Introduction

The Health Impact Assessment (HIA) Resource and Tool Compilation is a comprehensive list of resources and tools, completed in September 2016, that can be utilized by HIA practitioners with all levels of HIA experience to guide them throughout the HIA process.

HIA Resource and Tool Compilation Development

The HIA resources and tools contained in this Compilation were identified through:
- the "HIA Information Toolkit: Data, Methods, and Models from the HIA Community of Practice" Working Group at the Inaugural National Health Impact Assessment Meeting in Washington D.C. in 2012;
- an inventory of EPA tools, databases, and other resources relevant to HIA;
- data sources, tools, and methods identified in the EPA report, *A Review of Health Impact Assessments in the U.S.: Current State-of-Science, Best Practices, and Areas for Improvement*;
- a general online search; and
- an extensive, although not comprehensive, inventory of tools used in completed HIAs.

HIA Resource and Tool Compilation Methodology

Categorization

The resources and tools in the Compilation are organized into the primary categories and subcategories listed in Table 1. The Primary Category is the general classification of the tool or resource, while the Subcategory provides more detailed information on the format of the tool or resource (e.g., guidelines, scientific models, GIS-based mapping, etc.) or the sector to which the relevant data in the tool or resource pertains (e.g., built environment, health and healthcare, transportation, population statistics, etc.). The resources and tools fall into two groupings: those relating to the HIA process itself (i.e., the 'HIA Process Resources' primary category) and those that can be used in certain HIA steps to collect and analyze data, establish a baseline profile, assess potential health impacts, and establish benchmarks and indicators for recommendations and monitoring (i.e., all other primary categories). The resources and tools in these other primary categories include literature and evidence bases, data and statistics, guidelines, benchmarks, decision and economic analysis tools, scientific models, methods, frameworks, indices, mapping, and various qualitative and quantitative data collection tools, such as surveys.

Certain resources and tools, like those in the 'Databases,' 'Guidance Documents,' and 'Mapping Tools' categories can be used to build baseline profiles of existing conditions. Others, such as those listed in 'Data Collection Tools,' can be used to collect new quantitative and qualitative data. Resources and tools from the 'Guidance Documents,' 'Analysis Tools,' 'Models,' and 'Mapping Tools' categories can guide HIA practitioners in impact characterization.

For those resources and tools for which it is relevant, Topic(s) are provided detailing the sectors or topic areas to which that particular resource or tool pertains. These topics correspond to the subcategories used for 'Databases' and are intended to provide further descriptive information on the resource or tool and to assist HIA practitioners in searching through the hundreds of resources and tools listed in the Compilation.

Topics include:
- o Agriculture
- o Built Environment
- o Business and Industry
- o Crime
- o Economics
- o Education
- o Environment
- o Health and Healthcare
- o Housing
- o Labor and Workplace
- o Population
- o Transportation

Table 1. HIA Resource and Tool Compilation Organization

Primary Category	Subcategory
HIA Process Resources	– General HIA Information – HIA Trainings and Webinars – Screening Step – Scoping Step – Assessment Step – Recommendations – Reporting Step – Monitoring & Evaluation Step – HIA Communication – Community Participation, Partnerships, and Equity
Databases	– Literature/Evidence Bases – General Data Warehouses – Multi-Topic Databases – Agriculture – Built Environment – Business and Industry – Crime – Economics – Education – Environment – Health and Healthcare – Housing – Labor and Workplace – Population – Transportation
Guidance Documents	– Guidelines – Benchmarks
Analysis Tools	– Decision Analysis – Economic Analysis
Models	– Scientific Models – Methods – Frameworks – Indices
Mapping Tools	– GIS-Based Mapping – Map Data Viewers
Data Collection Tools	– Qualitative – Quantitative – Mixed Methods

Inclusion and Exclusion Criteria

Resources and tools developed in the U.S. were the primary focus of this Compilation. A comprehensive inventory of international HIA tools and resources was beyond the scope of this project due to resource limitations. Any domestic or international HIA resources and tools that are not found in the Compilation were not excluded as a result of the resources and tools being poorly designed or of little value to HIA practitioners.

There are many useful resources and tools available at the local, county, and state levels for HIA practitioners. A comprehensive list of these resources and tools is beyond the scope of this Compilation, as there are thousands of these types of products available throughout the U.S. However, it is important that HIA practitioners are aware that these resources and tools exist; that similar ones may be available for their study area; and that in some cases, although developed for a particular area, these resource and tools may be adapted to fit the needs of other locales. For these reasons, generic "State, County, and Local" dataset and tool entries have been provided in the Compilation and include a general description of the type of data and/or tools that may be available, some specific example(s) of these types of data or tools, keywords, and the names of departments, agencies, or organizations from which these resources and tools could potentially be obtained. These tools may be very useful for HIAs with smaller geographic scopes.

Resource and Tool Spotlight

A number of resources and tools from the Compilation that are commonly used in HIA and/or provide HIA best practices are spotlighted below:

- Health Impact Project
- Human Impact Partners' Tools & Resources
- UCLA HIA Clearinghouse Learning & Information Center (UCLA HIA-CLIC)
- Minimum Elements and Practice Standards for Health Impact Assessment, Version 3
- Equity Metrics for Health Impact Assessment Practice
- Census Bureau
- Data.gov
- Behavioral Risk Factor Surveillance System (BRFSS)
- National Environmental Public Health Tracking Network
- County Health Rankings & Roadmaps
- The San Francisco Indicator Project [formerly the Sustainable Communities Index (SCI)]
- Health Economic Assessment Tool (HEAT)
- Eco-Health Relationship Browser
- EnviroAtlas
- The National Map
- EJSCREEN

Using the HIA Resource and Tool Compilation

Intended Audience

The Compilation was developed for use by anyone interested in conducting HIAs, including experienced HIA practitioners; local, state, regional, or federal agencies working in public health, transportation, planning, or any other sector interested in the health consequences of a proposed action; and local community-based organizations concerned with the potential health effects of local decisions. The Compilation provides resources and tools that can be used by individuals with all levels of HIA experience, from those who are interested in conducting their first HIA and need information on what an HIA is and how to conduct one, to those who have conducted many HIAs and are looking for new assessment tools.

Practical Application

The Compilation may look overwhelming, especially to someone new to the field of HIA, with its hundreds of resources and tools; however, not all of these resources and tools will be applicable to each HIA. The Primary Category, Subcategory, and Topic(s) columns help to guide the HIA practitioner to the resources and tools that may be relevant in their HIA.

A good place to start is to first review the primary categories of the Compilation. If someone is new to HIA, then they may want to start with the 'General HIA Information' and 'HIA Trainings and Webinar' resources listed in the 'HIA Process Resources' category to familiarize themselves with the HIA process. Those new to the practice may need to spend some time going through the different categories of resources and tools to see which may be most applicable to their HIA. The experienced HIA practitioner, who is familiar with the tasks and documentation tools available at each step, may want to skip the 'HIA Process Resources' and begin examining the remaining categories in the Compilation. The Subcategory and Topic(s) columns will help users narrow down the search for resources and tools to those relevant to the HIA being performed. Searching for keywords throughout the Compilation is also a quick and easy way to locate resources and tools related to a topic of interest.

The two-part example that follows offers practical guidance on how to use the Compilation and demonstrates:
   A. How someone new to the practice of HIA could locate resources on the HIA process; and
   B. How someone could locate data sources and tools to conduct an HIA.

Example

A local community organization wants to assess how the construction of a transitway through a low-income neighborhood will impact their community. They're interested in using HIA as a tool to assess these impacts and present to City Council, the Metropolitan Transit Authority, and other stakeholders who will be voting on the project.

Part A

The local community organization wants to learn more about what an HIA is, what the process entails, and how they can use it to meet their communities' needs.

For those new to the HIA process, like the organization in this scenario, the 'HIA Process Resources' is a good starting point for learning about the HIA process and the principles that guide it.

To learn more about the HIA process, how to conduct an HIA, and how to decide whether HIA is the right approach for this effort (i.e., perform the screening step), individuals can search the 'HIA Process Resources' category of the Compilation and find resources and tools, such as those shown in Figure 1. Individuals may also want to review Appendix A, which provides answers to frequently asked questions (FAQs) about HIA and directs readers to relevant resources and tools in the Compilation, as needed.

In addition, a useful activity for any group undertaking an HIA is to identify and review, early in the HIA process, HIAs that have been conducted on similar decisions. This can help the HIA team to identify relevant health determinants, health outcomes, and assessment methods. The HIA team may do a preliminary review of the literature included in these HIAs before conducting their own literature review so as to familiarize themselves with the relevant literature on the topic and inform the scoping process. In progress and completed HIAs are indexed in the Health Impact Project's 'HIA in the United States' web tool and on the University of California Los Angeles HIA Clearinghouse Learning and Information Center (UCLA HIA-CLIC) website. Both of these resources are listed under the 'General HIA Information' subcategory of the 'HIA Process Resources'.

The Health Impact Assessment Resource and Tool Compilation

U. S. Environmental Protection Agency (EPA), Office of Research and Development

Primary Category	Subcategory	Resources and Tools

HIA Process Resources

General HIA Information

A HIA Toolkit: A Handbook to Conducting HIA, 3rd Edition

Guide providing general information on the HIA process and tools for conducting HIA

UCLA HIA-CLIC: Completed HIAs

Health Impact Project: HIA in the United States

Searchable sites that allows users to search for HIAs similar to the topic of their HIA

HIA Trainings and Webinars

Planning for Healthy Places with Health Impact Assessments

Free, online course the HIA team can use to train on HIA

Screening Step

Screening Worksheet

Worksheet with questions to determine whether an HIA is feasible, timely, and of added value
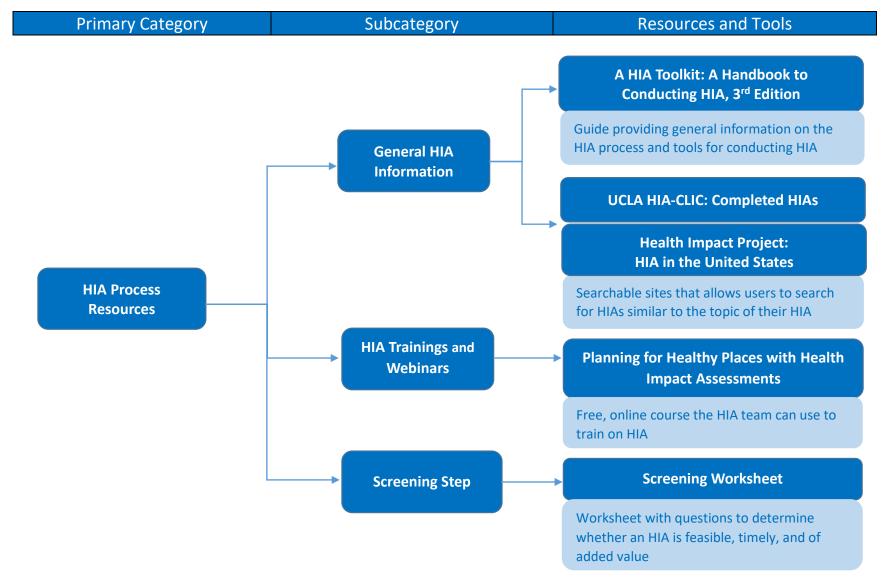
Figure 1. Examples of available 'HIA Process Resources'.

Part B

The local community organization decides to conduct an HIA. The organization forms an HIA Team responsible for conducting the HIA. The team is looking for:
- o possible health determinants and outcomes to examine;
- o literature on low-income housing and residents and the effects of transitway co-location;
- o local community data on demographics, housing, employment/unemployment, transportation options, environmental health data, health conditions, and healthcare services; and
- o methods of data collection, possibly to survey residents living in the apartment complex near the path of the transitway and/or interview relevant stakeholders.

Now that the HIA Team is familiar with the HIA process and has completed the screening step of the HIA process (i.e., decided that an HIA would be feasible, timely, and of added value), the team will move on to the second step of the process – scoping – and begin to plan the assessment step of the HIA. The HIA Team may look to the rest of the HIA Resource and Tool Compilation for resources and tools to use at this point.

To learn more about the data, tools, and methods that could be used in conducting the HIA, individuals can search the Primary Categories of the Compilation and find resources and tools applicable to their HIA, such as those shown in Figure 2.

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Primary Category	Subcategory	Topic(s)	Resources and Tools

HIA Process Resources → **Scoping Step**

Databases → **Literature/ Evidence Bases**, **General Data Warehouses**

Built Environment / Demographics / Environment / Health and Healthcare / Housing / Labor and Workforce / Transportation

Google Scholar

PubMed — Provides access to literature and research on a wide range of topics

HIA Screening/ Scoping Checklist of Health Determinants — Checklist to help guide which health determinants to include in the HIA (outdoor air quality, noise, etc.)

Analysis Tools → **Economic Analysis** → **Economics / Environment / Health & Healthcare / Transportation**

BenMap- Community Edition — Estimates the health impacts and economic benefits with changes in air quality

Data.gov — Comparable data at the city, county, and state levels; possible neighborhood-level data

Health Economic Assessment Tool — Economic benefits of walking/cycling

Criteria Air Pollutants/National Ambient Air Quality Standards

Guidance Documents → **Guidelines Benchmarks** → **Environment / Health and Healthcare / Transportation**

SurveyMonkey — Free, online survey that can be used to survey the community

Transportation and Air Quality/ Emission Standards — EPA air quality and emission standards
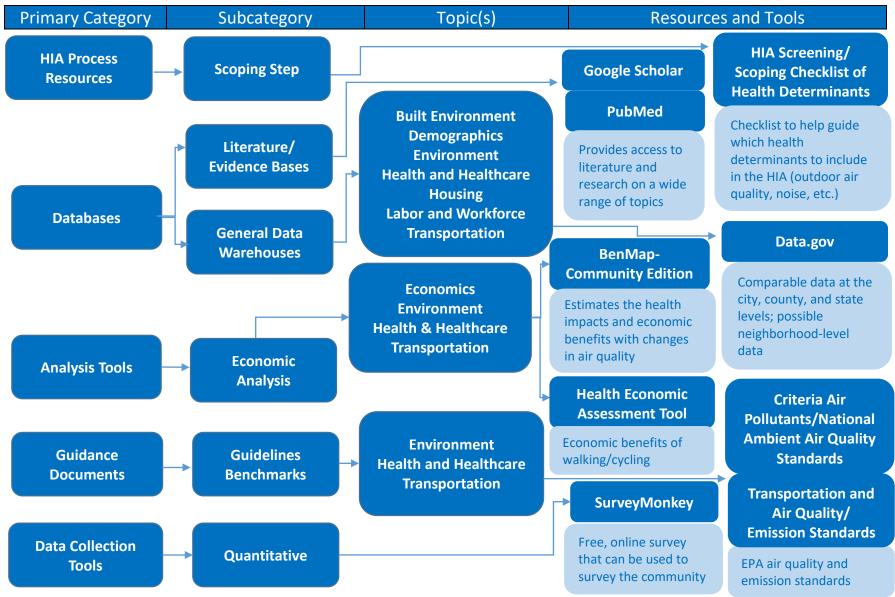
Data Collection Tools → **Quantitative**

Figure 2. Examples of resources and tools available for conducting HIA.

Searching in the Compilation

The Compilation is sortable by the primary categories and subcategories listed in Table 1. Remember that the primary category is the general classification of the tool or resource, while the subcategory provides more detailed information on the format of the tool or resource or the sector to which the relevant data in the tool or resource pertains. For those resources and tools for which it is relevant, the Topic(s) column details the sector or topic area to which that particular resource or tool pertains. The Subcategory and Topic(s) columns will help users narrow down the search for resources and tools to those relevant to the HIA being performed. Most of the resources and tools in the Compilation are free, but when there is an associated cost, it is noted in the Description column with the symbol **$**.

The Compilation is a lengthy list of hundreds of resources and tools, but keyword searches are a quick and easy way to locate resources and tools related to a topic of interest.