

Travel the World - An Itinerary of Travel Destinations for an Aspiring World Traveler

2021-01-15 (Last Update)



Project Summary

Project Goal: Develop a Slate of Travel Recommendations for “Traveling the World”

Like many people, I want to see the world. However, the world is a big place – 7.7 billion people¹ in 193 UN member states² spread across 57.5 million square miles of land³ – so no one could possibly see it all. The next best option is to visit a diverse and representative sample of the world. This project develops a slate of travel recommendations to support that goal.

This README file summarizes the project in three sections. The first section “Approach” describes the evaluation criteria that the project uses to generate travel recommendations. The second section “Findings” reports the travel recommendations generated. The third section “Repository Guide” holds a guide to the scripts, data, and general layout of this project – traditional programmer README documentation. The appendices provide additional information on the methods, findings, and sources respectively.

Opportunities for Future Development This project is a work in progress. To-dos (in priority order) include:

1. PROJECT SUMMARY - Flesh out the “Findings” section.

¹United States Census Bureau (2021)

²United Nations (2021)

³Central Intelligence Agency (2021)

2. SCRIPT #5 - Develop an Rshiny tool so that users can generate customized recommendations.
3. PROJECT SUMMARY - Finish the “Repository Guide” section.
4. GITHUB - Switch project over to new authentication method.
5. APPENDIX B - Write detailed analysis of the results.
6. APPENDIX A - Write a detailed procedural how-to guide.
7. README - Proof-read README.

Approach: Select Countries Based on Points of Interest, Ease of Travel, and Geographic Region

To make the slate, I use available data sources to evaluate potential destinations according to three criteria:

1. What locations have points of interest for a tourist like myself? I define points of interest to include large cities, natural wonders, and culturally / historically significant sites.
2. What locations can a tourist like myself easily travel? I define easily traveled to include safety, respect for human rights, abundant English-speakers, and good societal infrastructure.
3. Relative to other countries in the region, which countries score highest on the first two criteria? I divide the world into regions and evaluate each country against the other countries in its region.

Table 1 provides a detailed breakdown of the evaluation criteria.

Table 1: Country Selection Criteria

Criteria	Sub-Criteria	Measure	Importance	Source
Location has tourist points of interest	(scored at the city-level)			
	▪ Large Cities	Metropolitan Population	25%	4
	▪ Cultural / Natural Sites	UNESCO World Heritage Sites	25%	5
Location is easily traveled	(scored at the country-level)			
	▪ Safety	US State Dept. Travel Advisories	15%	6
	▪ Respect for Human Rights	Global Freedom Scores	15%	7
	▪ English Speakers	Anglophone Population (Percent)	10%	8
	▪ Socio-Economic Infrastructure	Inequality-Adjusted Human Development Index	10%	9
Location is the region's best option	(stratifies countries)			
	▪ Definition of World Regions	UN M49 Region Typology	N/A	10

For the “location is easily traveled” criteria, the project uses country-level scores that measure different features of

⁴United Nations Statistical Division (2019)

⁵United Nations Educational, Scientific and Cultural Organization (2020)

⁶United States Department of State, Bureau of Consular Affairs (2021)

⁷Freedom House (2020)

⁸Compilation of Multiple Sources (2021)

⁹United Nations Development Programme (2020)

¹⁰United Nations Statistical Division (2021)

countries.¹¹ For the “tourist points of interest” criteria, the project selects a slate of up to three cities and scores features of those cities. This narrows down potential travel itineraries to a manageable number of destinations, especially in countries with a large amount of land area. Here are the selection criteria for each country’s cities.

1. The capital city of the country. For countries with multiple capital cities, the criteria favor the capital city with the largest population.
2. The largest city of a country, based on the total population of its metropolitan area.
3. The city with the most UNESCO World Heritage sites within a 50-kilometer (31 mile) radius.

In many cases, the capital city, largest city, and / or city near the most sites are the same city, so the project selects less than three cities.

Findings: A Twenty-Two Country, Thirty-Six City Slate of Travel Recommendations

Table 2 presents the full list of countries and cities selected. Appendix A provides the full list of heritage sites for each country.

Table 2: Countries and Cities Selected

Region	Country	Cities
Africa North	Morocco	Rabat ■ Casablanca ■ Meknès
Africa West	Ghana	Accra ■ Kumasi
Africa Middle	Angola	Luanda ■ M'banza-Kongo
Africa East	Mauritius	Port Louis
Africa South	South Africa	Pretoria ■ Johannesburg ■ Cape Town
America North	Canada	Ottawa ■ Toronto
America Central	Mexico	Mexico City
America Caribbean	Puerto Rico	San Juan
America South	Peru	Lima ■ Huaraz
Asia Central	Uzbekistan	Tashkent ■ Samarkand
Asia East	South Korea	Seoul
Asia South	India	Mumbai ■ Agra
Asia Southeast	Singapore	Singapore
Asia West	Israel	Jerusalem
Europe North	Sweden	Stockholm
Europe West	Netherlands	Amsterdam ■ Almere
Europe East	Poland	Warsaw ■ Kraków
Europe South	Italy	Rome
Oceania Micronesia	Palau	Koror
Oceania AUS/NZL	Australia	Canberra ■ Sydney
Oceania Melanesia	New Caledonia	Noumea
Oceania Polynesia	American Samoa	Pago Pago ■ Tafuna

Repository Guide:

This project consists of five .R scripts.

¹¹Where possible, the project treats distant territories of countries as separate entities because they typically offer a unique cultural / regional experience, relative to their metropole.

1_scrape_website.R - Refines data on State Department travel advisories and percentage of English-speakers in each country.

- Scrapes source data from the State Department's travel advisory RSS feed and from a table on the relevant Wikipedia¹² page. Saves refined data to `dos_advice.RData` and `speaks_english.RData` in the `B_Intermediates` directory.

2_compile_city_data.R - Refines United Nations data on city population and world heritage site locations.

- Reads in `city_population.xlsx` and `world_heritage.xlsx` data files from the `A_Inputs` directory and saves refined data to `B_Intermediates` as `city_data.RData` and `heritage_sites.RData`.
- Queries Google's geocoding API to determine the geographic coordinates of the cities. If `options(load_cached_geocode)` is set to `TRUE` (default), script use a cached version of that query, rather than re-querying the server. The cache saves at `B_Intermediates/geocode_cache.RData`. Google's API requires a key. The script uses `source()` to register this key using a script not included in this repository. You will need to replace this line with your own key to run this project.

3_compile_country_data.R - Refines country-level datasets, including United Nations' M49 geographic region codes, United Nations' Inequality-Adjusted Human Development Index countries scores and Freedom House's Human / Civil Rights scores. Also merges these datasets and the datasets refined in the previous two scripts into a unified whole.

- Reads in `country_codes.xlsx`, `country_development.xlsx`, and `human_rights.xlsx` from the `A_Inputs` directory, as well as `dos_advice.RData`, `speaks_english.RData`, `heritage_sites.RData`, `city_data.RData` from `B_Intermediates`. Outputs `B_Intermediates/processed_data.RData`, which contains the final `country_data`, `city_data`, and `heritage_sites` datasets
- Queries Google's geocoding API to generate standardized country names for the country-level datasets, so that the script can merge them. If `options(load_cached_geocode)` is set to `TRUE` (default), script use a cached version of that query, rather than re-querying the server. The cache is saved as `B_Intermediates/countries_geocode_cache.RData`. Google's API requires a key. The script uses `source()` to register this key using a script not included in this repository. You will need to replace this line with your own key to run this project.

4_map_standard_suggestion.R - Scores each country according to the criteria described in table 1; visualizes the results as the figure shown at the start of this document.

- Reads in `B_Intermediates/processed_data.RData` and outputs the suggested travel itinerary in three formats: `C_Outputs/travel_suggestions_generic.pdf` (visualization), `B_Intermediates/generic_map.RData` (visualization ggplot object), and `C_Outputs/travel_suggestions_generic.txt` (table of full results, formatted so that one can paste it into an Rmarkdown document).

5_travel_suggestion_tool.R - NOT YET WRITTEN. Tool will enable users to generate custom travel recommendations.

¹²TODO: Find a better source if practical

Appendix A: Procedure For Generating the Travel Itinerary

Appendix B: Detailed Travel Itinerary Findings and Analysis

Region	Country	Cities	Heritage Sites
Africa			
Africa East	Mauritius	Port Louis	Aapravasi Ghat ▪ Le Morne Cultural Landscape
Africa Middle	Angola	Luanda ▪ M'banza-Kongo	Capital of the former Kingdom of Kongo
Africa North	Morocco	Rabat ▪ Casablanca ▪ Meknès	Historic City of Rabat ▪ Historic City of Meknes ▪ Volubilis
Africa South	South Africa	Pretoria ▪ Johannesburg ▪ Cape Town	Archaeological Site Robben Island ▪ Cape Floral Region Protected Areas
Africa West	Ghana	Accra ▪ Kumasi	Accra Forts and Castles ▪ Asante Traditional Buildings
Americas			
America Caribbean	Puerto Rico	San Juan	La Fortaleza ▪ San Juan National Historic Site
America Central	Mexico	Mexico City	Mexico City Historic Center ▪ Xochimilco ▪ Teotihuacan
America North	Canada	Ottawa ▪ Toronto	Pre-Hispanic City ▪ Luis Barragán House and Studio ▪ UNAM Central University City Campus
America South	Peru	Lima ▪ Huaraz	Rideau Canal Lima Historic Center ▪ Chavin (Archaeological Site) ▪ Huascarán National Park
Asia			
Asia Central	Uzbekistan	Tashkent ▪ Samarkand	Sarazm Proto-urban Site ▪ Samarkand Historic City
Asia East	South Korea	Seoul	Jongmyo Shrine ▪ Changdeokgung Palace Complex ▪ Hwaseong Fortress ▪ Namhansanseong
Asia South	India	Mumbai ▪ Agra	Elephanta Caves ▪ Chhatrapati Shivaji Terminus ▪ Mumbai Victorian Gothic and Art Deco Ensembles ▪ Agra Fort ▪ Taj Mahal ▪ Fatehpur Sikri ▪ Keoladeo National Park

Region	Country	Cities	Heritage Sites
Asia Southeast	Singapore	Singapore	Singapore Botanic Gardens
Asia West	Israel	Jerusalem	Caves of Maresha and Bet-Guvrin ■ Jerusalem Old City ■ Al-Maghtas Baptism Site ■ Church of the Nativity and Pilgrimage Route, Bethlehem ■ Cultural Landscape of Southern Jerusalem, Battir ■ Hebron/Al-Khalil Old Town
Europe			
Europe East	Poland	Warsaw ■ Kraków	Warsaw Historic Center ■ Kraków Historic Center ■ Wieliczka / Bochnia Royal Salt Mines ■ Kalwaria Zebrzydowska Park
Europe North	Sweden	Stockholm	Birka ■ Hovgården ■ Skogskyrkogården ■ Drottningholm Royal Domain
Europe South	Italy	Rome	Vatican City ■ Villa Adriana, Tivoli ■ Villa d'Este, Tivoli ■ Cerveteri Etruscan Necropolises ■ Tarquinia ■ Rome Historic Centre ■ Catholic Religious Sites ■ San Paolo Fuori le Mura
Europe West	Netherlands	Amsterdam ■ Almere	Amsterdam Defence Line ■ Beemster Polder ■ Rietveld Schröder House ■ Amsterdam Singelgracht Canal Ring Area ■ Schokland and Surroundings
Oceania			
Oceania AUS/NZL	Australia	Canberra ■ Sydney	Sydney Opera House
Oceania Melanesia	New Caledonia	Noumea	NA
Oceania Micronesia	Palau	Koror	Rock Islands Southern Lagoon
Oceania Polynesia	American Samoa	Pago Pago ■ Tafuna	

Appendix C: References

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