Maps section. Too subtle moving between NAC maps.
    - Explain in user guide, but is there a way to make this more pronounced? Is it needed?
    - Can we have buttons instead of scrolling? Is that needed?
    - Gap between text in story map seems too big – can this be tightened up?
- Include a description of the color scheme and scoring (e.g. highest scores represent the highest need based on this analysis and are represented by red color).
- Is there a way to incorporate some context into the story map around what the scores mean?

Summary Document

- Table of contents, more titles listed for sections with hyperlinks to each section from TOC. Have hyperlinks in TOC to take you to that section of report.
- Need to move "intended uses" or general explanation of tool and how it should/should not be used to the top of document – maybe an executive summary? This information is also included in the Tool Description which will be linked to webpage. FAQ Section? What is intended use of the tool? Set expectations up front. This could also include a short background on the MWT statewide partnership.
- Better explanation of the NAC needed – what do the scores mean?
- More detailed explanation of scoring and weighting – how was this done, what does it mean? What is the sensitivity / subjectivity of the weighting?
- Andrew to add something to the effect of "Contact tribal or NP personnel to discuss the limited data/needs for these areas" to the limitations section of the Summary document.
- Include brief explanation of content in Help Guide, but direct users to specific locations in summary document for more detailed information on certain things (e.g. related to scoring, NAC composition, etc.). May need to add information to summary document to cover some of these questions/concerns.
- Need to explain traffic data – what does AADT mean? How is seasonal fluxuations shown or captured? Can this link to other traffic data outside of tool (e.g. traffic counts, seasonal data? Text in the report is hard to read. Differentiate between headings, subsections, content, etc. general formatting improvements.
- Sturm (correct) spelled Strum in Appendix 2
- Ensure maintenance and updates schedule are clearly identified. What are anticipated next steps beyond V1.0? Maybe needs to be summarized if sprinkled throughout limitations section?
    - How will action (e.g. accommodation projects) affect the map and how often will that be updated?
    - How will new data/models be added, who will decide if they are added and when?
- Can more background be provided? Why is this important? How does MT compare to larger picture? MT and national statistics? Bigger picture? IS this application the right place for this information? Maybe better addresses somewhere else?
- Add page numbers and acronym key in report
- What does "fine scale assessment" mean?
- Go through document and wordsmith to make more concise and clear.
- Include a reference page of all acronyms
- Could the summary document be distilled into an additional 1 pager overview for an average user from the public who may not read or follow the summary document in detail?

User Guide (Mike showed example of MDT Active Projects user guide that looked great)

- Include brief explanation of content, but direct users to specific locations in summary document for more detailed information on certain things (e.g. related to scoring, NAC composition, etc.). May need to add information to summary document to cover some of these questions/concerns.
- Attribute Table Explanation- what does all this mean?
- How to use Swipe Bar, which layer is on top, how to add other layers, how to change maps swiping between, etc.
- How to find tools on each map type (legend, arrows, etc.) – basic "how to" use the tool needed.
- Explain that certain features (e.g. cities, towns, etc.) only become visible when zoomed into certain scale(s)
- MP notation in attribute table explanation (e.g. MP 1+0.156 equals MP 1.156). Round this to 0.10-mile? Don't need out to thousandth.
- Cache clear issue of NAC maps not showing for multiple BETA testers, have front and center in user guide. Came up with NAC 3 map as well.
- Basic explanation of scoring, higher means greater relative need identified.
    - What does xx/100 mean? Why aren't District Maps on different scale (not necessarily max = 100)?
- Explain difference between Final Analysis Map, NAC maps, District Maps.
- Explain the use of "new window" in Final Analysis Map for improved functionality of final map display options selecting multiple sections of road (analysis), export from attribute table?
- Screen shot of map for sections selected.
- Final NAC Map Explanation:
    - Explain button to open the map in new window.
    - Explain folks can look at each NAC with base layers in this map, swipe bar to slide between each NAC.
    - Can look at all NAC data in this Final Analysis Map, with base layer choice.
- Maybe in User Guide, maybe in Summary Document consider including an example of locations and their scores – how to view and interpret? And show and tell illustration of what information can be gleaned from the tool?

Attribute Table

- Have NAC columns on far left for first thing that shows up.
    - In attribute table say NAC 1, NAC 2, etc. for column title, not "Human Safety and Property Damage", etc. for simplicity.
- Export information in attribute table explanation.

Other

- NAC 4 – FWP tester curious why no birds or herps included? Maybe need to explain rationale further in summary document?
- Nuances of weighting and scoring (see in Summary Doc bullets) – FWP tester questions NAC 2-4 – clarify how weighting and scoring was completed, sensitivity analysis, upper and lower bounds or values in mapping – DI group requests Justin Gude address this clarification. Need to keep in mind the broadscale nature of the tool and it's intended uses, and not meant to be species specific, project specific, etc.

- Why aren't fences included as a layer – addressed in data gaps/limitations of summary report – ensure this is clearly discussed in summary document and the "surrogate" of "adjacent linear infrastructure" in NAC 5.
- Can we link to other data sources from within the tool (e.g. traffic data)? Is this already included in the Summary Document "sources" section?
- Do we need a discussion of underreporting of carcass data in some areas – e.g. absence of carcass data does not necessarily mean no conflict, may be function of reporting inconsistencies.
- Add layer of completed wildlife accommodation projects – MDT working on this – maybe mention in summary document and will be added when available? V2.0?
- Clarify intent of tool = areas of need based on these 5 NAC representing conflict and connectivity. Opportunity addressed through the P3 application process.
- US 93 N segment score is 100- is this really correct?
- It would be neat to have a tool that provided an opportunity for viewing individual species maps

Takeaways

- Need help guide
- V2.0 – add wildlife accommodation layer
- Provide for export of outputs and screen captures for information obtained from tool (e.g. attribute table, mapping screen captures or export)
- Provide way to select and capture information from multiple highway segments
- Communications challenge/opportunities to share intended use of the tool (and the whole MWTP effort) to the public
    - Users need to understand how does this tool give me clarity around projects?