NCHRP 17-113 Tool Feedback and Ideas

September 25, 2025

# Overall

* The tool does a very good job for something that is so information-dense. The functionality is very effective.
* Some suggestions below are not necessary for immediate implementation but could be documented for future improvement. Several of these are identified as “V2+ improvement.”
* Tool does not seem to resize properly for a smaller monitor screen. It works well on a large monitor but on a laptop screen some things are not displaying well (Google Chrome and Microsoft Edge).
  + Knowledge Base cuts off the right side of the results.
  + On the Selection Tool page, the “Click to see the list of countermeasures” button covers up the SSA Hierarchy checkboxes.
  + Using the tool in less-than-full-screen view has similar issues where buttons and menus move around.
* In most places we open items in a new tab, which is good. Want to do this consistently throughout (e.g., “Click to see the list of countermeasures”). In these cases, it might be a good idea to add the symbol for opening in a new tab (box with arrow to the upper right) to the buttons. Examples of this are the “Knowledge Base” and “Fact Sheet” buttons on the countermeasure results.

# Home

* We could probably change to a more approachable, descriptive title rather than the official name of the project (can still keep official name and “NCHRP 500 Series” as subtitle or in existing brief description paragraph). One title idea: Safe System Approach Countermeasure Selection Tool
* Could add “About” page to house acknowledgements, disclaimers, background info, last update date, etc.
  + This could also link to brief relevant background information (e.g., FHWA SSA flyer, SSA Hierarchy report, NCHRP 500 series reports, etc.).

# Knowledge Base

* Might make more sense to move the Knowledge Base tab to the far right (Home-> Selection Tool-> Knowledge Base)
* Maybe change name to be more descriptive. Idea: Resource Library
* Clicking key words in the menu on the left only works when you click the word, not the checkbox. It would be preferable to be able to click the word or the box, but definitely should be able to click the box.
* What are the groups that show up when filtering the results (e.g., Group 1, Group 2, etc.)? Either provide a descriptive name for each group or remove the group headers. -> removed the group
* It is good that the titles provided are descriptive (full study/resource title).
* There are some duplicates in the Knowledge Base. Example: Effects of Signalization at Rural Intersections Considering the Elderly Driving Population
  + This example shows up twice. The descriptions are slightly different, and only one has a PDF you can download. But they are describing the same resource.
  + Need to do a scan to figure out how many duplicates there are.

# Selection Tool

## Filters

* May help user experience to move the instruction “Please select inputs from…” left so that it is closer to the top-left where the (American) user’s eye naturally starts (i.e., underneath the “Filters” title). May be good to have instruction in both places.
* It is important for users to be able to select multiple emphasis areas, target crash types, contributing factors, land use types, and SSA Elements. It would be ideal to have these drop-down menus feature radio buttons for the individual attributes.
* It appears the filter logic does not let you select an SSA Hierarchy tier if you have selected an SSA Element. These are not mutually exclusive, so recommend removing this logic. Instead of removing Hierarchy tiers that are not applicable, gray them out but keep them visible.
  + If this change to the logic is not possible, make it clear to the user that this is either SSA Element or SSA Hierarchy. This could be done by clearly showing the two as a pair (e.g., border around them both) and adding “OR” in between them.
* (V2+ improvement) It may help users to understand the extent of available countermeasures for a given filter by populating the number in parentheses next to the filter attribute in the drop-down menu. For example, Emphasis Area would show:
  + Impaired driving (4 items)
  + Intersection (38 items)
  + Occupant protection (2 items)
  + Pedestrian and bicyclists (24 items)
  + Post-crash care (1 item)
  + Roadway departure (39 items)
  + Speeding (21 items)
* It would be ideal for these counts to update dynamically based on the chosen combination of filters.
* There is some confusion between the purpose of the “Click to see the list of countermeasures” and the “Apply Filters” buttons. Suggest removing the “Click to see” button, because the user can get the same info by exporting the results to CSV.
  + If you elect to keep both buttons, recommend opening the list of countermeasures in another tab so the user doesn’t lose their place in the tool.
* (V2+ improvement) It may be helpful to add a general search bar at the top of the filters so users can simply search for keywords.

## Countermeasure Results

* The placement of the checkbox to select each countermeasure may be confusing. It appears to be aligned with “SSA Hierarchy.” Suggest centering it vertically for the overall box of results and adding a vertical separator between the checkbox and the rest of the material (similar to columns in a table).

## Output

* The CSV is output seems useful. The PDF output does not seem as useful. Understanding that the PDF can’t be as extensive as the CSV, it may make sense to only provide the info in CSV format. If PDF is desirable, it would be ideal to at least include CMF information. If possible, also relevant additional countermeasure info.
* In PDF (if we choose to keep):
  + “SSA Pillars” should be “SSA Element”
  + There is a null value in the PDF title (“, Emphasis Area: speeding, Total: 1”)
  + (V2+ improvement) The PDF could hyperlink back to the tool itself for more information.
* (V2+ improvement) It would be ideal to uniquely name PDF/CSV downloads so the user can tell the difference if they download the results of multiple different queries.
* (V2+ improvement) A search bar to search for keywords after running the filters could be helpful to users who want to take their query results and further pare them down.
* The cost rating (low/moderate/high) is rather subjective. Understanding that it is difficult to provide firm cost numbers across jurisdictions, it would be good to provide rough guidelines on what these bins mean.
* For service life, specify “years”
* (V2+ improvement) The photos are small. It would be great if you could click to expand them.
* (V2+ improvement) We could consider giving users the option to tag countermeasures as favorites and then they can filter to only see their favorites.
* It would be great to have an option for users to flag countermeasures for revision/review. This could be a small button in the corner of each countermeasure entry. E.g., a treatment could apply to rural but isn’t marked as applicable, a user could provide a link to a study that indicates expected safety performance where we did not have any before, or a user identifies that a reported CMF is not applicable.