

Destination Harford County

*Visualizing Tourism and Points of Interest
in Harford County, Maryland*

Anna Brinley, Russell Ottalini, Brittany Wong
Under the supervision of Instructors Binbin Peng and Frank Zou

URSP688L: Planning Technologies
The University of Maryland – College Park
Fall 2018



PALS - Partnership for Action Learning in Sustainability
An initiative of the National Center for Smart Growth

Gerrit Knaap, NCSG Executive Director
Kimberly Fisher, PALS Director

Contents

Executive Summary	2
Project Background	3
PALS Scope of Work.....	3
Harford County, Maryland	3
Tourism in Harford County	4
Introduction	6
Goals and Objectives	6
Deliverables	6
Data Collection and Preparation	8
Collection Process	8
Preparation Process	9
Data Sources	9
Methods and Methodology	11
Visualization Strategy.....	11
Analytical Framework.....	12
Findings and Results	13
First Stage.....	13
Second Stage	15
Recommendations	19
Future Research	20
References	21
Appendix: Data Organization	22

Executive Summary

This report details work conducted by urban studies and planning graduate students in the Planning Technologies course at the University of Maryland for Visit Harford, the destination marketing organization for Harford County. Using geographic information system (GIS) software to create visualizations of tourism points of interest, the team prepared maps for public dissemination in support of Visit Harford's efforts to better promote its tourism sites. In response to Visit Harford's request for a map that could be integrated into their mobile app, the team compiled contact information, descriptions, and social media rating data for points of interest, and created two interactive public-facing story maps using ESRI ArcGIS Online.

The first product is a shortlist that gives comprehensive overview of destinations and activities in select categories on Visit Harford's website and rack card marketing materials. The second product was created in response to Visit Harford's request that we help them encourage tourists to explore destinations farther from the Interstate 95 (I-95) Corridor, a public-facing story map that provides a sample daylong itinerary incorporating destination information from the shortlist. Our analysis of available social media rating information for the destinations demonstrated that while there is little correlation between distance from I-95 and low ratings, analysis of drive-time from I-95 to destinations would be useful.

The report concludes with some recommendations ways to use and incorporate the story maps and shortlist data into existing and soon-to-be created resources to expand tourist knowledge of the destinations.

Project Background

PALS Scope of Work

As a part of the Partnership for Action Learning in Sustainability (PALS) program with Harford County, the team worked on a GIS mapping project with Visit Harford, the County's destination marketing organization. The project focused on creating an interactive mapping tool for the Visit Harford website using ArcGIS and ArcGIS Online and based on information from Visit Harford rack cards. The Visit Harford team worked with the team to provide background context and to provide feedback on data sources, methodologies, and deliverables for interim and final work.

Visit Harford Team: Greg Pizzuto, Executive Director (Harford County)

PALS Team: Anna Brinley, Russell Ottalini, Brittany Wong (UMD Urban Studies and Planning)

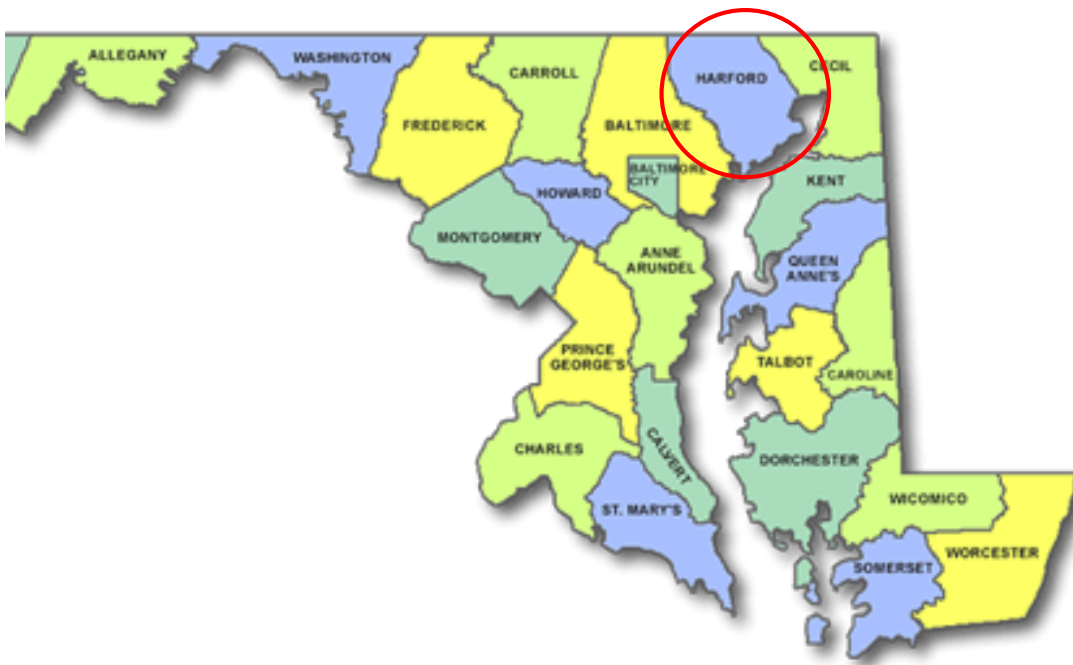


Figure 1: Maryland Counties

source: <https://visitharford.com/images/madmap.png>

Harford County, Maryland

Harford County is located 25 miles northeast of Baltimore, on I-95, and along the shores of the Chesapeake Bay. It straddles the border between the rolling hills of the Piedmont Plateau and the flatlands of the Atlantic Coastal Plain along the Chesapeake Bay and its tributaries. The

county's development is a mix of rural and suburban, with denser development in the larger towns of Aberdeen and Bel Air and along Route 40 and other major arteries connecting to Baltimore. It is a vibrant area offering visitors picturesque beauty, bustling urban centers, historic harbor towns, and a variety of world-class cultural and sports amenities. The County's three municipalities—Aberdeen, Bel Air, and Havre de Grace—are only minutes apart, but each offers a unique experience.

Tourism in Harford County

The county's location in northeastern Maryland means that it is easily accessible via numerous transportation modes and can draw visitors from a wide catchment area. Harford County is located along the Interstate 95 corridor, linking it directly to both Baltimore and Philadelphia.

Picturesque landscapes of sprawling horse farms, rambling hills, and natural landscapes characterize scenic northern Harford County. The immense natural area bordered by southern Pennsylvania and the Susquehanna River has been largely preserved for agriculture. Each season tourists bring their families to hike in Rocks State Park, take a farm tour, and pick seasonal produce. Fiore Winery in Pylesville welcomes visitors to their vineyard to taste their internationally award-winning wines. Seasonal outdoor festivals and events include the Fiore Wine and Jazz Festival, the Darlington Apple Festival, town fairs, polo matches, fox hunts and steeplechase races.

Western Harford County, bordered by Baltimore County, is one of the region's fastest growing areas. Sophisticated boutiques and fine dining support several renowned attractions, including historic Ladew Topiary Gardens—dubbed the “most outstanding topiary garden in America”—



Figure 2: Harford County

source:
<http://www.weichertnewhomes.com/images/counties/MD-Harford.gif>

and Jerusalem Mill Village, an eighteenth and nineteenth century preserved community in Gunpowder Falls State Park.

Current tourism activity in Harford County stems from sporting events, the leisure market, and from meetings, conventions and social functions.

2013 Harford County Tourism Quick Facts¹

- An estimated 1,644,866 people visited Harford County
- Tourism generated \$10,753,727 in visitor-related state and local sales taxes
- Visitors spent an estimated \$320 million
- Tourism supported 6,694 jobs in Harford County

¹ Harford County Office of Tourism. (2013). *2013 Annual Report*. Havre De Grace, MD: Office of Economic Development.

Introduction

Goals and Objectives

Based on discussions with the Visit Harford team and an initial assessment, the team established two project goals.

- Create online mapping tools to be incorporated into the Visit Harford website and apps.
- Conduct spatial analyses of tourist destinations to assess avenues for expanded promotion.

The aim was to assist Harford County in striving for higher rates of attendance at their attractions and destinations, and in establishing the county as a strong tourism destination.

Collecting amenity and destination points from Visit Harford rack cards and mapping the locations of points of interest allowed us to create two story maps that combine images, descriptive text, and other media elements to create accessible widgets for visitors. Amenity location has a direct impact on the convenience of tourist stays and experiences, so the team proposed a destinations shortlist story map to guide potential visitors through thematic activity clusters.

Using the results of further spatial analysis and the destinations shortlist story map, the team suggested an itinerary of destinations from all tourism sectors that lets visitors experience the county. The team also identified areas that might be further targeted for marketing and promotion.

Deliverables

1. **Destinations shortlist story aap** that contains points of interest based on Visit Harford's rack cards. Viewable here: <http://arcg.is/0Pezmq>
2. **Day trip story map** that suggests an itinerary of destinations located throughout the county. Viewable here: <https://arcg.is/0jz8i8>
3. **Spatial analysis maps** that examine existing drive-times for points of interest, highlighting potential tourism hotspots, and incorporates other data such as public Google user ratings.

4. **Excel data tables** that provide descriptions and business information (address, phone number, hours of operation, website address, ratings) for each point of interest.
5. **ArcGIS files** used to create the maps and conduct spatial analyses (shapefiles and layers).

Data Collection and Preparation

Collection Process

In the mini-GIS Project, the team collected and categorized points of interest, addresses, hours of operation, contact information, web addresses, and descriptive text based on four of Visit Harford's newly designed rack cards: Adventure Outdoors (AO), Discover Entertainment (DE), Creative Dining (CD), and Comfortable Stay (CS) (see Figure 3). The team also collected data on additional points within these groups found in Visit Harford's Official Destination and Insider Guide (see Figure 4) and through online research.

Based on common themes observed in the first data collection phase, the team sorted the records into the rack card categories, as well as additional categories that give further detail. For instance, Creative Dining destinations were broken into wineries, breweries, dairy farms, waterfront destinations, and international cuisine. In the second phase of data collection, and in response to requests from the I-School (which will continue this work in Spring 2019), the team also collected social media rating information for each destination. Google and Facebook were the sources that had the highest raw rating counts, which were added to the database.

During the process of creating the ArcGIS Online story maps it became apparent that some information, particularly descriptive text, hours of operation, websites, and other data would need to be gathered from sources beyond Visit Harford. The team used information from the Visit Harford website wherever possible and gave preference to this information, but for some points (particularly those gathered during the initial research and data collection stage) it was deemed necessary to pull this information from outside websites. In these instances, company or destination websites were referenced. In these cases, the sources are indicated by in-application linking of websites and social media channels.

Preparation Process

With a completed collection of the county’s points of interest, the team created individual spreadsheets incorporating name, address, website, phone number, hours of operation, and descriptive text. The addresses of these amenities and tourist destinations were geocoded to create a comprehensive online map of dining options, lodging locations, entertainment destinations, and outdoor venues. From this map, the team creates a sample itinerary for visitors with ArcGIS Story Map, as well as a visually appealing and user-friendly interactive Destinations Shortlist map. To import data and descriptive text into the shortlist, the team used a Microsoft Word mail merge template with the spreadsheets tied to each point of interest category, which allows information from each row to be pulled into a separate and easily edited format.

Data Sources

Visit Harford website	<ul style="list-style-type: none">• Destination Information• Destination and Insider’s Guide• County Restaurant Guide• Tourism Annual Report
Harford Planning and Zoning Department	<ul style="list-style-type: none">• Raw Data: maps, GIS files
Social Media Platforms (ratings)	<ul style="list-style-type: none">• Google• Facebook• Yelp
Company and Destination websites (vary)	<ul style="list-style-type: none">• Maryland Department of Natural Resources• Visit Maryland• Company and organization websites

Visit the HARFORD!

creative
DINING

WINERIES & BREWERIES TOURS, TASTINGS & DEMOS
INTERNATIONAL CUISINE
WATERFRONT DINING

RESTAURANT WEEK – THIRD WEEK IN JANUARY

WINERIES

- Fiore Winery
3026 Whiteford Rd - Pylesville, MD 21152 - 410.879.4007
- Harford Vineyard & Winery
1311 W. Janettsville Rd - Forest Hill, MD 21050 - 443.495.1699
- Mount Felix Winery
2000 Level Rd - Havre de Grace, MD 21078 - 410.939.0913

CRAFT BREWERIES

- AleCraft Brewery
319 S Main St, #101 - Bel Air, MD 21014 - 410.420.5102
- Falling Branch Brewery
825 Highland Rd - Street, MD 21154 - 443.939.4605
- Independent Brewing Company
418 N Main St - Bel Air, MD 21014 - 410.836.8313
- Slate Farm Brewery
2128 Whiteford Rd - Whiteford, MD 21160 - 443.287.443

DISTILLERIES

- White Tiger Distillery
1659 Rabon Circle, Suite E - Forest Hill, MD 21050 - 443.371.6147

WATERFRONT DINING

- MacGregor's Restaurant & Catering
331 St John St - Havre de Grace, MD 21078 - 410.939.3003
- Tidewater Grille
320 Franklin St - Havre de Grace, MD 21078 - 410.939.3313

INTERNATIONAL CUISINE

- Island Spice Grille & Lounge
2120A Emmorton Park Rd - Edgewood, MD 21040 - 410.612.9977
- Lin's Hibachi Grill, Sushi & Bar
1007 Pulaski Hwy - Havre de Grace, MD 21078 - 410.939.2888
- Uncle's Hawaiian Grindz
2315 Belair Rd, Suite 2B - Fallston, MD 21047 - 443.966.3999
- Sakura Japanese Steak House
615 Baltimore Pike - Bel Air, MD 21014 - 410.420.3535
- Sean Bolan's Irish Pub
2 S Main St - Bel Air, MD 21014 - 410.420.9858

VISITHARFORD.COM
DOWNLOAD THE DESTINATION HARFORD APP!

Available on the **App Store** and **Google Play**

Figure 3: Rack Card for Creative Dining

source: Visit Harford

2018 HARFORD
OFFICIAL DESTINATION & INSIDER GUIDE

DINE | SHOP | DISCOVER | PLAY | WHAT TO DO | WHERE TO STAY

Figure 4: Official Destination and Insider Guide

source: Visit Harford

Methods and Methodology

The main focus was the visualization of tourism data and points of interest in Harford County. Because the primary deliverable was a public resource to help visitors navigate the county's points of interest, the team determined that a dynamic, interactive Story Map using ArcGIS Online was desirable. Secondary spatial analysis was also conducted to examine tourism possibilities as a supplement to these visualizations. The team decided to provide Visit Harford some analysis of these destinations, including how social media ratings might reveal their visitation rates, as well as how distance from the I-95 corridor might impact their popularity.

Visualization and analysis were undertaken in a two-stage process with the first stage informing the second stage.

First Stage

- Spatial Analysis: Points of Interest
- Data Visualization: Destinations Shortlist Story Map

Second Stage

- Spatial Analysis: drive-times from Comfortable Stay options along I-95 to other locations
- Data Visualization: suggested Day Trip Itinerary Story Map

Visualization Strategy

Using ArcGIS Online, the team geocoded the points of interest, laying the points on the map of the county that is now publicly available. In line with Visit Harford's goals, the team created a shortlist map that shows these locations in an accessible and informative list-view format, allowing visitors to easily navigate the map and learn about various tourist, dining, and lodging destinations. Each entry provides basic location and business information, including address, description of services, website, and an image. The team also created heat-map overlays of activity corridors for recommendation to Visit Harford staff. This information was cross-referenced with online social media reviews and ratings for each destination.

Analytical Framework

The team used several ArcGIS Online spatial analysis tools to analyze the proximity of locations to each other, and to develop itineraries that achieve Visit Harford's aim of attracting visitors to destinations outside the I-95 corridor. The sample itinerary draws I-95 travelers to outdoor and dining destinations at the northern border of the county, and then returns visitors to entertainment destinations in the county's development envelope and to I-95. The team thought locations outside the development envelope would have fewer online ratings but found no correlation between smaller numbers of online ratings and a destination's location. Rating counts inside the development envelope were comparable to those outside of it.

Visit Harford identified the need to draw tourists and visitors to attractions outside the development envelope, which stretches to either end of the county along I-95. With that direction, the team analyzed the mapped points of interest according to driving time. Our analysis answers the questions:

- How long does it take to reach the destination farthest from the highway?
- Which destinations can be reached within 5, 15, 25, 30, or 35 minutes respectively?

Most visitors enter the county on I-95, making the highway corridor the most common entry point to the county's tourism sites. Accordingly, the team chose a similar starting point for spatial analysis. Harford County's Comfortable Stay locations are all located in towns along I-95, and those lodging locations were used as a proxy for I-95 in the analysis. The team used the ArcGIS Online drive-time spatial analysis tool to create map layers that start from a visitor's hypothetical Comfortable Stay lodging and radiate out, identifying the total area a visitor can reach within a specified time period. This analytical process also identified destinations within that area.

Findings and Results

First Stage

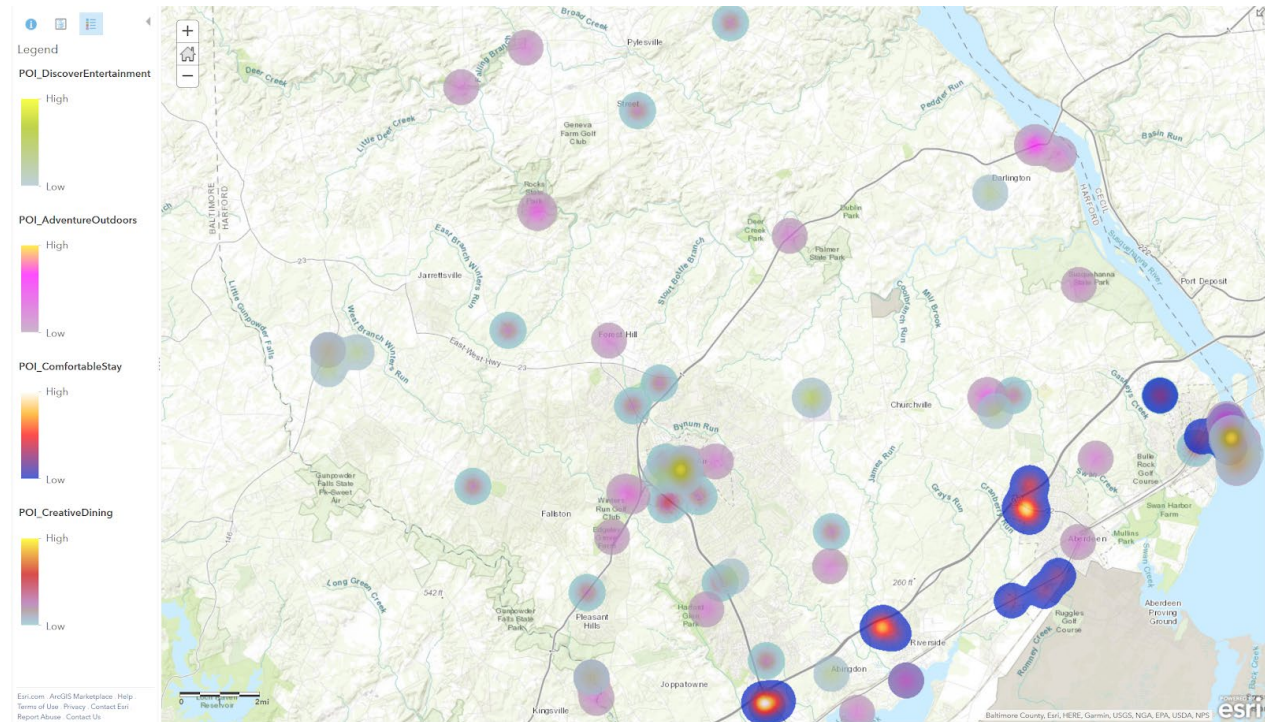


Figure 5: Composite Map of Points of Interest

source: PALS Team

Spatial Analysis: Points of Interest

The first stage of spatial analysis determined the distribution of tourism points of interest throughout the county. Mapping the points of interest shows that Harford County’s amenities and destinations are fairly well-distributed throughout the county, with areas of concentration in towns like Bel Air and Havre de Grace, and along I-95 in the southern part of the county (see Figure 5). Despite creating a development envelope along I-95 and Route 24 to contain growth, many of Harford County’s amenities and assets are rural—wineries, parks, outdoor festival grounds, and farms—drawing on the county’s natural beauty and rural nature. Comfortable Stay lodging options and Discover Entertainment venues are concentrated in higher density areas along I-95, while Creative Dining options and Adventure Outdoors destinations are plentiful both inside and outside the development envelope. The groupings of points of interest in both the

south and north indicated that there are both active and latent tourism “corridors” that could be further examined. These informed the team’s approach to the day trip itinerary story map.

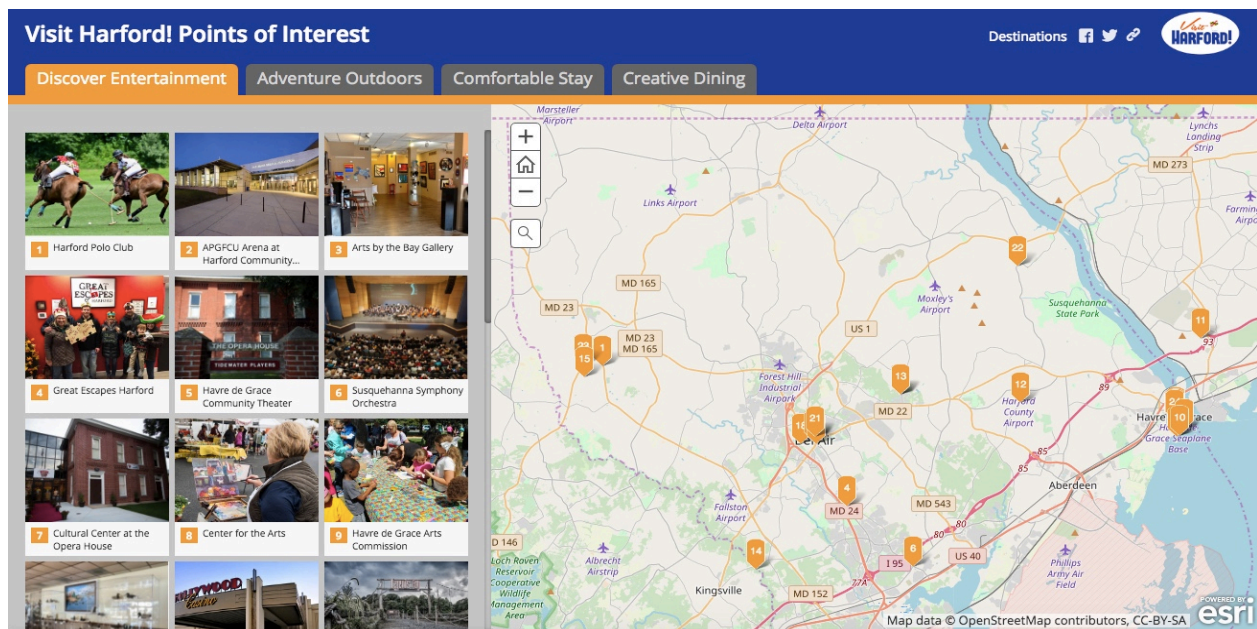


Figure 6: Destinations Shortlist Story Map

source: PALS Team

Data Visualization: Destinations Shortlist Story Map

Of primary interest to Visit Harford staff was a public-facing, easily accessible and intuitive overview map of tourism points of interest on existing rack cards. These cards categorized various businesses, destinations, and activities, such as dining and shopping. Using the rack cards and the Visit Harford tourism website, the team created a map for four of these categories: “Comfortable Stay” (lodging), “Outdoor Adventure” (natural recreation, including state parks and extreme sport activities), “Creative Dining” (restaurants, wineries) and “Discover Entertainment” (festivals, events).

After collecting data from the Visit Harford and destination websites, the team created a comprehensive series of point maps containing a scrollable, easily navigable library of entries known as a “shortlist” in ArcGIS Online. Using these maps, organized in tabs using the rack card titles, visitors can browse points of interest and find contact information and descriptions for each. Each entry is numbered and visible on the overlay map and may be clicked directly for

more information outside of navigation through the list-view (see Figure 6). Linked in these entries are also the websites for each point of interest, allowing visitors to access more information on any point. The Visit Harford logo is linked directly to the agency's website, and like other shortlists, it can be shared through social media platforms including Facebook and Twitter, as well as more broadly by URL link.

Second Stage

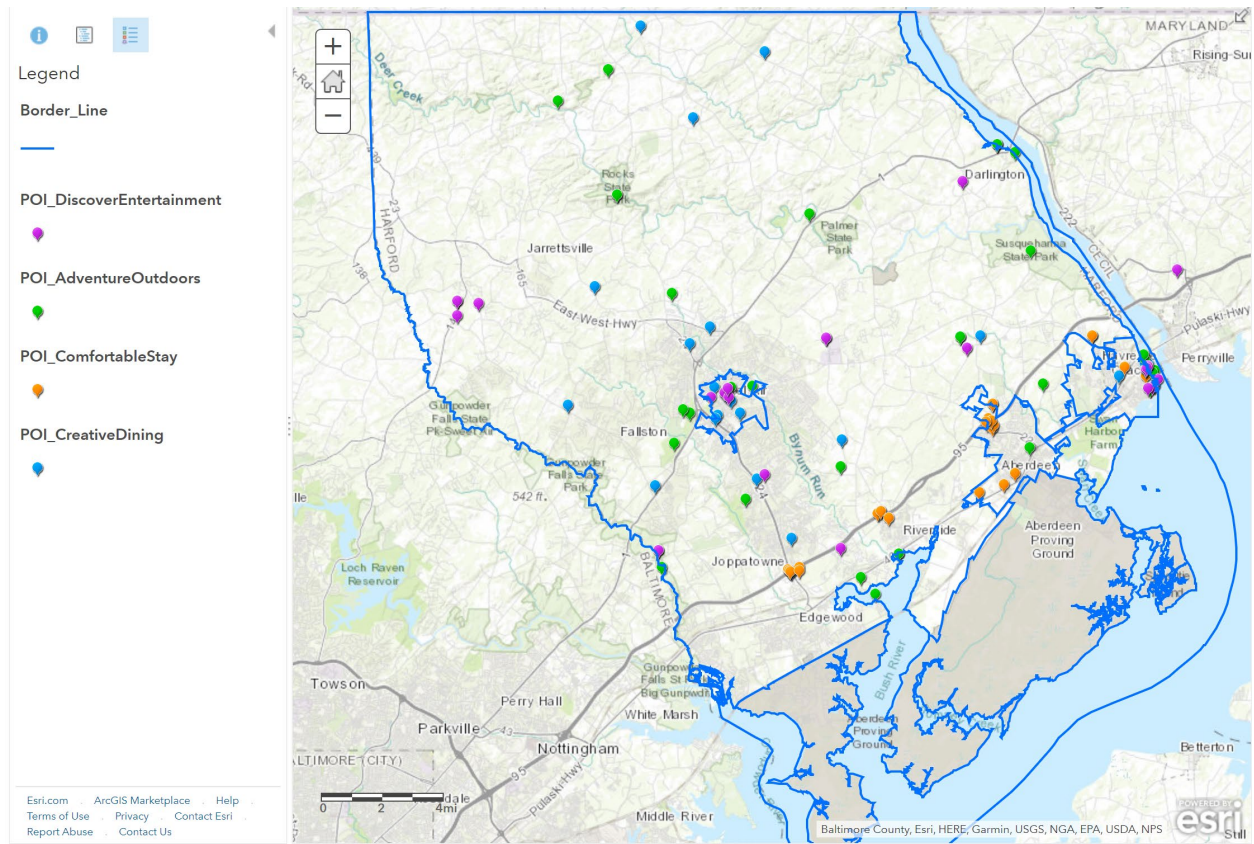


Figure 7: Mapped Points of Interest and County Border

source: PALS Team

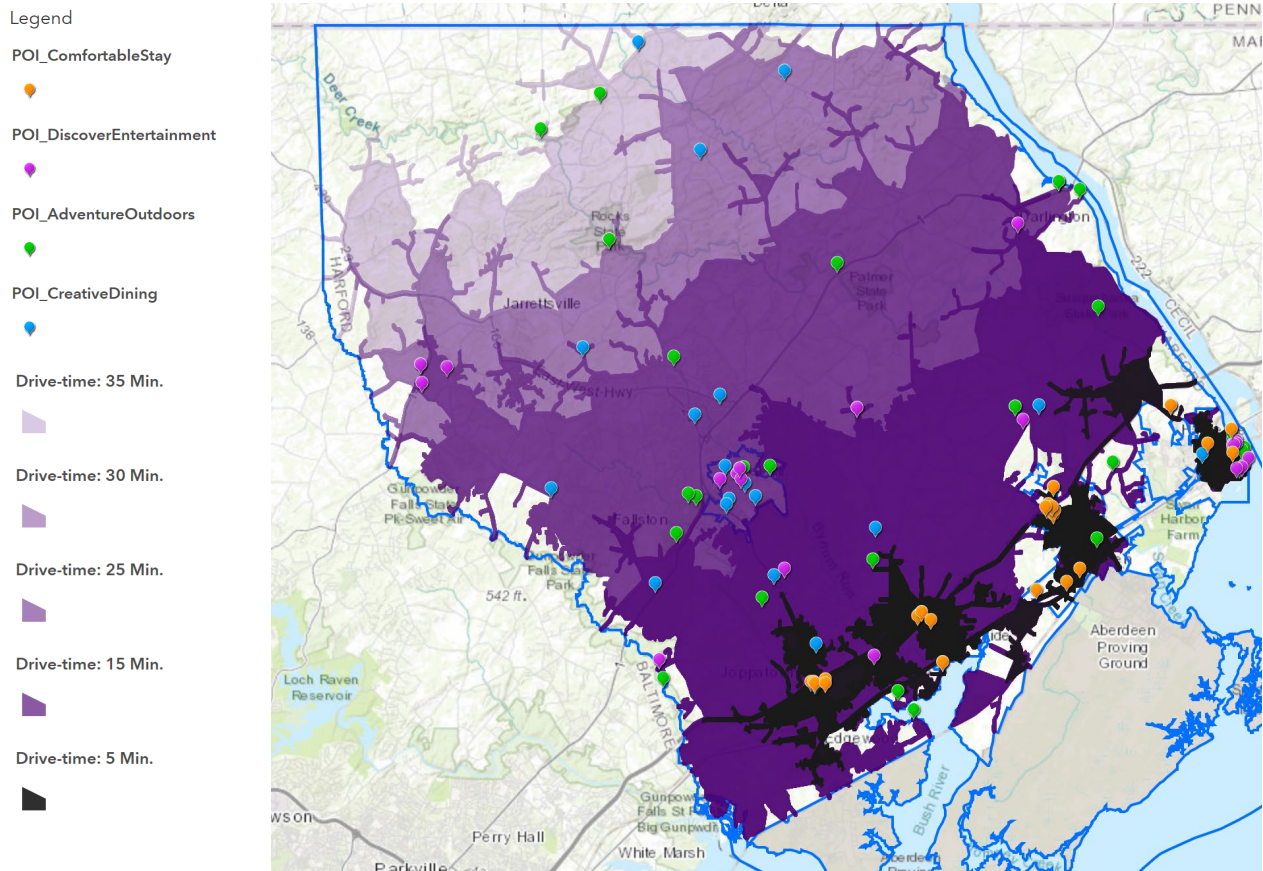


Figure 8: Drive-Time from the I-95 Corridor

source: PALS Team

Spatial Analysis: Driving Times to Destinations Outside Development Envelope

After creating a county map of geocoded points of interest, the team turned to the second phase of spatial analysis. Following an interim report and presentation of deliverables in progress, the Visit Harford team expressed a priority strategy of attracting those traveling through the county on I-95 to destinations outside the development envelope, which stretches the length of I-95, and northwest along Veterans Memorial Highway, ending at Bel Air.

Initially, the team attempted to use social media ratings from Facebook and Google to create a “cold spot” map of potential visitation gaps that could be promoted. However, there was no discernible spatial distribution pattern of destinations that lacked higher rating counts. Points of interest in the development envelope were not the exclusive beneficiaries of high counts, nor

were destinations in the northern, less developed portions of the county less rated. Finding little correlation between location off I-95 and low social media ratings, the team turned to other approaches.

Recalling from discussions with Visit Harford staff that it was difficult to get visitors staying along I-95 to drive more than a few minutes for meals, we determined that a breakdown of drive time from hotels might serve as a useful point of analysis. Using Comfortable Stay points as a proxy for I-95—and therefore a good hypothetical starting point—the team applied the ArcGIS Online drive-time analysis tool to show areas a visitor could reach from I-95 or a hotel along it (see Figure 7).

Significantly, this drive-time analysis showed that all mapped points of interest are within a 35-minute drive from I-95, and most are within 20 minutes of the highway (see Figure 8). These short distances might be a useful selling point for destinations outside the development envelope. Even though they are not in major centers like Havre de Grace or Bel Air, Harford County's farthest destinations are all within a relatively short drive and are well worth a visit. Visitors with a limited amount of time may be able to use the resulting map layers to create itineraries that fit within their time constraints.

Data Visualization: Suggested Day Trip Itinerary Story Map

Using the data collected and uploaded into the ArcGIS Online platform, the team used the drive-time analysis of the points of interest to generate a visual, sample day trip itinerary reflecting the types of activities and destinations Harford visitors might enjoy. A story map itinerary, as a public platform, allows for narrative and the embedding of engaging media, such as videos and pictures, into the application itself.

Using the story map, visitors view the sample itinerary on a paired list-view series of tabs and map, their route highlighted in a round-trip path that takes them to various destinations across the county, including stops for recreation, dining, entertainment and shopping before returning to their hotel. As they scroll through each entry, visitors are presented with basic information on the destination, its amenities, images, and in some cases, videos that illustrate the destination's

special qualities, and suggestions for other nearby activities. The narrative text guides visitors through their journey and connects the experiences together into an engaging trip across the county. Points of interest from each category further demonstrate the variety of tourism activities in Harford County. Figure 9 shows a sample view of the itinerary.

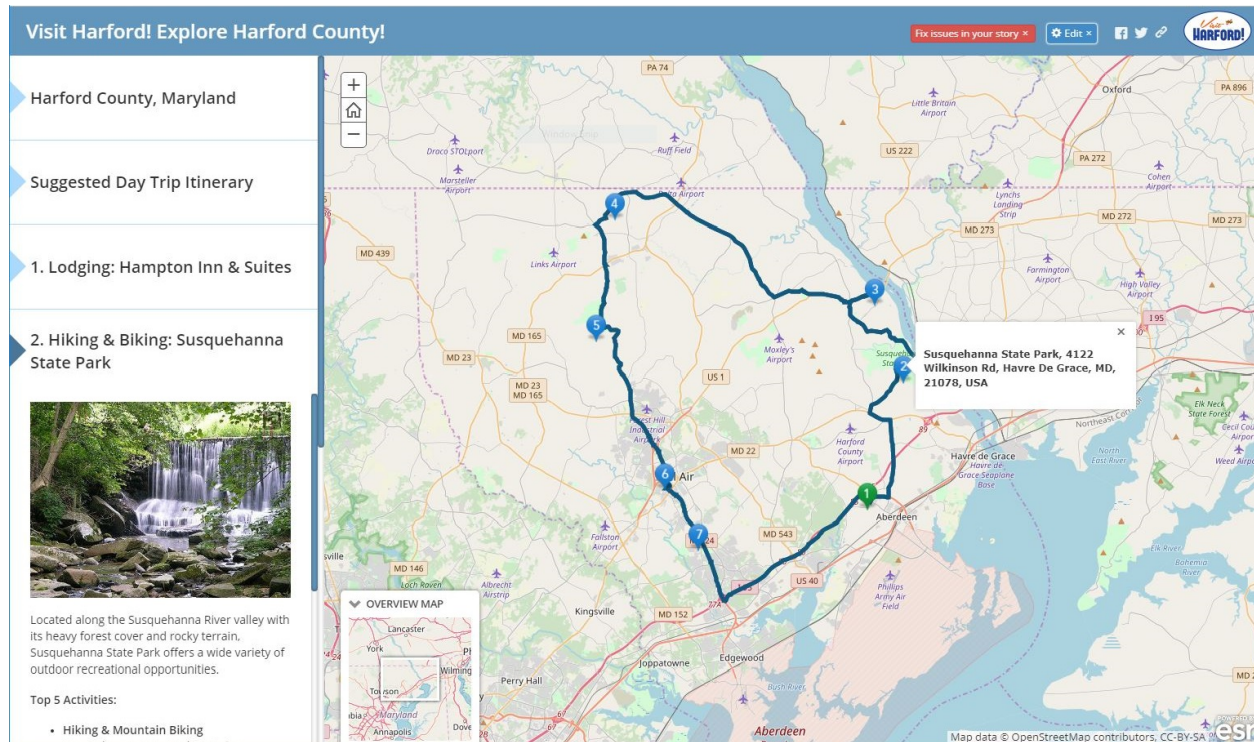


Figure 9: Story Map of Suggested Day Trip Itinerary
 source: PALS Team

Recommendations

In considering the goals of Visit Harford staff, the PALS team makes the following recommendations for using the compiled resources and analysis:

1. Share the points of interest shortlist on the Visit Harford website

As requested by Visit Harford staff, the shortlist should be a publicly available resource for potential visitors to assist them in planning their trip. This interactive map would demonstrate to visitors the large number of options at a glance, while allowing them to access more information easily, in an intuitive, simple format.

2. Integrate sample itinerary story map into the website or a phone app

An additional contribution by the team, the sample itinerary could serve as a use-case for creating additional itineraries with similar information. This more personalized narrative format may appeal to visitors seeking to maximize their time in the county.

3. Consider creating additional itineraries and expanding the shortlist

Incorporating all of Visit Harford's points of interest into the shortlist was outside the scope of work but Visit Harford should consider including information from the other rack cards in the itineraries.

4. Consider promoting points of interest that have lower ratings counts

The analysis didn't find a correlation between points of interest farther from the development envelope and lower rating counts, but it did find a significant number of destinations (primarily businesses) with comparably lower numbers of ratings despite their proximity to highly-reviewed locations. If promoting these destinations aligns with Visit Harford goals, various strategies, such as coupons or offers for mobile "check-ins," might be considered.

5. Consider tracking views of the shortlist and story map

Visit Harford staff should consider link-view tracking to evaluate the site’s effectiveness as promotional and informational resources. Sharing the links on social media will also allow alternative forms of passive tracking, including “likes” and re-tweets.

Future Research

In the coming months, another group of students in the University of Maryland’s College of Information Studies will begin work on a mobile app for Visit Harford, incorporating this group’s data and maps. Following this report’s recommendations, the team suggests implementing a live-link to ratings counts in various social media to track each destination.

Furthermore, some data gathered for this project—descriptive text, destination hours—are static and may become outdated after these deliverables are submitted. For this reason, the team recommends that dynamic connections to live web resources (such as websites) are maintained.

Finally, incorporating filters and other dynamic search tools into the maps and itineraries would allow visitors to refine their search results and further increase user-friendliness. While the next course’s exact scope of work is yet to be determined, this app should increase exposure to Harford County’s many tourist attractions, and that the maps may serve as a resource through these apps.

References

Harford County Maryland, Department of Planning and Zoning. (2018). Open GIS. Retrieved from <https://planning-harfordgis.opendata.arcgis.com/>

Harford County Office of Tourism. (2013). *2013 Annual Report*. Havre De Grace, MD: Office of Economic Development.

Visit Harford! (2018). Harford County, MD – Maryland Tourism and Getaways. Retrieved from <https://visitharford.com/>

Visit Harford! (2018). *Harford: Official Destination and Insider Guide*. Bel Air, MD: Visit Harford!

Visit Harford! (2018). *Visit Harford! Restaurant Guide*. Bel Air, MD: Visit Harford!

Appendix I: Data Organization

The following table is a list of the files used to produce the story maps and conduct the spatial analyses for this report.

File Type	File Name	Purpose
Excel Spreadsheets	Final_POI_Spreadsheet.xlsx	This file contains the names and descriptions of each point of interest. Data for each entry includes: address, type, street, city, state, zip code, phone, website, hours, ratings. Locations are separated into sheets by category: Adventure Outdoors, Comfortable Stay, Creative Dining, Discover Entertainment.
ArcGIS Shapefile (includes the .shp, .shx, .dbf, and .prj files)	POI_AdventureOutdoors.zip	This file contains the geocoded data for the Adventure Outdoors locations.
	POI_ComfortableStay.zip	This file contains the geocoded data for the Comfortable Stay locations.
	POI_CreativeDining.zip	This file contains the geocoded data for the Creative Dining locations.
	POI_DiscoverEntertainment.zip	This file contains the geocoded data for the Discover Entertainment locations.
	Travel_from_POI_ComfortableStay_5min.zip	This file contains the layer data for the Drive-Time Analysis within a 5-minute driving radius of Comfortable Stay locations.
	Travel_from_POI_ComfortableStay_15min.zip	This file contains the layer data for the Drive-Time Analysis within a 15-minute driving radius of Comfortable Stay locations.

	Travel_from_POI_ComfortableStay_25min.zip	This file contains the layer data for the Drive-Time Analysis within a 25-minute driving radius of Comfortable Stay locations.
	Travel_from_POI_ComfortableStay_30min.zip	This file contains the layer data for the Drive-Time Analysis within a 30-minute driving radius of Comfortable Stay locations.
	Travel_from_POI_ComfortableStay_35min.zip	This file contains the layer data for the Drive-Time Analysis within a 35-minute driving radius of Comfortable Stay locations.
	HC_borderline.zip	This file contains location, shape, and attributes of the county boundary line. It was used to conduct the Drive-Time Analysis.
	Development_Envelope.zip	This file contains location, shape, and attributes of the county development envelope. It was used to conduct the Drive-Time Analysis.
	Itinerary_Map_layer.zip	This file contains the route data used for the Suggested Itinerary story map. It includes step-by-step directions and driving times to and from each location.