Tualatin Hills Nature Park

Accessibility of Closure Communication

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15th March, 2022
Frameworks for Technical Writing
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Introduction

The technical communication problem I will be addressing in this project is how to keep park users safe in the Tualatin Hills Nature Park. The park has about 5 miles of walking trails, several of which have been closed on and off for the last year to pedestrians due to construction. Maps indicating closures are only available in the park and are unclear and inaccessible to several demographics. The closures on the English maps can be interpreted in multiple ways leading to confusion and possible danger for park users. The maps posted in the park have information posted in English on one side and Spanish on the other. However, the Spanish maps have keys that are written in English which could lead to possible confusion. Additionally, many of the park users who need translation services are not English or Spanish speakers and would need translation in other languages. In the Portland, Oregon area at least 9 languages are spoken by over 1,000 speakers including Spanish, Vietnamese, Chinese, Russian, Somali, Ukrainian, Romanian, Nepali, and Chuukese with about six other languages not meeting the 1,000-speaker threshold but still having a significant number of speakers (City of Portland).

I hypothesize that the Tualatin Hills Nature Park could more effectively prevent users from walking on potentially hazardous paths by making minor adjustments in the parks and or by editing the maps to make closures clearer and more accessible. Making these maps more readily available will keep pedestrians safer within the park and prevent them from accessing trails that are closed and dangerous due to construction.

Analytical Lens

To analyze this technical communication problem in the park's communication with users, I will be using a synthesis of the design and social justice frameworks. In this section, I will outline the elements of the analytical frameworks I intend to use to analyze this technical communication problem. The design framework will help me see how users interact with the maps and other signifiers in place at the park. The maps in place in the Tualatin Hills Nature Park are a symptom of a larger communication problem that could be addressed more effectively.

The design framework will show how the conceptual model of the park is being understood by users. Norman defines a conceptual model as "an explanation, usually highly simplified, of how something works. It doesn't have to be complete or even accurate as long as it is useful." (Norman 25). The maps and signage in the park show a representation of where the paths lead and help users plan a route that will help them get to their destination. The design framework will also show the physical, cultural, semantic, and logical constraints in place that prevent or do not prevent users from accessing dangerous paths. Physical constraints are "[p]hysical limitations [that] constrain possible operations" (Norman 125). In the nature park, physical constraints are used to block some of the closed walking paths. Cultural constraints mean that "each culture has a set of allowable actions for social situations" (Norman 128). When entering a park most Americans know that they are not supposed to walk off of designated trails or climb over fences blocking certain areas. Norman explains that "[s]emantic constraints are those that rely upon the meaning of the situation to control the set of possible actions" (129). A bridge over a river is a semantic constraint that shows very clearly the path users are intended to take and prevents users from walking through the water. Logical constraints are found in the "relationship between the spatial or functional layout of components and the things they affect or are affected by" (Norman 130). If a user walks on a path heading north, they will logically expect that the path continues to take them generally to the north. These constraints used in the Tualatin Hills Nature Park are often more effective than written maps to communicate to a wide range of users the paths they are intended to take.

The design framework will help me see the diverse needs of park users and how TC can help to meet those needs to keep users safe. Using the social justice framework will expose oppression some park users face when accessing information provided by the

park system; this includes, but is not limited to, language barriers and text size. Though it is unlikely that the needs of marginalized groups were intentionally dismissed, the design priorities in the park signage and constraints of the Tualatin Hills Nature Park reflect systemic biases that contribute to the marginalization of these minority groups. Understanding the needs of minority groups and finding a way to meet those needs within the design and budgetary constraints of the park will help create a more localized approach to communication with the users who frequent the park.

Using Walton, Moore, and Jones' 4R's heuristic, recognize, reveal, reject, replace, will provide the framework for making sure that adjustments to TC in the park will actively fight against oppression of people who speak English as a second language and the elderly. Recognizing means that a TCer will "center the experiences of marginalized citizens" (Walton 138). In analyzing park signage, a TCer will notice that many users need translation services in languages other than English and many users are unable to read signage close to the ground or with small print. Then, the oppressive system in place will be revealed to the people responsible for managing the park and the park signage. Park managers will then have the opportunity to reject the current design and commit to a more cooperative design process that includes the voices of those who are marginalized by the current communication available. Finally, the current system can be replaced with one that considers the needs of those who are being marginalized and can provide a more equitable system that will keep all users safe, not just those who are able bodied, native English speakers.

In this project, the design framework will help make sure that the replacement system will be clear and user-friendly. If not implemented with care, a replacement system could potentially be more confusing for users and contribute to more injustices rather than eliminating injustices. When designing a new system, TCers should develop and test the system with feedback and testing from a wide range of users who will be able to give the designers feedback needed to ensure that marginalized groups are no longer overlooked by the system. The new system implemented should be more just for all users and should be designed with more discoverability so all users can more easily understand and stay off of hazardous paths in the Tualatin Hills Nature Park.

Analysis

In this section, I will be applying the design and social justice frameworks outlined in the previous analytical lens section to reveal the scope and depth of this technical communication problem. I will start by analyzing the design of the maps in the park, then I will analyze additional means of communication being used by the park to communicate path closures.

Maps Availability

Maps of the park can be found posted at five out of six park entrances with pamphlets of the maps available at the Millikan Way park entrance. The only entrance that doesn't have a version of a map available is the north entrance that opens from the Beaverton School District parking lot onto the Old Wagon Trail. There are four maps that show details of the trail closures; one is found on the bulletin board at the nature center and three popup maps are placed within the park. The placement of these maps and the lack of translation services make these maps confusing for users and contribute to the marginalization of minority groups.

Figure 1 Bulletin board at Millikan Way park entrance

The southeast entrance to the park on Millikan Way is one of the most popular entrances as it is the only one that has a public parking lot, bathrooms, and the nature center building. This bulletin board (figure 1) offers a map of the park (pictured left) as well as pamphlets with an identical map printed inside. These pamphlets offer maps in English and maps in Spanish, though the pamphlets are unavailable at any of the other entrances

and do not provide information about the trail closures. The Spanish translation of the map is only available at this entrance location though the translation is incomplete and still requires Spanish speakers to have some knowledge of English to access the map. The top right section of the bulletin board has a map titled “Sanitary/Stormwater Project Information and Projected Trail Closures” with a map of the closures within the park (this image is enhanced in figure 2 below).

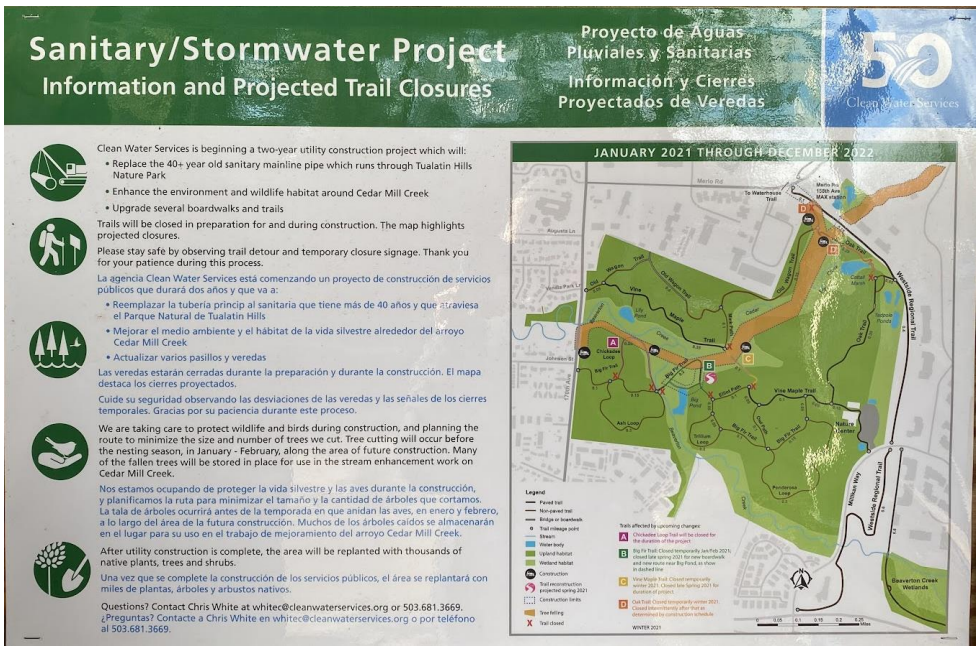

Figure 2 Sanitary/Stormwater Project Information and Projected Trail Closures Poster

While the information provided on the left of this map is translated into Spanish, the more necessary closure information on the map on the right is not translated into Spanish and is, therefore, inaccessible to non-English speakers. Lack of accessible translation marginalizes Spanish speakers and similarly marginalizes groups who also require translation services that are not provided by the park. Typical users would be most concerned about learning which trails might be closed on their route through the park and would be the thing they would look for first. Therefore, most users would expect to find this information on the left hand side as the most common languages spoken in Portland read from left to right. Further, the design of this map places the most needed information for users in small, colored print on the right hand side towards the bottom of the poster; for a typical user, this is the last place they would look for this information. Moving this information to the top left of this poster and moving the poster itself to a lower location on the bulletin board would make it more accessible for many users. This

same translation issue is present in the pop-up versions of this map found within the park. Placement of the information on this map and lack of translation make it difficult for users to access the most important information to them. In figure 3 pictured below, a closer look at the closure poster from figure two shows the trails affected by the construction changes.

Communicating Closures

Figure 3 Trails Affected by Construction

Information about closed trails reads as follows:

“Trails affected by upcoming changes:

A. Chickadee Loop Trail will be closed for the duration of the project
B. Big Trail Closed temporarily Jan/Feb 2021; closed late spring 2021 for new boardwalk and new route near Big Pond, as show in dashed line
C. Vine Maple Trail Closed temporarily winter 2021. Closed late Spring 2021 for duration of project
D. Oak Trail Closed temporarily winter 2021. Closed intermittently after that as determined by construction schedule”

Path A is the most straightforward. This path is closed for the project duration. However, the color coding of the path is difficult to see and the red Xs placed near the trailheads to signify closures can be interpreted in multiple ways resulting in users being more confused than helped by the presence of the map.

The representation of Path B is one of the least accurate on this map. The upper loop of the path remains closed. The key indicates that the path was to be “closed late spring 2021” but did not indicate the period it should be reopened, leading users to believe that the path would only be closed for late spring of 2021. The bottom section of this path is, however, open for users. The map does not account for this opening in any way and makes it seem that it is completely closed.

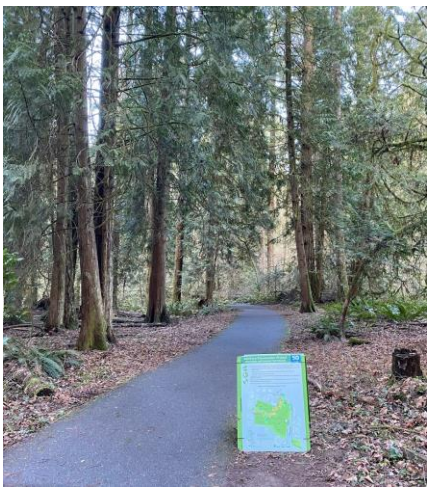

Figure 4 Pop-up Closure Map

The Vine Maple Trail indicated with Path C has been open for several months though closure signs have been placed on both sides of the trail as shown in figure 4 below. The maps indicate that this path should be closed for the duration of the project but there are no indications to users that the path is actually closed. If the park does not want users to walk on this path, it should make it more clear to users that the path is unusable by using physical constraints. Similar maps with trail closures can be found in three other locations within the park with some differences.

Two of the three pop-up signs have a Spanish version of the map on one side and English on the other. These maps are plastic and are attached to wood popups. Pictured

in figure 4, the map is placed to the side of the Vine Maple Trail. The key to the map indicates that this trail is “Closed temporarily winter 2021. Closed late Spring 2021 for duration of project.” Though the red Xs indicate that the trail is closed. The placement of the sign does not act as a physical constraint preventing users from passing and makes it seem that the trail is open to users despite its claim that the trail is closed “for the duration of the project.”

Path D, the Oak Trail, is more easily distinguishable than paths A, B, and C, though it is impossible for users to know if the path will be open because it is open “intermittently.” This vague language is not helpful for users and poses the potential for serious delays and rerouting when the path happens to be closed, especially given that users have no other way of knowing that a path will be closed besides encountering the path with physical constraints to prevent usage.

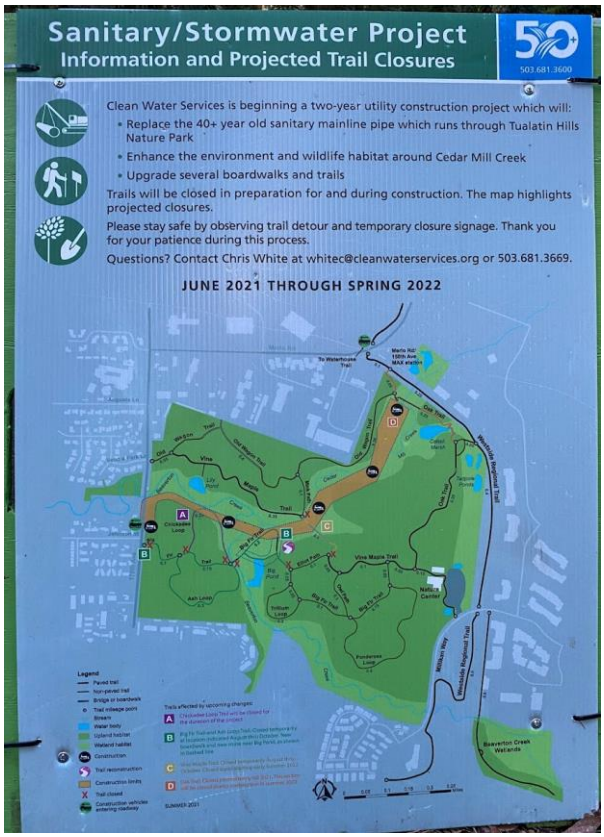

Figure 5 Pop-up Closure Map English Version

Figure 6 Pop-up Closure Map Spanish Version

The design of the pop-up maps pictured in figures 5 and 6 exhibit the manner in which the priorities of the park and the map designers contribute to the marginalization of several groups of users. With the most essential information in small, colored print at the bottom of the map near the ground, it is difficult to read for anyone who cannot bend over easily and does not have perfect vision. The additional lack of translation of the key for people who do not speak English is an accessibility barrier for many park users. Not taking into account the needs of minority users, the park system shows that its priorities do not include accessibility for minorities. With feedback from park users, the park system will be able to alter their approach to the development of maps and other technical communication to increase accessibility for all users.

Other Communication Forms

The Tualatin Hills Nature Park webpage, thprd.org, does not have closure maps of the park nor is additional information available for users to access when planning park visits. The only information available about the current construction was found in the meeting minutes of Five Oaks Triple Creek NAC Of Beaverton, Oregon from January 11th, 2022 (Figure 7). This is an accessibility issue for people who need to plan their routes through the park and could be solved by adding a legible map of the closures to thprd.org.

- Tualatin Hills Nature Park Update: Clean Water Services sewer construction project is on pause for the winter. Some trails have been temporarily rerouted. A new boardwalk overlooking the Big Pond can be accessed via the Big Fir Trail.

Figure 7 Beaverton Meeting Minutes

The lack of availability of park closure information on the internet is an accessibility issue for many users. Without sufficient translation of maps in the park, users who need translation may be able to translate information themselves if they could copy and paste the information into translation software. Access to closure information on the park's website would also be helpful for people who are not able bodied and need to plan their routes to ensure that they will be able to use accessible paths that are asphalt rather than dirt.

Figure 8 Fenced off Path

Closed sections of paths A and B are made clear by the addition of fencing shown in figure 8 to act as a physical constraint and a sign that says "Do Not Enter Trail is temporarily closed for construction. Visit THPRD.org for more

information." As stated above, the website indicated does not provide any information about the closures at all. This fence is an example of a physical constraint placed on the path that communicates to all users that this path should not be used. This simple

constraint makes it clear to all users—regardless of language barriers or disabilities—that the path is not currently accessible. Because this path is not an essential path for users to access other places in the park, the barrier alone is sufficient communication with users to keep them safe. The additional sign with a website that does not provide additional information about the closure is unnecessary and possibly more confusing for marginalized users.

Conclusion

Information about trail closures in the Tualatin Hills Nature Park is difficult to read because of its current design and is inaccessible to many users due to lack of translation as well as lack of availability within the park and on the internet. The non-user centered design of the park closure maps including the small, colored print and the counterintuitive placement of the most essential information makes it difficult for all users to access information about which paths are usable. Viable solutions to this communication problem would include internet availability of park closures, editing of maps to have larger text in more languages, and/or only placing maps in areas where closures are active. To ensure that solutions to this technical communication problem are helpful to minority groups and are further marginalizing, the Parks system should perform wide ranging tests or implement a feedback system to make sure the needs of minority groups will be met with the new system. With an adaptation of their current design and a coalition of users to provide feedback, the Tualatin Hills Nature Park will be able to create a system that is more usable and inclusive of all park users.

References

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