Exploring Veterans Transportation Experiences to Veterans Affairs Facilities

Introduction

The purpose of this project was to create an online interactive mapping tool for exploring transportation problems facing veterans and the Department of Veterans Affairs (VA). When attempting to travel to VA facilities, many veterans often have long wait times for buses or Para-transit services. These delays may cause them to miss appointments or even give up on seeking treatments. Even driving to a VA facility can be a challenging experience.

The primary function of the Department of Veterans Affairs (VA) is to provide services and benefits to millions of veterans and their dependents. This is well exemplified in their mission statement which is as follows:

> To fulfill President Lincoln's promise "To care for him who shall have borne the battle, and for his widow, and his orphan" by serving and honoring the men and women who are America's veterans (VA, 2010a)

Services offered by VA often include, but are not limited to the following: health care, burials, and benefits across compensation and pension, education, insurance, loan guaranty, and vocational rehabilitation and education. Veterans often receive care at VA medical centers (VAMCs) or community based outpatient clinics (CBOCs). They can also pursue care from alternative providers. Many veterans have disabilities that preclude use of transportation modes such as driving their own car and need to ride in specially equipped vehicles. Some disabled veterans may be able to use public transportation such as bus or rail. Others may utilize services of Veterans Service Organizations (VSOs) that are run by volunteers. Depending on the complexity of the VSO it may have specially equipped vehicles to provide transportation for disabled veterans. Lastly, most VA medical centers are located near large urban centers and many veterans live in more rural areas. One of the prime criteria for VA decisions for new construction or renovations to existing centers is based on a reasonable transportation time for the average veteran. A thirty minute or less drive time is commonly preferred but not always possible. To inform this decision it is important to know where veterans live and what travel options they may have.

Background

In developing my detailed project proposal I conducted additional reviews of VA's eBenefits (www.eBenefits.va.gov) and MyHeatheVet (http://www.myhealthevet.va.gov) websites. These sites offer facility locator features but only provide text listings per state followed by a choice to display the location on maps from Yahoo, MapQuest, or Google (VA, 2011a,). Not all locations include a mapping choice. If a map is offered it includes a url to the map provider and selecting this link only provides a map of the continental United States without retaining the location information. Users have to enter that information manually. I also searched both sites to learn about veterans travel benefits. This proved fruitless from either eBenefits or MyHealtheVet. Through trial and error I discovered a Frequently Asked Questions (FAQs) tab under the Contact Us tab. The FAQs does support searching and I found information on eligibility for travel benefits and options for seeking travel assistance (2011b, VA). This information was rather complex and I imagined it could be rather difficult to navigate. For

veterans deemed eligible for VHA treatment, the following subset are considered eligible for travel reimbursement (Adapted from 2011c, VA)

1. Veterans rated 30% or more Service Connected [disabled] SC for travel relating to any condition
2. Veterans rated less than 30% for travel relating to their SC condition
3. Veterans receiving VA pension benefits for all conditions
4. Veterans with annual income below the maximum applicable annual rate of pension for all conditions
5. Veterans who can present clear evidence that they are unable to defray the cost of travel
6. Veterans traveling in relation to a Compensation and Pension (C&P) Examination
7. Certain veterans in certain emergency situations
8. Certain non-veterans when related to care of a veteran (attendants & donors)
9. Beneficiaries of other Federal Agencies (when authorized by that agency)
10. Allied Beneficiaries (when authorized by appropriate foreign government agency)

Several other FAQs are offered on the subject of travel benefits. These ranged from benefits for veterans depending on which theaters of war they had served in, injuries suffered, services available from volunteer organizations, to persons accompanying veterans.

In addition to exploring VA websites I also reviewed several transit study articles and of these I found two that were very closely aligned with my topic. The first study, entitled, *Rural Veteran Access to Healthcare Services: Investigating the Role of Information and Communication Technologies in Overcoming Spatial Barriers* (Schooley, et al., 2010) reported findings from their study of veterans receiving treatment at the White River Junction VAMC in Vermont in April of 2008. The following is gleaned from that study.

> Two of the key but not surprising findings were that older veterans used computers less than that of younger veterans and also that very few of the older veterans were aware of MyHealtheVet. Many of the veterans travel over 50 miles to receive care with a range of 3 to 200 miles. This study also addressed preferences for interacting with VA staff via telephone, computer, or in person. In general the younger veterans preferred computer interactions for managing visits and their personal medical history. The older veterans either were less likely to have computers, internet access or feel comfortable communicating remotely. Only a small fraction,~8% of the surveyed respondents reporting using technology in advance for obtaining driving directions, however ~22% used the Internet to check weather and road conditions. The study also posed questions regarding impacts to obtaining services. Whether for routine visits or surgical care, having to travel greater distances impacted veterans willingness to utilize the VAMC over that of another medical facility. Overall the study concluded that well thought out strategies to incorporate technologies to delivering medical care could overcome the travel barriers.

The second study that I found very useful was, *Improving Mobility For Veterans* (2010, Burkhardt, et al). This study provided an in-depth summary of veteran's statistics and explained the VHA beneficiary travel program funding. I gained valuable insight to the costs involved. The following summarizes what I gathered from this study.

> VA is currently serving approximately (~) 23 million veterans and ~8 million were receiving care from VHA in 2009. Of this figure, ~40% are 65 years of age and older. The travel benefits offered by VHA had expenses in fiscal year (FY) 2010 of ~$750 million. In addition to this program the Veterans Benefits Administration (VBA) offers the Automobiles and Specially Adaptive Equipment Program (ASAE) for a subset of disabled veterans and members of the Armed Forces. The VBA ASAE program costs were ~$66 million in FY 2010. These two veterans benefits programs combined total to ~$816million in travel for FY 2010. Due to the observed increasing illness rate of the Vietnam era veterans and higher rate of injuries for veterans from the Middle East conflicts (Iraq and Afghanistan) the VA is anticipating increased costs over their FY2010 VHA costs of ~$45 billion. From FY 2006 to FY 2010 VA's medical costs increased by ~55%. VA is very concerned about rising costs and how well services are delivered. Many veterans may not be receiving care due to the complexities of navigating the VA eligibility system as well as due to needing to travel great distances to access care. It was cited in the study, "…40% of veterans live in rural areas and the majority of younger veterans are more likely to live in rural areas…and veterans living in rural areas are more likely to receive lower quality care." Missing appointments or waiting until serious illnesses occur could lead to increased costs.
>
> The VHA is divided into 21 Veterans Integrated Service Networks (VISNs). In general each VISN operates independently which reduces opportunities to share lessons learned from regional travel experiences. Many regional, state and local travel solutions offer travel benefits to veterans. Furthermore, several volunteer and non-profit based veterans' service organization (VSOs) operate vans to assist in transporting veterans. In particular, the Disabled American Veterans (DAV) offers transportation services depending on participation from its volunteers. The study recommends VA seek means to disseminate travel solutions and conduct additional in-depth studies of veterans' mobility. The proposed additional studies would pose detailed survey questions, such as: day of travel; times, origins, destinations, trip purpose, wheelchair accessibility needed, funding sources, round trip cost of trip, quality of experiences.

Study Questions and Goals

Over the past several years I had worked on customer facing web application projects for VA. This provided me with a familiarity with their attempts to improve their online interactions and increase self-service opportunities for veterans. I observed that the current VA web pages lacked an interactive map offering veterans the capability to enter location and text about their experiences traveling to VA facilities. From these observations I concluded that this proof of concept would be innovative for VA and veterans. Furthermore I wanted the solution to ensure respondents anonymity to protect their privacy. For the map interface I wanted a simple base map with layers to orient users to roads, hydrology, transportation, city, state, and cultural geographic features.

In conceiving this project I set out to explore the following questions with the thought that these could yield information for VA medical center site selection and transportation planning.

1. For veterans who use public transit, what kind of experiences do they have when travelling to VA facilities?
2. When they use trains or buses do they make it to their appointments on time?
3. Where do they start their trip from?
4. How long in time and distance to veterans travel on a point to point basis?
5. How many veterans rely on a volunteer service organization (VSO) transportation services?
6. What other modes of travel might a veteran choose, i.e. walk, ambulance, bicycle, passenger in another person's car, etc.?

I had several goals in mind for this project and to keep it on track I developed a detailed project proposal and schedule. From this activity I managed to execute two tasks during the planning stage. The first was obtaining Institutional Review Board (IRB) from my employer to conduct a survey with my co-workers. Based on this finding the Penn State IRB process was deemed unnecessary. The second task was obtaining a $100 educational grant from Amazon for use of their elastic cloud computing platform (E2C). In developing a schedule to this level of detail, which was aligned to my project objectives, I felt confident I would successfully complete the effort. I started executing the project proposal in late September of 2011 with a goal to complete development, survey data collection and analysis by mid-January 2012 to achieve the final steps of presenting the results at professional conference at the end of February 2012. The following list of goals and objectives drove the project development:

- Illustrate a proof of concept for expanding VA website offerings that could lead to an improved understanding of veterans' travel experiences
- Generate information that could enhance scheduling of veterans for care and treatment
- Improve analytics for medical facility site selection
- Collect information that can be shared for possible opportunities with external partners
    - Veterans Service Organizations (VSO)
    - State or regional transit systems
- Development Principles
    - Develop a thin client web based tool for capturing veterans experiences traveling to Veterans Health Administration (VHA) facilities
    - Utilize free and open source software and data to the greatest practical extent
- Capture anonymous responses
- Survey questions
    - Zip code starting point and medical center destinations
    - Transport modes (auto, transit, Volunteer Service Organizations (VSO), etc.)
    - Travel ranges for:
        - Times: 30, 60, 90, 120, or 180+ minutes of driving
        - Distances: 10, 20, 30, 40, 50, or 75+ miles

- Appointments kept or missed

Development

I started the development by refreshing myself with my project deliverables that I had completed for Geography 585, Open Web Mapping. For this course I had created a demo web mapping server that for interactively displaying VA medical facilities, roads, airports, train stations, rivers, and the cities and states within the District of Columbia, Maryland, and Virginia. I had developed this locally on my laptop by installing Apache Tomcat to host GeoServer which functioned as the web map server (WMS) for the responding to browser requests from the thin client I had written in java script, namely OpenLayers. I had planned to extend this to what is commonly referred to as a web feature service transaction (WFS-T) server to add information to the map and have it stored during a user session. In addition, I was planning to use WordPress as a content management system (CMS) to control user access and manage session interactions.

I refreshed my G585 project with the latest versions of Tomcat, GeoServer, and OpenLayers. Then I added the capability to save edited data to PostgresSQL/PostGIS database that I also installed locally. This is install was a bit tricky since the instructions contained a few errors. From here I explored OpenLayers tutorials for adding capabilities to query and save point data. This is commonly referred to a web feature service transaction (WFS-T). After quite a bit of trial and error I got this working with both Google Maps and Open Street Maps (OSM) as alternative base map layers. However, in parallel as I was developing the content management system (CMS) I realized that when I migrated from local to remote server platform that I would need to integrate the Tomcat for GeoServer with Apache for WordPress. At this point I felt continuing this approach was to high risk for my schedule, which led to my exploring WordPress geomashup and survey form plugins. Unfortunately, this provided much less than satisfactory results. I evaluated nearly 30 plugins and explored the WordPress forums only to discover what I was developing required customization of the plugins. This equated to needing to learn more java script and php (Hypertext Preprocessor) code.

Looking for an alternative to more code development I chose next to explore ArcGIS Online (ESRI, 2011a). I had cited this as an option in my project proposal and therefore was aware that it offers out of the box, meaning no coding required, several of the needed application capabilities. These included: controlling user access, settings for anonymous guest users, the ability to retrieve and/or modify marker content, and search for locations on a map are available. Upon further evaluation I discovered however that I would need to install a copy of ArcGIS Server/ArcSDE on a remote server to manage storing the survey responses and the facility locations in a database. This really concerned me since I had already expended considerable effort installing PostgresSQL/PostGIS and did not feel I could afford the learning curve of another install. Furthermore the look and feel of the map ArcGIS online interface could not be customized with help tips or simplified to remove the unneeded features. I did experiment with the ArcGIS JavaScript Application Programming Interfaces (APIs) since these allowed for customization of the map interfaces and displays but again was very concerned about the ArcGIS Server/SDE install and concluded this was a less than desirable option (ESRI,2011b).

Still looking for alternatives to integrating WordPress with GeoServer and OpenLayers, I moved onto exploring the Google Maps API's and tutorials (Google, 2011a). I found myself absorbing this material more readily and could leverage the MySQL database that I had already installed for WordPress. Ironically, in demoing this in a peer review I realized that I did not need WordPress. In short order I had the key application features of searching and retrieving facilities for display with a pop up window for survey questions operating locally. Ironically, in demoing this in a peer review I realized that I did not need WordPress but I was relieved to no longer need to pursue this integration. The Google Maps

API's provide geo-coding of user input and a latitude and longitude position which is used to query the database of stored facilities. Each facility is stored with its name, address, latitude, and longitude. The java script calls a php script to interact with the MySQL database and retrieve the facilities within the specified search criteria. The java script and HTML call the Google Maps API's as needed to display the facilities as text and as markers on the basemap as shown in Figure 1. Veterans Medical Facility Locator and Survey Tool Project page.

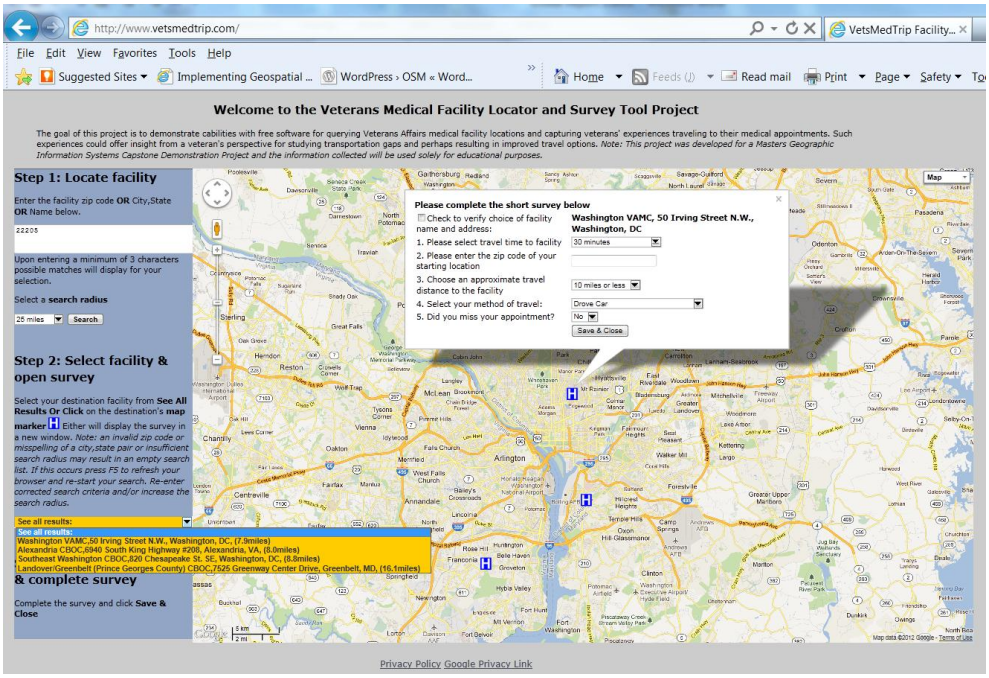

Figure 1 Veterans Medical Facility Locator and Survey Tool Project page.

The application allows users to mouse click a facility marker and complete the survey which is displayed in the pop up window. Once the user completes the survey and clicks on Save & Close the survey data is stored to the database, the window closes and the page navigation exits the user Thank you web page. The Thank You page serves provide users with awareness that the survey is complete and prevent any malicious spamming of the database with irrelevant survey responses. From the Thank you page a user can select a link to navigate back to starting page if desired to complete additional surveys or simply query the map again for locations. Even though free and open source software (FOSS) purists consider either ArcGIS Online or the Google Maps APIs to be commercial and there not exactly FOSS I felt this to be a moot since my goal was to demonstrate a capability within a given timeline. With additional investment in server side technology I would have achieved development with GeoServer and with OSM as the basemap. The license and terms of use for Google Maps APIs specify use for not for profit or educational use, given less than 2500 map requests per day occur. I was confident that my user base would not exceed this level. For enterprises expecting such volumes or larger a professional Google Maps license is required.

Once I had all the mapping and survey components working locally I started migrating the web pages and php scripts to the virtual company I selected for server hosting. As I mentioned earlier I had hoped to deploy to the Amazon E2C. While I had received a $100 education grant credit from Amazon when I researched this option under G596A efforts I was concerned as to how difficult loading all the server and database software could be. A Penn State course on GIS cloud computing that I had hoped to audit in the Fall of 2011 was delayed until 2012. Given this delay and the possible time risk and technical

challenges of learning how to load and test this software I decided to look at virtual hosting options. I learned I could register a domain name, select unlimited data storage and not have to load WordPress, or the Windows Apache Microsoft PHP (WAMP) stack with MySQL database and phpadmin. I selected this option to save valuable time for testing and analysis. For a nominal fee of ~$10 which included leasing a domain name of vetsmedtrip.com I felt this was a valuable time saver.

Testing and Survey Data Collection

As the development progressed to deployment to the remote server I conducted three (3) rounds of user testing. This was quite valuable in arriving at the current design. When I initially conceived the user experience I felt it would be overwhelming to see the map first, search for facilities, and then end with completing a survey. In the first two rounds of user testing I first offered the survey, then provided navigation to the map interface, and ended with optional questions. Furthermore I thought prompting them twice to enter their destination would be a good form of user validation. I also thought I would need to develop mouse over help tips to aid users in operating the map. However, as I worked to integrate the survey questions and facility search capabilities I realized it would be easier to show the map first and embed the survey in the facility marker pop-up window. Given that in the first two rounds of user feedback I had not included the help features and had no negative complaints on operating the map controls I decided to revise the application to show the map on start up with user instructions to search for facilities and then complete the survey. While I found this could put survey completion at risk, several users felt offering the map at the start would provide for a much richer and engaging experience from the start. In the third and final round of testing I went with this design and received no complaints or requests for instructions to complete the map. I migrated the final design from my local platform to that of the virtual host by mid-December. I continued to conduct several hours of user testing on my own and realized that for the very large states of Alaska, California, and Texas that search radius criteria of less than 200 miles for some starting zip codes could result in an empty query result. This led to modifying the initial search choices of 25, 50, or 100 to choices of 25, 50, 100, 250, 500, or 1000 miles. I also decided to add an autocomplete feature to aid users in searching for facility names. I felt this would counter my concern that many users may not know the official VA name of a facility. The facility names and related location data were obtained from shapefile found at www.data.gov (Data.gov 2011a). I made minor modifications to the VA facility names to simplify display with mouse over tool tips as well as to aid in de-conflicting common names, e.g. Athens VAMC, OH and Athens VAMC, GA. I also conducted testing with basic Google maps to explore what if any VA medical facilities may exist in their database (Google 2011b). I tested approximately six VAMC locations. While these did come up with the autocomplete feature used by Google maps and then display the facilities within the basemap and with a marker, the key difference between this and my project is that Google maps only shows one facility at a time. And of course it does not include a survey component in the popup window.

In following suggested best practices for website development I also created a privacy policy and made it available as a separate page. This policy explained the purpose of the site as well as how the data would be stored, accessed, and analyzed. In addition, as required by the Google API terms and conditions I added a link to their respective privacy policy in the footer the vetsmedtrip.com home page. Starting in mid-December I sent email invitations with links to www.vetsmedtrip.com, to approximately 35 friends, family, and co-workers who had volunteered to complete the survey either as actual veterans or were role playing veterans who had recently completed a trip to VA facility.

The survey results are summarized as follows:

- Approximately 50 respondents selected 41 facilities
- Observed 1-2 responses per facility
- Collected responses from mid-December 2011 to mid-January 2012
- User general experience feedback
    - Positive and indicated easy to use
    - Would like to know more about facility, e.g. medical specialties offered
    - Great tool for veterans considering re-locating to an area
    - Consider adding veterans benefits locations
    - Add a start search locator indicator

I exported the survey results from the MySQL database table and viewed the results with Excel. I noted that 50 responses selected 41 facilities as shown in the following Table 1. In general I observed 1-2 responses per facility. One facility had 4 responses which is not surprising given its location in the Washington, DC metropolitan area which is where I and most of my co-workers reside. Figure 2 on the following page shows the facilities by location and appointment status.

Table 1 Facilities Selected in Surveys

Facility Name	Count
Aberdeen (Brown County) CBO	2
Abilene TX CBOC	2
Akron CBOC	1
Alexandria CBOC	4
American Lake VAMC	1
Auburn CBOC	1
Baltimore VAMC	1
Cambridge Maryland CBOC	1
Camp Hill Outpatient Clinic	1
Canyon County CBOC	1
Chapel St CBOC	1
College Station (Bryan) CBOC	1
Durham VAMC	1
Erie VAMC	2
Fairbanks CBOC	1
Houston VAMC	1
Jesse Brown VAMC - Chicago	1
Kenai CBOC	1
Landover/Greenbelt (Prince G	1
Lyons VAMC	1
Middle Tennessee HCS-Alvin C	1
Millsboro VA Primary Care Cli	1
Mount Vernon CBOC	1
New York Harbor HCS - NY Div	1
Niagara Falls CBOC	1
Orange City CBOC	1
Pacific Islands HCS (Honolulu	1
Portland Oregon VAMC	1
Rome CBOC	1
San Antonio, TX CBOC	1
San Francisco VAMC	1
Slidell CBOC	1
Southeast Washington CBOC	2
State College (Centre County)	1
Stephens City CBOC	1
Tilton CBOC	1
VAMC Biloxi VR	1
VAMC Richmond VR	1
Washington VAMC	2
Wellsville CBOC	1
Winston-Salem CBOC	1

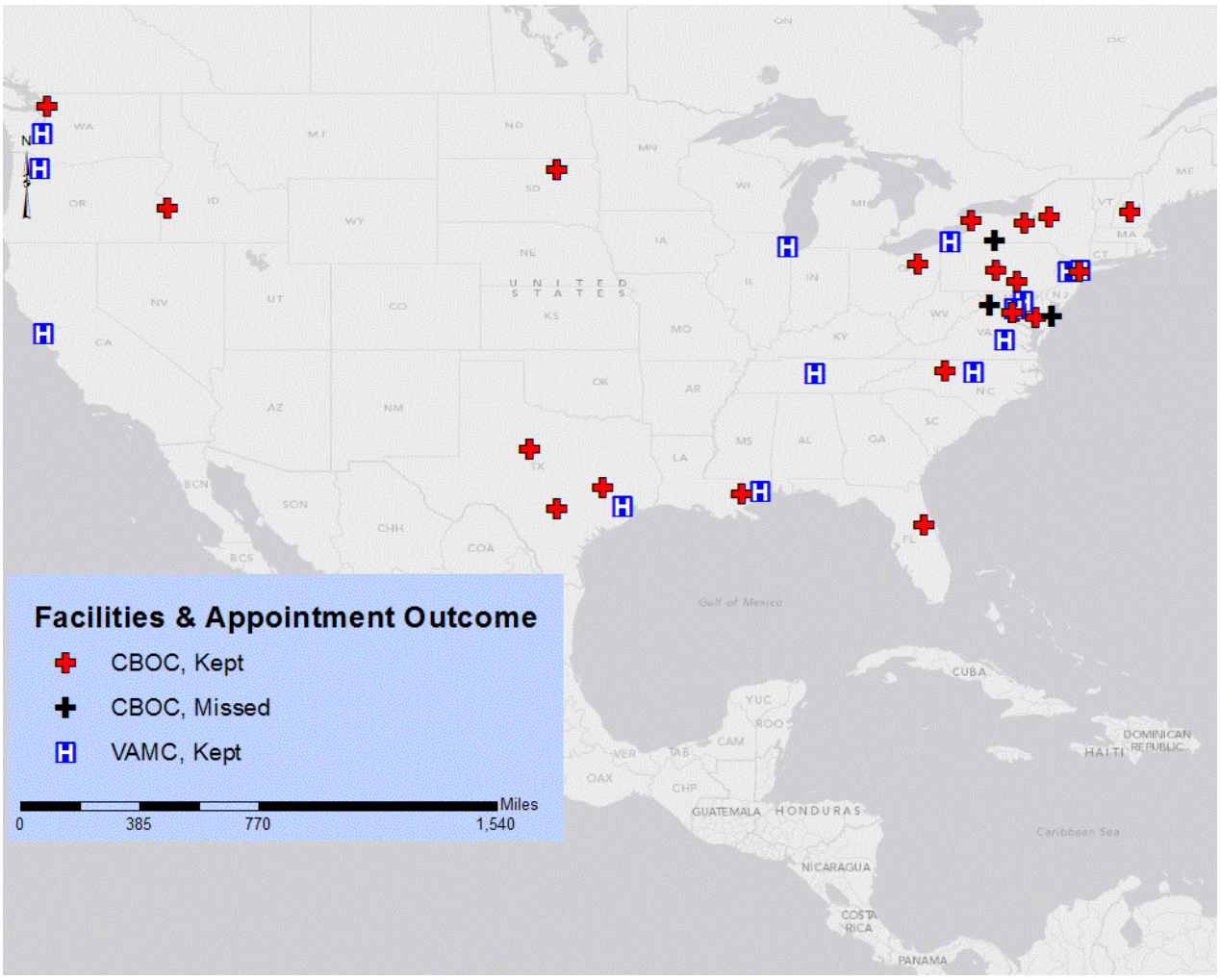

Figure 2 Facilities and Appointment Outcomes per survey responses

Based on my review of the survey results I chose to create drive times and distance network analysis for facilities in the Metro Washington, DC area given my personal knowledge of this region. In my G596A proposal I noted that the survey data could be analyzed with network analysis to compare actual drive times and distances with such analysis. This required some learning on my part since I had not yet executed such analysis with ArcGIS 10.0. I started by building a roads network with the roads I had utilized in my G585 project but quickly realized these would be inadequate for driving times and distances greater than 30 minutes and 30 miles since this would require roads details for Pennsylvania and West Virginia. In searching for more detailed roads I realized that I had overlooked the Streetmaps road network available from the Maps and Data that ships with ArcGIS 10.0. I also took the extra effort and time to complete the ESRI ArcGIS Network Analyst (NA) tutorial which helped ensure the validity of the results. I generated the following figures 3 through 6 to illustrate the drive time and distance estimated bands for the Alexandria CBOC and Washington VAMC.

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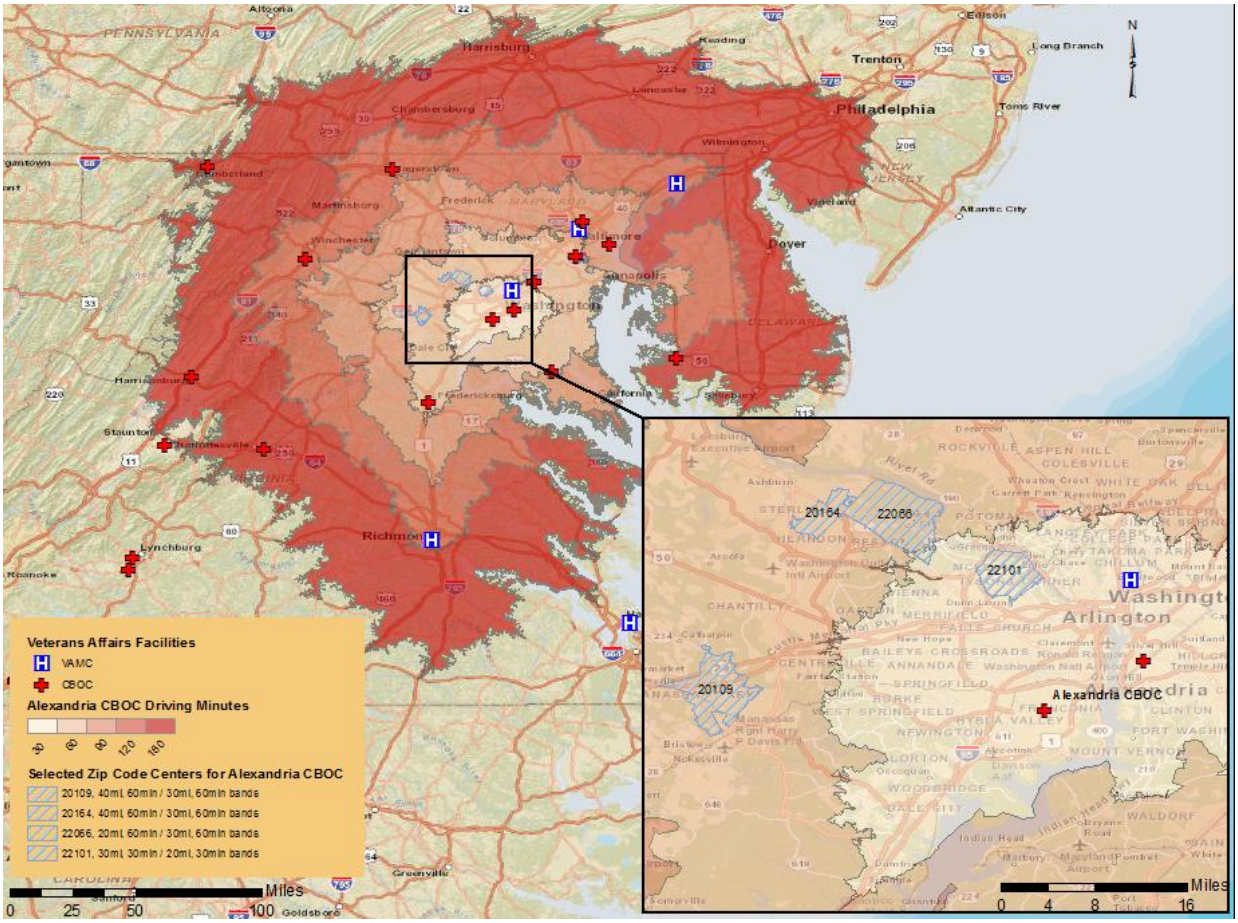

Figure 3 Alexandria CBOC Driving Time Bands. Four survey responses selected this facility. The closest zip code, 22101 fell within the 30 minute drive band which concurred with the response. The other three fell within the 60 minute band and this also concurred with the response.

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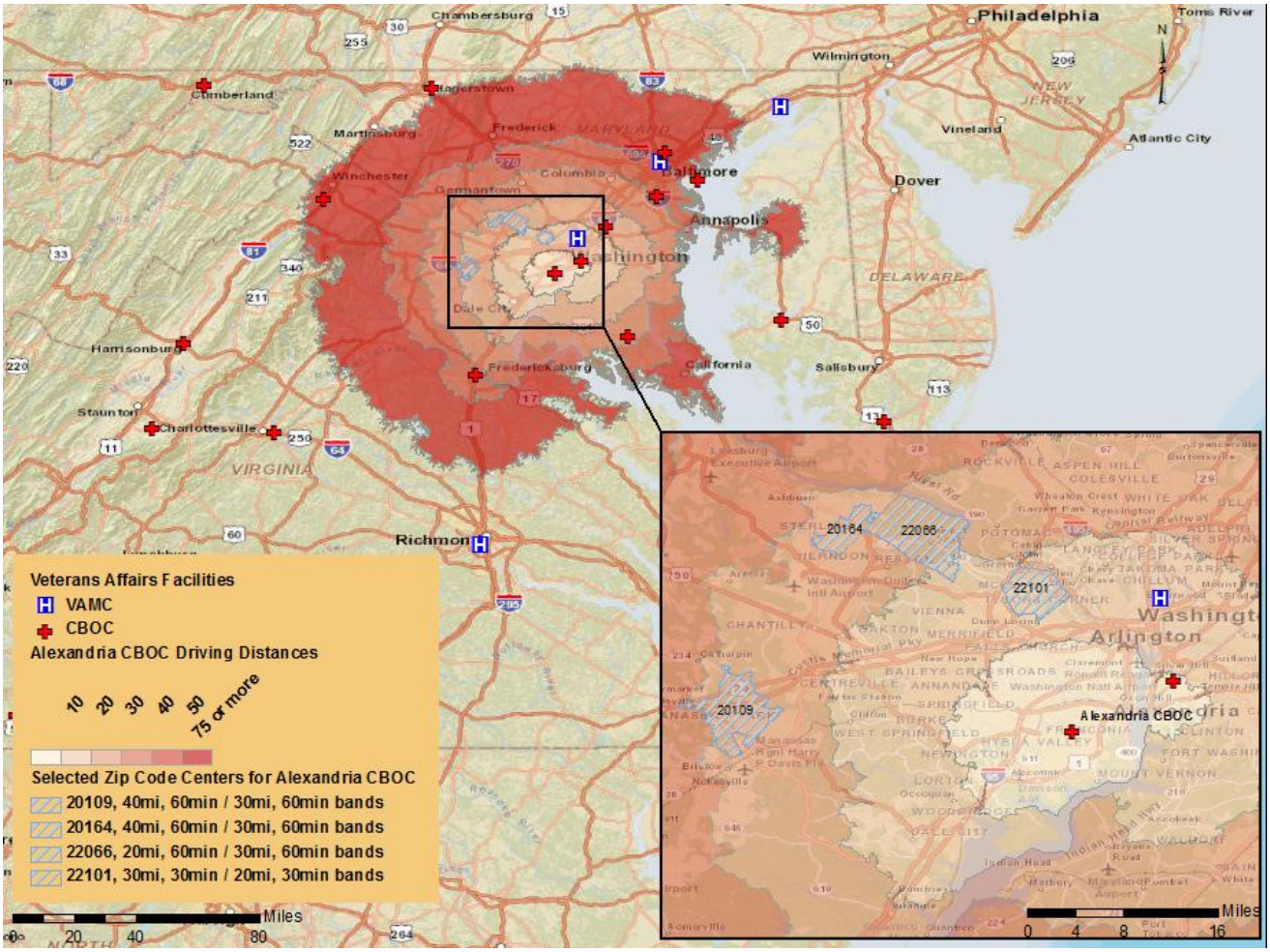

Figure 4 Alexandria CBOC Driving Distance Bands. Again, four survey responses selected this facility. The closest zip code, 22101 fell within the 20 mile drive band which is less than that of the 30 mile survey response. The other three fell largely within the 30 mile which was also less than that of the survey response.

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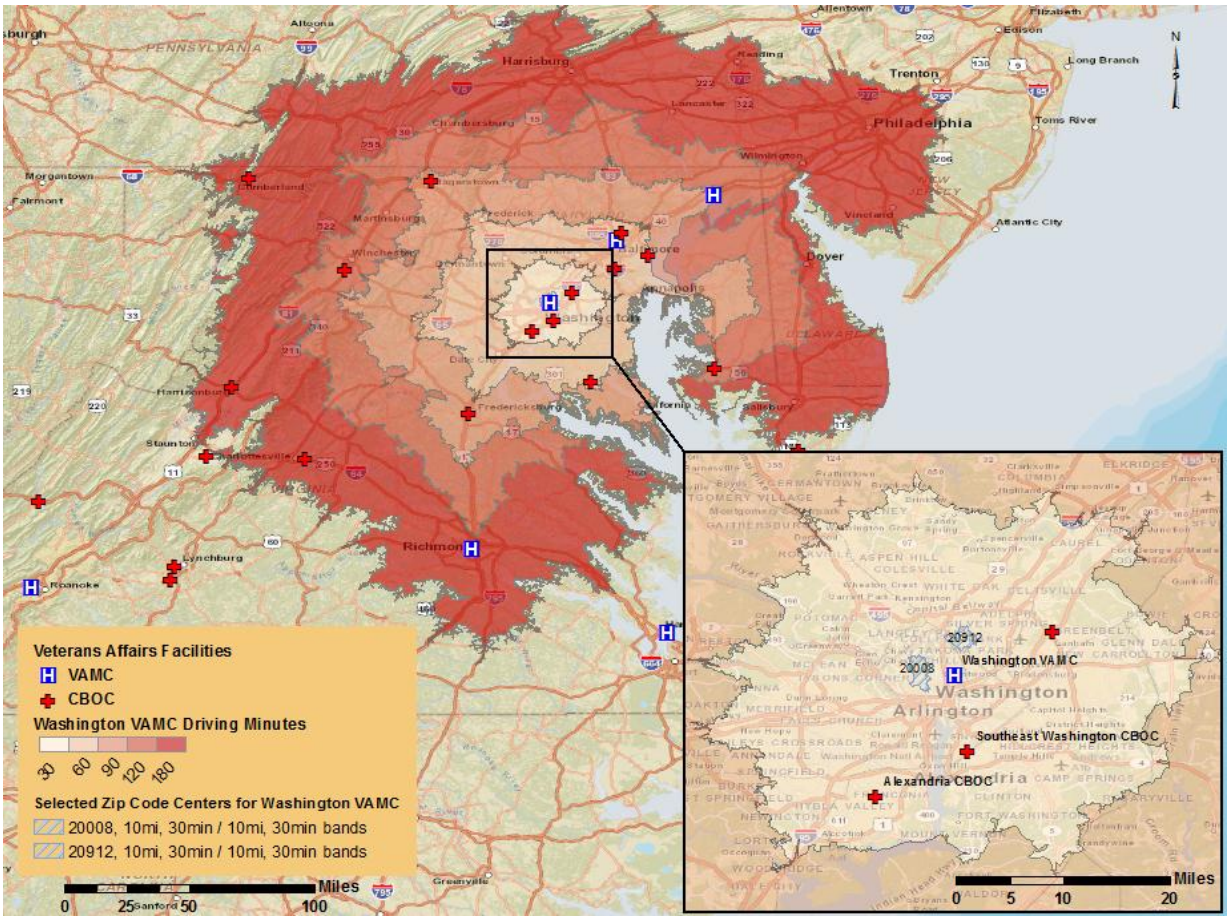

Figure 5 Washington VAMC Driving Distance Bands. Two survey responses selected this facility. Both exist within the 30 minute drive band which concurs with that of the 30 minute survey response.

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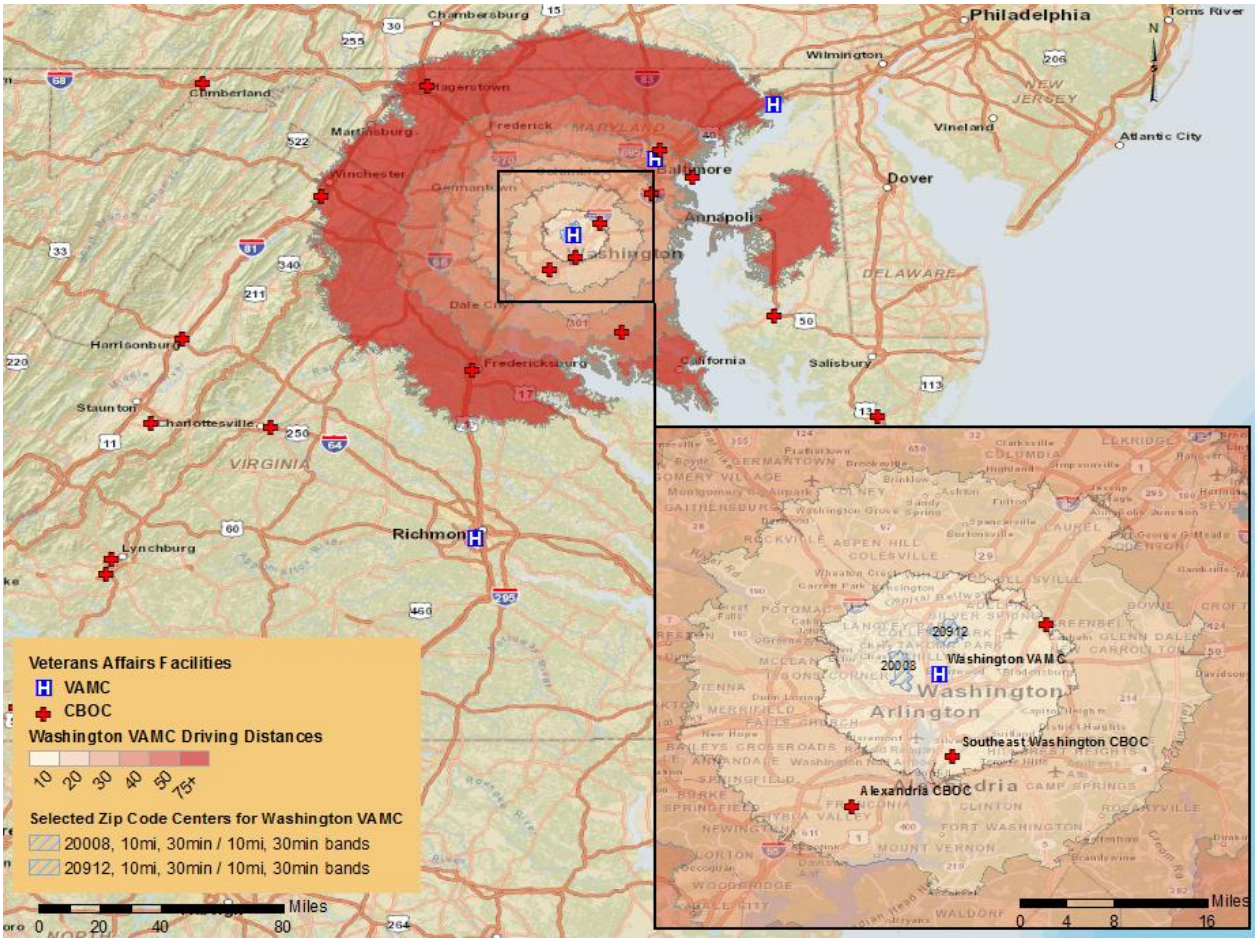

Figure 6 Washington VAMC Driving Distance Bands. Two survey responses selected this facility. Both exist within the 10 mile drive band which concurs with that of the mile survey response.

Given the limited number of survey responses, 50, which relate to 41 out of a possible 937 facilities drawing any statistical or qualitative conclusions is unfortunately not possible. It was interesting to compare the actual survey responses with that of the drive time and distance results. For the limited data collected I observed agreement between the network analyses with slight edge of overestimating by the survey respondents. I imagine a much longer survey collection time frame and increased survey advertising to potential respondents would greatly increase the response rate. Furthermore, I suspect it would be important to consider the travel time with respect to time of day especially in the metropolitan Washington, DC area which as a ~6am to 9am and ~4pm to 7:30pm rush hours that considerably increase travel times. Reducing the driving speeds by ~50% could model the rush impact.

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Lessons Learned

In building the proof of concept and reviewing the survey results I captured several points that I felt if I would take on such a task again or advance this prototype that I'd pay close attention or avoid these choices. The following is a summary of the issues and ideas I encountered along the way.

- The starting zip code survey form question lacked validation. This resulted in 12 survey responses dropped due to lack of originating zip code data. Surprisingly no invalid zip codes were entered. By employing either browser or server side form validation this issue could be precluded in any future design.
- While the WordPress blogging software meets the criteria for free and open source with nearly 20,000 plugins I experienced widely varying quality in geomashup plugins and tutorials. I noted quite a variety of installation, ease of use, and utility. After evaluating ~30 plugins, including those for mapping, surveys, and autocomplete of text entries I found even those which appeared to be the optimum candidates still would require integration and coding efforts on my part. A positive feature of WordPress is what I found to be the relatively easy to configure user login and privileges features per role within the site, e.g. administrator, publisher, guest, etc. So in the future this could be considered given the awareness that the WordPress theme would customization to mimic the current vetsmedtrip.com look and feel.
- I consulted several websites that were a combination of technical blogs with free training tutorials. All were outdated with respect to either the version of java script, php or PostgresSQL/PostGIS that I had installed locally. I had the best success by reviewing questions and responses posted by others rather than by the site owners. This led to my concluding that if after two hours of trial and error with any tutorial I should review comments and questions posed by other users. I would then post to the site's forum a request for guidance if I could not find what I was searching for but after many attempts to do this I realized I could not always count on a timely response or advice that would work within my environment. To summarize I feel it's important to have alternatives to pursue.
- After several weeks of software evaluation and local development I took the time to conduct requirements and technical system walkthroughs with fellow peers and software developer. Earlier sessions would have saved precious time. In one session with a fellow colleague I realized a content management system was unnecessary for managing and storing user interactions. This was after I invested many hours testing & developing WordPress to make it appear as generic website vs. that of a blog
- The Google forums proved to be very useful for technical guidance and support. Several of the listed examples worked on my local installation and I was able to successfully adapt them for this project. Additional Google API functionality could be explored for any follow-on development.
- I encountered wide variation in browsers and monitors which precluded "100%" optimization. Initially I developed and tested primarily with Firefox to benefit from the debugging capabilities of Firebug. I also worked mostly with a 20inch monitor or 15inch laptop. I noticed appreciable visual differences with Internet Explorer (IE) versions 8 and 9 and with other monitor sizes. I attempted to adjust the web page design and map initial zoom for maximum page width but eventually realized this was fruitless. It was valuable to ensure the page loaded correctly with these browsers: Firefox, IE8-9, Chrome, and Safari. My user testing group

included at least one of each browser type to help me confirm usability since I did not install Chrome or Safari for testing.

- Migrating from development to production can be tedious and the schedule should accommodate ample time for this activity. Each move from my local development to the virtual hosting server required ~2 hours of trouble-shooting.

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