

A Review of Health Impact Assessments in the U.S.: Current State-of-Science, Best Practices, and Areas for Improvement

Justicia Rhodus¹, Florence Fulk², Bradley Autrey², Shannon O'Shea³, Annette Roth²
¹CSS-Dynamac, c/o U.S. Environmental Protection Agency, National Exposure Research Laboratory, 26 W. Martin Luther King Dr., Cincinnati, OH 45268; ²U.S. Environmental Protection Agency, National Exposure Research Laboratory, 26 W. Martin Luther King Dr., Cincinnati, OH 45268; ³Contractor, U.S. Environmental Protection Agency, National Exposure Research Laboratory, 109 T.W. Alexander Drive, Research Triangle Park, NC 27709

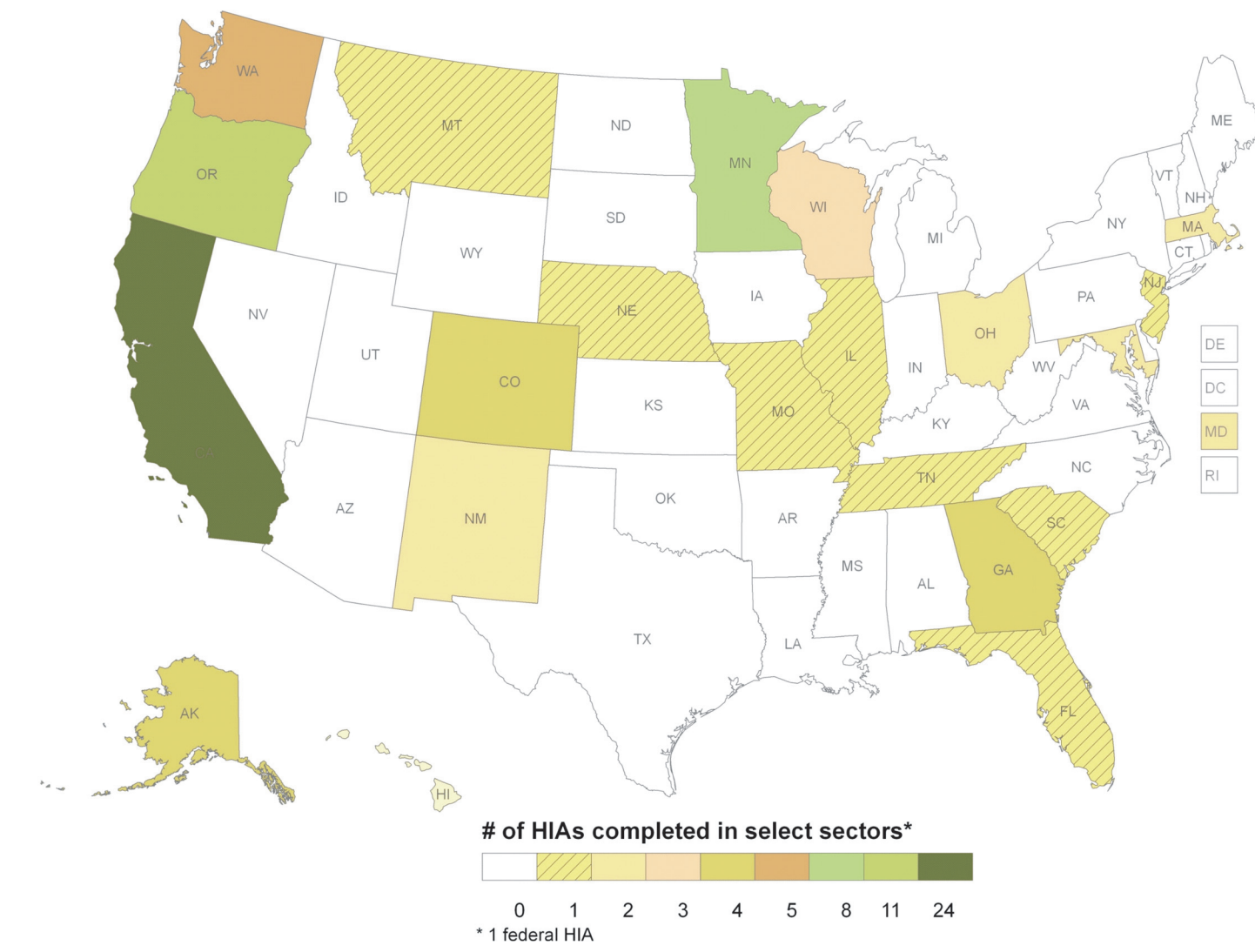
Justicia Rhodus | rhodus.justicia@epa.gov | 513-569-7103

HIA Review

A systematic review was conducted of 81 health impact assessments (HIAs) from the U.S. to obtain a clear picture of how HIAs are being implemented nationally and to identify areas for advancing the HIA community of practice. The review was focused on HIAs from four sectors that the U.S. Environmental Protection Agency's (EPA's) Sustainable and Healthy Communities Research Program has identified as targets for empowering communities to move toward more sustainable states:

- Transportation (n=21)
- Land Use (n=39)
- Housing/Buildings/Infrastructure (n=17)
- Waste Management/Site Revitalization (n=4)

Reviewed HIAs were completed between 2005 and spring 2012, when the HIA Review began, at locations throughout the nation:



The *Minimum Elements and Practice Standards for Health Impact Assessment* (North American HIA Practice Standards Working Group 2010) was chosen from the broad body of HIA guidance documents as the benchmark against which to review the HIAs. The results of the reviews were recorded in a Microsoft Access database and synthesized to identify the current state of the HIA practice in the U.S., best practices in HIA, and areas for improvement.

Data Entry Form		HIA Review	
ID:	65	Local Data Available or Obtained?:	Yes: demographics, traffic, pedestrian & bicycle data; physical activity; opportunities; access to healthy food, education, & health and public services; transit; non-profit/organization; Berkeley-Carrollton-Corcoran-Council of Governments
Title:	Health Impact Assessment (HIA) of Proposed "Wood Dale" and Resting Project on Cedar Morgan Avenue in Spartanburg, South Carolina	Additional Data Needed (Self-identified):	No
Year:	2012	Stakeholder Involvement:	Yes: steering committee and local organizations (Spartanburg Area Transportation Study, Partners for Active Living non-profit/organization, Berkeley-Carrollton-Corcoran-Council of Governments)
Location:	Spartanburg, South Carolina	Impacts/Endpoints:	Health, environmental, infrastructure, services
Decision-making Level:	State	Health Endpoints:	Injury, death, obesity, health, asthma and other respiratory distress
Organization(s) Involved:	The South Carolina Department of Health and Environmental Control	Pathway of Impact:	Traffic safety, physical activity, access to goods and services, air quality
Organization Type:	Government Agency	Characterization of Impact:	Direction of impacts (positive health impacts); magnitude of impacts; significance of results; likelihood of impacts; distribution/equity of impacts (across community, demographic effects)
Contact:	Maria Pelt, maria@hishp.org; Jessie Ebel, jebel@hishp.org	Impact Prioritization:	HIA
Organization/HIA Website:	http://hishp.org/first-health-impact-assessment-in-south-carolina	Decision-making Outcome:	Yes: findings suggested that the proposed road diet and re-striping could not only improve the health of many people, but also prevent death, injury, and/or serious disease. HIA recommended that the City implement the proposed road diet and re-striping.
Funding:	Association of State and Territorial Health Officers (ASTHO)	HIA Report:	Yes
Status:	Complete	Defensibility/Process Eval:	Source of evidence, methodology, documentation of the process sound and of high quality; factors considered; remaining/unresolved concerns are clearly identified, analyzed/monitored.
Sector(s):	Transportation	Effectiveness of HIA:	Undetermined
HIA Type:	Decision support	Follow-up Measures:	Monitor bicycle/pedestrian activity, traffic patterns and enforcement; collect & analyze data to ensure that the project served its purpose.
HIA Rigor:	Intermediate	Minimum Elements of HIA Met? If no, what's missing:	Yes
Scope/Summary:	This HIA was conducted on the proposed Cedar Morgan Avenue Resting Project in Spartanburg, South Carolina to assess the effects of the proposed road project on 1. safety of residents, bicyclists, & pedestrians; 2. opportunities for physical activity for residents of Spartanburg; 3. opportunities for improved access to goods and services; and 4. air quality.	GIS Used?:	Yes: qualitative display of connectivity and bicycle level of service, walking the route.
Source of Evidence:	Literature review, policy review, special collection (demographic analysis, GIS)	Environmental/Ecosystem Impacts Considered?:	Yes: air quality impacts examined
Data Types:	Literature (peer-reviewed, government documents), web sites, GIS	Potential Improvements:	N/A
Major Data Sources:	SC Dept of Transportation, Partners for Active Living, Spartanburg Bicycle Pedestrian Master Plan Study, County Consumer Food Assessment, Spartanburg Area Transportation Study, Spartanburg Regional Transit Agency, SC Dept of Health & Environmental Control, SC Office of Research & Statistics, U.S. Census 2000, County Health Rankings	Best Practices:	Summary of HIA findings, screening factors and scope; involvement of stakeholders; incorporation of monitoring/follow-up measures

HIA Step: Screening, Assessment, Reporting, Monitoring and Evaluation, Scoping, Recommendations

State of the HIA Practice

Use of HIA to Inform Decision-Making

On the rise
 HIA is being used with increased frequency to bring health to the decision-making process. This trend is consistent with trends in the overall community of practice. HIA used most frequently across the four sectors to inform decisions at the local level.

Inputs

Existing Data, Tools, and Methods

Data Type	Existing Data Sources	
Demographics and Background (social, economic, housing, education)	- U.S. Census Bureau - U.S. Department of Housing and Urban Development	- U.S. Department of Labor - State Employment Department
Health and Vital Statistics	- U.S. Centers for Disease Control and Prevention (CDC)	- State/County/Local Health Department
Other	- Police Department - Department of Environmental Quality - U.S. Department of Agriculture - Maps and GIS Repository - Parks and Recreation - County Auditor/Assessor	- Planning Department - School District - Federal Transit Administration - U.S. Department of Transportation - State/County/Local Department of Transportation/Transit
Benchmarks	- CDC Physical Activity Guidelines - EPA Air Quality/Pollution Standards - Robert Wood Johnson Foundation County Health Rankings and Roadmaps - Transportation Research Board Crash Reduction Factors	- Crime Prevention Through Environmental Design - World Health Organization Initiatives, Strategies, and Guidelines - U.S. Department of Health and Human Services Healthy People Initiative
Indicators	- Sustainable Communities Index (formerly HDMT)	



Tools

- Geographic Information Systems (GIS)/Mapping Applications
- Health Economic Assessment Tool (HEAT)
- Living Wage Calculator
- Neighborhood Environment Walkability Scale (NEWS)
- Retail Food Environment Index (RFEI)
- Traffic Noise Model (TNM) and Noise Annoyance Relationship
- Walk Score

Primary Data Collection Methods

Special Collection includes:	
- accessing unpublished data	- health surveys
- advisory committee	- mediation group
- aerial photography	- modeling/forecasting
- air quality study	- PhotoVoice/community photography
- applicant information	- public/project meetings
- community forums/workshops	- residents panel
- demographics analysis	- risk assessment
- expert consultations	- stakeholder interviews
- field visits/site observations	- community/stakeholder surveys
- focus groups	- threshold scoring
- food audit/retail food availability survey	- traffic assessment/counts
- GIS and photo mapping	- walkability audits
- Healthy Development Measurement Tool (HDMT)	- windshield surveys/tours

Implementation of the Six-Step HIA Process

Varied greatly among the HIAs, leading to large disparities in rigor and quality

- **Screening** – Documentation of the screening process often lacking, making it difficult to discern what factors went into making the decision to perform the HIA
- **Scoping** – Documentation of the scoping process was inconsistent and often lacked details of the overall HIA plan – research questions, rationale for reductions in scope, etc.
 - Extent of baseline profiles created in some HIAs very limited and in others, missing completely (n=18)
 - Most HIAs qualitatively characterized direction and distribution/equity of impacts
 - Characterization of impacts rarely considered likelihood, magnitude, and permanence
 - Quantification of impacts also lacking
- **Recommendations** – Typically included alternatives or modifications to the decision to promote positive health impacts or minimize negative health impacts and/or direct mitigations for negative health impacts. In some cases, support for or opposition to the decision was also offered
 - Factors utilized most frequently for prioritization of impacts and/or recommendations in the reviewed HIAs:
 - stakeholder/community input
 - literature and research
 - impact on health
 - equity of impacts
 - relevance to project/decision interests
- **Reporting** – Reporting and communicating the results of HIA is crucial to informing and influencing decision-making
 - Only 5% of the HIAs included a communication plan for reporting and disseminating findings
 - Over 35% of the HIAs lacked transparent documentation of the processes, methods, findings, sponsors, funding source(s), and/or participants and their roles
- **Monitoring and Evaluation** – This step of the HIA process was severely lacking
 - Process evaluation found in only 6% of the HIAs
 - Plans for impact evaluation and/or outcome evaluation present in only 36% of the HIAs

Adherence to Minimum Elements of HIA

- Elements most often missing:
- Use of best available evidence to characterize direction, magnitude, likelihood, distribution, and permanence of impacts
 - Monitoring and evaluation
 - Transparency in documentation



Stakeholder/Community Engagement

- Engagement in each step of the HIA process is ideal, but rarely witnessed
- Approximately 20% of the HIAs did not engage stakeholders or the community at all in the HIA process

Characterization of Environmental Impacts

- Included in many of the HIAs, but typically only involved assessments of air quality impacts

Effectiveness of HIA

- Effectiveness could not be discerned for almost 40% of the HIAs
- Vast majority of HIAs for which measures of effectiveness could be obtained, showed direct or general effectiveness

Best Practices



- ★ Use of the *Minimum Elements and Practice Standards for Health Impact Assessment*
- ★ HIA as a tool for Environmental Impact Assessment
- ★ Equity promotion
- ★ Documented Screening & Scoping
- ★ Rules of Engagement Memo/Memorandum of Understanding
- ★ Impact pathways/logic frameworks
- ★ Communication/Reporting Plan
- ★ Stakeholder involvement
- ★ Transparent literature search/review
- ★ Quality of evidence evaluation
- ★ Identification of data gaps
- ★ Use of or adaption of existing tools, methods, and metrics
- ★ Detailed documentation of data and methods
- ★ Use of GIS
- ★ Clear summary of impact assessment
- ★ Use of best available data (qualitative & quantitative)
- ★ Impact prioritization/ranking
- ★ Confidence estimates of projected impacts
- ★ Feasible/actionable recommendations
- ★ Implementation plan for recommendations
- ★ Clear/transparent HIA Report
- ★ Process evaluation
- ★ Monitoring plan

Areas for Improvement

Use of HIA to inform decision-making at all levels
 Adherence to Minimum Elements and Practice Standards
 Broader utilization of existing tools and resources
 Identification of data gaps
 Consistency in HIA terminology
 Closing the data gaps

Adherence to Minimum Elements and Practice Standards

- Targets for improvement: Establishment of baseline conditions • Characterization of impact • Stakeholder and community engagement • Transparency in documentation • Monitoring and evaluation

Use of HIA to inform decision-making at all levels – local, county, state, and federal

Identification of data gaps – provide transparency in HIA reporting, help refine methods and approaches used in HIA, and identify areas for future research

Broader utilization of existing tools and resources

- HIA Tools Database and C-FERST HIA Roadmap (under development by EPA) will include an inventory of tools, methods, and resources for use in HIA

Closing the data gaps and maximizing the evidence available for use in HIA

Consistency in HIA terminology

Conclusions

While HIAs have helped to raise awareness and bring health into decisions outside traditional health-related fields, the effectiveness of HIAs in bringing health-related changes to pending decisions in the U.S. varies greatly. The HIA Review found considerable disparities in the quality and rigor of HIAs being conducted. This, combined with the lack of monitoring, health impact management, and other follow-up could be limiting the overall utilization and effectiveness of HIA in the U.S.

Understanding the current state and applicability of HIAs in the U.S., as well as best practices and areas for improvement, will help to advance the HIA community of practice in the U.S., improve the quality of assessments upon which stakeholder and policy decisions are based, and promote healthy and sustainable communities.

Look for the HIA Review Database and Synthesis Report coming soon at:

www.epa.gov/research/healthscience/health-impact-assessment.htm