

Using Health Impact Assessments to Enhance the Environmental Regulatory Process: Case Studies and Key Messages

ASTHO

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Abbreviations

ASTHO: Association of State and Territorial Health Officials

CEQ: Council on Environmental Quality

DEIR: Draft Environmental Impact Review

DEIS: Draft Environmental Impact Statement

EA: Environmental Assessment

EIR: Environmental Impact Report

EIS: Environmental Impact Statement

EPA: Environmental Protection Agency

FONSI: Finding of No Significant Impact

HIA: Health Impact Assessment

NEPA: National Environmental Policy Act

SEPA: State Environmental Policy Acts

Executive Summary

This report highlights case studies from jurisdictions that have successfully integrated health impact assessments (HIAs) into or alongside National Environmental Policy Act (NEPA) requirements, and presents key messages showcasing the potential for HIAs to enhance environmental regulatory reviews. This is the second product of a two-stage project aimed at exploring and analyzing opportunities to infuse health considerations and HIAs into environmental regulatory processes, including those required by NEPA or state equivalents (SEPA). These laws, which apply to federal, state, and local agencies and tribes, require comprehensive environmental reviews for major public (and some private) projects or actions that may significantly impact the human environment, such as transportation initiatives, building developments, and waste removal, energy, and mining projects.¹

To learn more about projects that have integrated or implemented HIAs alongside the NEPA process, the authors screened more than 150 HIAs from across the United States that were conducted on an environmental or transportation project to see if they interfaced with NEPA/SEPA. To focus on those initiatives that best demonstrate HIAs' utility as a complementary tool, the team selected five for further case study evaluation. These five represent both geographic diversity and diversity among sectors charged with carrying out activities associated with the environmental regulatory process. The case study interviews focused on how jurisdictions initiated the HIA process, reviewed details from the HIA process, and discussed whether stakeholders implemented the HIA recommendations as part of the environmental regulatory review process.

Drawing upon the case study interview findings, the project team developed four messages that highlight how HIAs can enhance the environmental regulatory process and showcase their complementary attributes. The messages are intended for professionals who lead or participate in environmental regulatory reviews as part of the NEPA/SEPA process and make the case for why integrating HIA into an already-established process adds meaningful benefits. The project team tested the four messages with a group of non-health affiliated "message testers" to see how they resonated with the group, and then refined the messages based on the resulting feedback.

Based on our research, it is clear that HIAs can enhance the NEPA/SEPA process through multiple levers. The case studies revealed that HIAs can foster community engagement and provide a much-needed forum for addressing community health concerns. HIAs can also raise a much broader set of health considerations than the NEPA/SEPA process alone, providing decisionmakers with additional information to identify project alternatives or potential mitigation measures.

During our message testing, stakeholders responded most positively to points that highlighted HIAs' potential to address community concerns more fully than the regulatory process alone. The audience also appreciated messages that showcased how HIAs can proactively address community concerns early in the NEPA process (e.g., the scoping period), which may provide the most potential to address the health impacts. Some message testers had historically experienced delays in the NEPA review process and were required to do supplemental analyses in order to more fully address a project's potential health impacts. They felt that addressing health concerns earlier in the regulatory process could help prevent the need for supplemental studies after the draft environmental impact review (DEIR) were prepared. ASTHO would like to do additional research in the future to test this hypothesis.

It is incumbent upon public health practitioners to promote HIA education and awareness efforts across key groups, such as non-health sector agencies and organizations and, importantly, representatives from

private industry who could benefit from more systematically incorporating broader health considerations into environmental regulatory decisionmaking. Although the evidence is currently limited, our findings from these five case studies suggest that HIAs may help jurisdictions more actively engage the communities most likely impacted by proposed projects and address a broader suite of health concerns than the environmental review process alone.

Introduction

The National Environmental Policy Act and State Equivalents

The National Environmental Policy Act (NEPA) was signed into law in January 1970 by then President Richard Nixon.² NEPA's primary goal was to ensure that federally funded projects (or those with work performed or permitted by a federal agency) would not result in harm to the environment and indirectly, human health. NEPA also established the President's Council on Environmental Quality (CEQ), an advisory body that aims to guide NEPA's development and implementation.³ In 1978, CEQ issued regulations to implement and administer NEPA, including the requirements for preparing Environmental Impact Statements (EIS).⁴ Since that time, various federal agencies (e.g., U.S. Department of Transportation, Federal Highway Administration, U.S. Department of the Interior, and U.S. Department of Housing and Urban Development) have developed supplemental guidance specific to different sectors' missions and activities.⁵

In brief, NEPA requires jurisdictions to systematically evaluate the environmental impacts and alternatives to federal projects. Based on this evaluation, projects can proceed in three ways:

- Categorical Exclusion: Some projects are excluded from the NEPA process if the lead agency and EPA have agreed that they will not have any significant effect on the environment.
- Environmental Assessment (EA): If a project is estimated to have potential impacts on the environment, EPA requires stakeholders to perform a limited assessment to determine if a Finding of No Significant Impact (FONSI) is appropriate or if the review process must continue.
- Environmental Impact Statement (EIS): - Some stakeholders must conduct full scale assessments at the outset of a project or after completing an EA.⁶ An EIS is generally conducted due to the project's potential to have significant impacts on the environment.

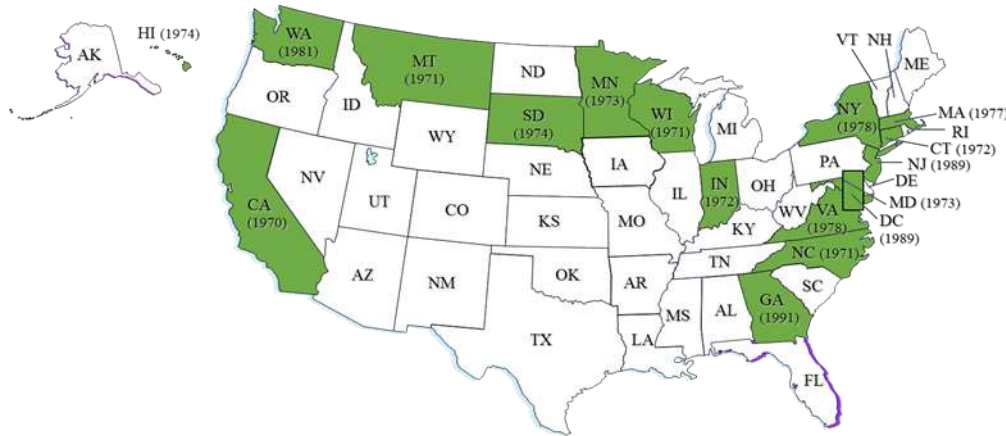
For the most part, federal health agencies (e.g., CDC and National Institutes of Health) do not have formal responsibility regarding NEPA unless they are brought into the process as a "cooperating agency." EPA defines a cooperating agency as "a federal, state, tribal or local agency having special expertise with respect to an environmental issue or jurisdiction. A cooperating agency has the responsibility to:

- Assist the lead agency by participating in the NEPA process at the earliest possible time.
- Participate in the scoping process.
- Develop information and prepare environmental analysis that the agency has special expertise in."⁷

Although federal health agencies generally do not play a major role in projects that must comply with NEPA regulations, state and local health agencies, as well as advocacy groups, are often called upon to

address environmental and health concerns in a local or host community.⁸ This is most common in states with SEPAs. CEQ has identified 16 states and the District of Columbia with SEPAs, as shown in *Figure 1*.⁹

Figure 1. States (and DC) with SEPAs¹⁰



Health Impact Assessments

HIAs have emerged as a promising tool for providing health-based recommendations to decisionmakers in a variety of sectors. HIAs bring together scientific data, health expertise, and stakeholder input to identify the potential positive and negative health effects of proposed laws, regulations, projects, policies, and programs. Through a semi-structured process, practitioners carefully select issues to assess, define the parameters of the assessment with stakeholders, explore the health impacts of a future proposal, determine avenues to address such impacts, and provide information to decisionmakers.

The six steps of the HIA process include screening (determining whether the HIA is appropriate and likely to add value), scoping (engaging with stakeholders to select which health impacts to consider), assessment (describing the baseline health of people and groups affected by the decision, and then predicting the potential health effects), recommendations (pointing the way to decisions that protect and promote health), reporting (disseminating the findings to decisionmakers, affected communities, and other stakeholders), and monitoring and evaluation (analyzing the HIA's impact on the project plan or policy, and the impact of the implemented decision on health).¹¹ Community input is encouraged at each step in the HIA process.

HIAs are currently voluntary in the United States (with a few exceptions), but their use is becoming increasingly important in assessing proposed projects or policies' impacts and providing recommendations for protecting and promoting health. In some cases, HIAs have been successfully integrated into regulatory processes such as an EIS or other processes required by the NEPA or SEPAs. In 2009, Massachusetts lawmakers passed the Transportation Reform Act, which, in addition to consolidating several transportation agencies, required transportation entities to design and implementation HIAs in transportation projects.^{12,13} *Figure 2* provides more details about each step of the HIA process.¹⁴

The National Environmental Policy Act and Health Impact Assessments

State experiences in addressing community and health concerns with NEPA/SEPA processes have not always been fruitful, and it's becoming increasingly more important to enhance the NEPA/SEPA processes by incorporating health and health determinant data. Both environmental reviews and HIAs can inform decisionmakers, either prior to project construction or during implementation, about the potential environmental and health impacts of proposed projects, programs, or policies. Although environmental reviews generally assess a wide range of environmental issues, such as air and water quality, noise, and impacts to wildlife, HIAs evaluate how proposed actions will affect human health (e.g., through physical activity, respiratory health, injury, or nutrition).¹⁵

In addition, although the methodologies for the NEPA process are streamlined to look at numerous environmental impacts, there is no widespread methodology in the NEPA process for including broader health outcome data for impacts other than air, water, soil, and noise. Even when a methodology exists for health outcomes related to the above impacts, they may not be employed.

EIS reports often imply that health is important, but do not capture the reasons for this, or how air and water pollution can impact population health differently. For example, an EIS examining air quality considerations may not directly address why air quality is a human health concern or why air quality can impact individuals differently, or quantify the magnitude of these health impacts.

However, a review of the literature demonstrates that individuals with conditions such as asthma, chronic lung disease, coronary heart disease, and heart failure who are exposed to air pollutants suffer more significant adverse health impacts compared to the general population.^{16,17} In addition, although risk assessments used to generate regulatory health based standards and guidelines consider sensitive populations like infants or the elderly, ambient levels of air pollutants below those standards and guidelines (e.g., PM 2.5) often used in the environmental regulatory process can present significant health concerns in communities with preexisting health burdens higher than state and national trends. Thus, as a tool that defines health more broadly, HIA can complement the NEPA/SEPA process to illustrate a more comprehensive analysis of impact.



Figure 2. The HIA Process¹⁸

Project Goals

This report describes the second stage of a two-stage project aimed at exploring and analyzing opportunities to infuse health considerations and HIAs into environmental regulatory processes. The goal of the Stage One effort was to assess specific federal and state environmental laws and policies supporting the infusion of health considerations and HIAs into NEPA- and SEPA-required environmental reviews of proposed projects and actions. This work resulted in the Network for Public Health Law report [*Integration of Health & Health Impact Assessments Via Environmental Policy Acts*](#).¹⁹

In this second stage, we aimed to highlight examples where HIAs have been successfully integrated into or alongside the NEPA process and demonstrate the actual or potential public health and environmental benefits of incorporating HIAs early in the development of NEPA projects. Through the methods outlined below, the project team also developed key messages that might help non-health sector stakeholders better understand the rationale, value, and potential co-benefits of integrating HIAs into the NEPA process.

Methods

Case Study Selection

Using online databases such as the Health Impact Project interactive map and UCLA's Health Impact Assessment Clearinghouse Learning & Information Center, the project team searched for and reviewed summaries of over 150 HIAs that have been carried out in the United States in the transportation, water, housing, natural resource, and energy sectors.^{20,21} The team then shortened the list to HIAs that focused on environmental protection and may have been integrated into or carried out alongside the NEPA process. (The latter point was not always evident upfront, and thus required more substantial review of the HIA report itself.) The goal was to find projects that best demonstrated using an HIA as a complementary tool. To narrow down the case study selection to just five projects, the project team used the following criteria:

- Location
- SEPA equivalent status
- Sector of focus

The final list of five HIAs selected for further case study evaluation represented geographic diversity (California, Massachusetts, Minnesota, Oregon, and Virginia), as well as diversity among the sectors carrying out activities associated with the environmental regulatory process (e.g., energy, housing, and transportation). The project team also wanted at least one example of an HIA that was conducted in a state without a SEPA (i.e., Oregon) to see if that status impacted the process.

In addition, the final case study list contained an example of a "learning opportunity" for health, with the goal of using the feedback from these stakeholders to help the project team learn more about the challenges of integrating HIA into the NEPA/SEPA process. A learning opportunity was defined as an HIA whose findings were not considered in the EIS, either due to the timing of the HIA in the regulatory process or due to a difference between the requirements of NEPA/SEPA and the data collected in the HIA. This did not mean that the HIA was ineffectively conducted, but rather shows the importance of the monitoring step of the HIA process when the HIA findings may still have a chance down the road to

impact the project plan outcome. It also potentially shows the importance of screening and whether there is a pathway, either inside or outside of the NEPA process, for findings to be used. The five HIAs selected for the case studies included:

- **Case Study 1:** “The Potential Health Impact of a Poultry Litter-to-Energy Facility in Shenandoah Valley HIA” (to be referred to as the VA HIA).²²
- **Case Study 2:** “Assessing Health and Equity Impacts of the Proposed Reef Development Project in South Central Los Angeles” (to be referred to as the CA HIA).²³
- **Case Study 3:** “Health Impact Assessment of the Massachusetts Department of Transportation Grounding McGrath Study” (to be referred to as the MA HIA).²⁴
- **Case Study 4:** “Hennepin County Bottineau Transitway Health Impact Assessment” (to be referred to as the MN HIA).²⁵
- **Case Study 5:** “The Lake Oswego to Portland Transit Project Health Impact Assessment” (to be referred to as the OR HIA).²⁶

The project team developed a protocol and interview guide for the case study interviews that focused on three key areas:

- (1) Initiation of the HIA process (i.e., which agency/entity initiated the HIA, why it was used, and the stakeholders’ goals).
- (2) Details of the HIA process (i.e., which partners were involved, who were the project champions, and how the process was funded).
- (3) Follow-up to the recommendations of the HIA (i.e., whether or not recommendations of the HIA were incorporated into the environmental regulatory review process, reactions from community advocates and policymakers, and retrospective thoughts about what might have been done differently).

The interview guide also contained several questions to help the project team develop the key messages. For example, what was extent of non-health sector participant support or opposition to including an HIA in the process, and were the recommendations accepted and acted upon in the final EIS?

All case study interviews were conducted over the telephone, with the exception of the MA HIA, whose interviewees elected to provide written responses to the interview guide. However, ASTHO’s consultant to this project was previously an active participant in the MA HIA, which allowed the project team to obtain the same type of supplemental feedback provided by other case study interviewees. All telephone interviews were recorded and transcribed to ensure accuracy. Each interview lasted approximately one hour and allowed for a thorough discussion.

Message Point Development and Stakeholder Engagement

Predominantly based on the case study interviews, the project team developed four messages that highlighted HIAs’ potential to enhance the environmental regulatory process and showcase their complementary attributes and co-benefits. Given the range of sectors involved in the five case studies and the geographic diversity of the HIAs, the project team believes that the interviewees’ experiences are fairly representative of the types of projects and professionals who have successfully integrated HIAs into or alongside the NEPA process.

The project team used several methods to test the four message points with a group of “message testers” to see how they resonated with the group. First, the team consulted the key informants from

the case study interviews for suggestions of stakeholders to participate in the message testing. Specifically, the team asked informants about non-health sector representatives involved in their HIAs who might provide important feedback on their involvement in the HIA process. Second, the project team engaged individuals familiar with NEPA/SEPA to participate in the message testing. The team thought that these individuals might provide candid feedback in terms of historical experience in NEPA/SEPA activities relative to community involvement and acceptance, as well as their perspectives on how HIAs might contribute to better outcomes. These individuals were either already ASTHO partners or were referred to the project team by other partners.

To get the broadest and most diverse feedback possible, the final message tester group members varied in their level of HIA experience (either involved with HIAs or having no experience with them), sector, and agency-type (e.g., government, NGO, or academia). In addition, members varied in their experience with the NEPA process, from understanding it to having participated in an EIS.

The project team polled the group to find the optimal time for a virtual stakeholder engagement meeting and distributed a two-page summary document in advance of the call. This document contained a brief background on HIAs along with the project overview, the meeting goals, and test message points, including sub-bullets drilling down deeper into each message area. During the message tester call, facilitators reviewed the document and led a discussion of participant experiences, provided opportunities for candid feedback, and solicited ideas to improve the messages. (More details on the message points can be found in Appendix B.)

The project team reached out to 18 stakeholders for their feedback, offering participants an opportunity to provide feedback via email if the call time was not feasible. The final message tester group included 12 individuals (from varying backgrounds, as described above) who provided feedback on the draft message points and supplemental information that the project team used when analyzing this project.

Case Studies

Below are selected themes and findings from the HIA interviews. (For links to each HIA's published executive summary, see Appendix C.)

Case Study 1: The Potential Health Impact of a Poultry Litter-to-Energy Facility in Shenandoah Valley, Virginia

The VA HIA, led by staff from Virginia Commonwealth University's Center on Human Needs, aimed to assess the health and environmental impacts associated with siting a proposed poultry litter-to-energy facility.²⁷ A secondary goal of this HIA was to evaluate the HIA's use in determining the potential health impacts of this emerging power technology in the state of Virginia prior to such a facility going through the regulatory siting process. Since NEPA/SEPA requires an evaluation of alternatives (e.g. different project designs or smaller scales), the HIA team also hoped that the HIA process could serve as a viable tool to consider alternatives once the draft environmental impact review (DEIR) was initiated. The DEIR aims to identify the environmental impacts of a proposed project before the project is underway.²⁸

Halfway through the HIA process, an economic study analyzing the new litter-to-energy industry was released. The study revealed that there was a lot less poultry litter in the valley than originally believed, perhaps not enough litter to support a facility of the proposed size. The litter study came out just as the

HIA team was finishing the scoping step. By that time, the HIA was approximately half completed and the team had already invested substantial funding into it, so they decided to finish the HIA because the findings could benefit future proposals at the same or another location.

If the facility had been approved to build, in addition to going through the NEPA process, the construction team would be required to go to the Virginia Department of Environmental Quality with the emissions data and request air quality tests before they could obtain an air permit. However, although this permitting process requires air quality testing and a type of health assessment, it does not consider any additional or aggregate air quality concerns, such as the cumulative effect of stack emissions and facility truck traffic. In addition, the only legal requirements to evaluate health would be strictly limited to the air quality question. (The standard approach involves using the National Ambient Air Quality Standards and emissions modelling to estimate health impacts.)²⁹ The HIA looked at air and water quality, poultry and agriculture employment, truck traffic, and alternative energy technologies and the potential connections between these factors and health. Thus, the HIA provided additional, relevant, health information that most likely would not been considered in the environmental regulatory process alone.

After the HIA was completed, the HIA team members spoke with a few lawmakers, one of whom reported that, although he was very skeptical of HIAs in the beginning, he was supportive of the HIA's findings. He explained that his skepticism came from thinking that "health" was being used as code for opposition to the facility. In the end, the lawmaker said that he was pleasantly surprised to find that the HIA took a "balanced approach." This is an important observation, since it is an HIA practice standard to provide a balanced assessment.³⁰

This case study key informant noted that the HIA team's biggest challenge was the timing of the economic study that was released during the same time period as the HIA, which essentially stopped the facility construction from moving forward. The informant also suggested that the HIA was challenged by the lack of strong, pre-existing community relationships in the proposed facility's rural location. However, the HIA helped forge new relationships and strengthen existing ones for future projects. Project planners had a public meeting to kick off the project that drew a cross section of the public from the proposed area and then held a focus group with poultry growers to hear their views. Neither of those two encounters would have happened without the HIA. The challenges associated with a lack of trust between the farmers and the academic community prior to this process showcases the importance of community engagement, as well as the potential for HIAs to foster this much-needed activity. This case study also highlighted how an HIA can raise health concerns not captured in the environmental regulatory process alone.

Case Study 2: Assessing Health and Equity Impacts of the Proposed Reef Development Project in South Central Los Angeles

The CA HIA explored the impacts of a proposed housing development project in southern Los Angeles. The HIA aimed to determine the health impacts—especially housing equity impacts—associated with this housing development in one of the poorest neighborhoods in south central Los Angeles. This HIA was conducted following the release of a DEIR, which was prepared by a firm hired by the City of Los Angeles. With the exception of traffic flow and subsequent air quality estimates, the DEIR did not include health considerations. The HIA team at the consultant firm, Human Impact Partners, (HIP) hoped

to submit the HIA as a public comment to the DEIR so that their recommendations might be considered before the final environmental impact review was finalized.

Prior to beginning the HIA, HIP assembled a coalition of relevant stakeholders. The coalition had done a lot of community outreach prior to the HIA and continued this engagement throughout the HIA process. ASTHO's key informant for this case study reported that having an active and engaged coalition was essential to successfully completing the HIA.

The HIA primarily focused on two issues that were considered to be indirect health impacts of the development: (1) gentrification and displacement and (2) financial strain among residents living within two miles of the proposed development. The HIA team assumed that the project would spur gentrification, and made some predictions about the level of displacement and financial strain for residents living within ½ mile to 2 miles of the development site. For example, the HIA team did a buffer analysis and considered how far from the proposed development gentrification and housing cost increases would impact the community, and then estimated the number of people living within that perimeter to approximate the potential number of people impacted.

Using the existing conditions (i.e., the population and current housing availability) and U.S. Census data, the HIA team estimated that 44,000 people were at risk for financial strain and displacement. Through those mechanisms, the team was able to connect the health outcomes associated with chronic financial strain and stress, as well as social network stress and disruption.

According to the key informant for this case study, guidelines from the California Environmental Quality Act (CEQA), California's SEPA, only focus on displacement from the current location, not indirect displacement resulting from gentrification and rising prices.³¹ In its HIA, HIP cited research that suggests that indirect displacement *is* a health concern, and included the indirect impacts of displacement in the analysis even though CEQA did not require that those be considered.³²

As mentioned, because HIP submitted the HIA as a public comment to the DEIR, the document was not completed as early in the environmental regulatory process as with some of the other case studies. The EIR has since been finalized, but although the state environmental regulatory agency reviewed and acknowledged the HIA, it summarily dismissed the recommendations because CEQA does not require consideration of social impacts, which the regulatory agency suggested the HIA presented. It is also important to note that this case was limited because, unlike NEPA, CEQA does not require considerations for environmental justice. Both this factor and the issue of indirect displacement under CEQA provided a learning opportunity for how HIAs and NEPA/SEPA can complement one another, but also face some challenges. Knowing these challenges up front can help position an HIA in the environmental regulatory process to best facilitate their complementary attributes.

This case study showcased how HIAs can successfully engage the community and help facilitate dialogue with stakeholders throughout the NEPA/SEPA process. It also demonstrated the broader set of health impacts that an HIA can evaluate when compared to the environmental regulatory process alone, especially when a SEPA is more limited than NEPA. However, it highlighted the challenge of how lead agencies can dismiss these broader health impacts based on the limited scope of analysis required by law or regulations.

Case Study 3: Health Impact Assessment of the Massachusetts Department of Transportation Grounding McGrath Study

The MA HIA assessed the health and environmental impacts associated with deescalating a major highway in Massachusetts and evaluating various roadway alternatives. This HIA aimed to serve as the first HIA in Massachusetts that was mandated by the commonwealth's transportation reform law and test its use under section 33 of that law. Section 33 called for the establishment of an interagency compact, the so-called Healthy Transportation Compact (HTC).³³ The HTC was charged with overseeing the implementation of healthy transportation alternatives and "the establishment and institution of methods for conducting HIAs of transportation plans."³⁴

This HIA was conducted prior to preparing the DEIS process in NEPA/SEPA, which is currently underway. The HIA was also concurrent with the transportation department's study, and thus was able to independently evaluate the several transportation alternatives studied by the Massachusetts Department of Transportation (MassDOT). It is standard practice in transportation planning to conduct a study before moving forward with a larger project that prompts NEPA/SEPA.

From the beginning of the transportation study, community members voiced significant concerns about the project. The Grounding McGrath Working Group engaged a range of community stakeholders in the project, including advocacy, community, and private sector groups, as well as elected officials. To dig even deeper, the HIA project leads established the Grounding McGrath Working Group Pilot HIA subteam, which consisted of working group members who were interested in the HIA.

The HIA considered important factors that would not have been evaluated by the MassDOT study alone, resulting in recommendations that received widespread community support. For example, the HIA demonstrated the significant health and socioeconomic status (SES) disparities in the communities that would be most affected by the transportation project, which raised concerns over possible gentrification resulting from future development and the need to provide some cost controls for rental properties and local employment opportunities. By evaluating diabetes rates among adults and obesity rates in children, the HIA also helped identify potential future health impacts that could be avoided with certain roadway alternatives.

At the time the HIA was prepared, Type 2 diabetes incidence in the area of greatest impact was low, but childhood obesity rates were significantly higher than the statewide average. Childhood obesity is the greatest contributor to developing Type 2 diabetes later in life, so this finding led the HIA team to recommend identifying more opportunities for and access to physical activity. Because this recommendation came out of the HIA and would not have been captured in the transportation study by itself, it underscored how HIAs are beneficial and complementary to the regulatory process.

This case study also showcased how HIAs can foster great community engagement and proactively address community concerns early on in the NEPA process, possibly saving future delays down the road. The formal EIS for this project is currently underway, and transportation planners are incorporating the HIA findings into that process, including by selecting the two alternatives suggested by the HIA.

Case Study 4: The Hennepin County Bottineau Transitway Health Impact Assessment

The MN HIA was initiated by the Hennepin Department of Public Works, which saw this as an opportunity to bring health to the table in the transit planning process. The [Bottineau Transitway](#) (now referred to as METRO Blue Line Extension) is a proposed high-frequency light rail transit (LRT) project that will extend from downtown Minneapolis to surrounding suburbs. It is a high profile project that has garnered much interest throughout the impacted area. The HIA was conducted concurrently with the DEIS, and while the city and county transit engineers and planners doing the DEIS were accepting of the HIA, they were not necessarily engaged in the process as much as they were focused on fulfilling the DEIS criteria. However, they agreed to include the HIA in the DEIS appendix.

The HIA was used as a vehicle to educate community members on how why health matters. The HIA advisory committee included representatives from community organizations and networks, public health practitioners and researchers, transit engineers, HIA project consultants, and neighborhood association board members. The HIA team convened stakeholder engagement meetings and held key informant interviews, often at the same time as the DEIS engagement meetings. The team met with some groups that were happy to raise their health concerns, but also met with some community and transit advocacy groups that were already overburdened by the DEIS process and thus questioned the need for an additional process (which may point to the need to educate stakeholders on what HIAs can bring to the table).

Overall, the HIA increased stakeholders' understanding of connections between health, land use, and transit. The public input collected during the HIA public comment period underscores that Bottineau Transitway stakeholders have diverse concerns and interests regarding the transitway. The most common topics of importance were physical activity, land use, location affordability (taking into account combined housing and transportation costs), employment access, and traffic safety. The HIA showed the importance of engaging communities throughout the whole transit planning process, as the resulting recommendations centered on engaging traditionally underrepresented groups.

The HIA concluded that the Bottineau LRT project could improve community health and health equity, and that the transitway's impact on health would depend on the land uses surrounding the new stations. The recommendations therefore focused on *how* people would use the light rail, not whether or not to build it. The HIA also showed that the transitway's impact on low-income and minority communities would depend on efforts to ensure their access to light rail. Specifically, the HIA recommended continuing to engage low-income, non-English speaking and minority populations in the planning process—something that wouldn't have come out of the DEIS alone.

According to this case study key informant, much of the HIA's benefit came about after the HIA team completed the report, as stakeholders used the HIA to obtain additional substantial funding from Blue Cross and Blue Shield to develop a [detailed model](#) for addressing health equity and engaging underrepresented communities in station area planning. Station area planning is the first step in the Bottineau LRT Community Works planning and implementation process, and is designed to coordinate with, and run parallel to, LRT planning and engineering. This follow-up project engaged a variety of communities of color and immigrant communities that would use the light rail.

To date, nothing has yet been built for the LRT, but the HIA did help increase community engagement, provide a forum to discuss a broader set of health impacts related to the project (e.g. chronic disease) than the DEIS alone, and led to the development of an in-depth community engagement model that provided recommendations on how to better engage people in the station area planning process. Together, the HIA and community engagement efforts helped make the public comment process more productive and laid the groundwork for subsequent efforts. In addition, the findings and health equity recommendations developed from the community engagement were incorporated directly into the station area plans. Therefore, this case study shows the potential for HIAs to bring more in-depth health considerations to the transit planning process and initiate grassroots community engagement, especially for communities not generally reached through the regulatory process alone.

Case Study 5: The Lake Oswego to Portland Transit Project Health Impact Assessment

The OR HIA focused on the environmental and health risks associated with a rapid transit expansion project in Oregon. This HIA aimed to provide complementary information for the DEIS being prepared by Metro, the Metropolitan Planning Organization for the Portland region. The HIA aimed to more explicitly and more fully assess the impacts of three different transit scenarios on select health determinants. The three transit options under consideration were: a “no build” option, an enhanced bus option, and a streetcar option. (The “no build” option meant that nothing would be built to expand current transit capacity.)

Although the DEIS began prior to the start of the HIA, both assessments were done concurrently. The HIA team worked closely with Metro to avoid duplicating work and to provide complementary information. The Oregon Public Health Authority (OPHI) had decided early on that it wanted the HIA to be separate from the DEIS. However, the HIA team hoped to have the DEIS and HIA completed at about the same time so that decisionmakers would consider both documents as they selected a final transportation alternative. OPHI signed a memorandum of understanding with Metro that clearly specified the project goals, rationale, terms, and a dispute resolution mechanism. This successful collaboration greatly improved the HIA process.

The HIA team determined that the streetcar option had the most positive impacts on health, specifically regarding physical activity potential and increased access to parks and trails, as well as increased ridership. The biggest health risk was associated with construction period air quality, one of the community’s priority concerns. Therefore, the HIA recommendations focused on how to mitigate exposure to air pollution during the streetcar construction. In the end, the local jurisdictions went with the “no build” option because they could not agree on either of the build options.

The key informant for this case study reported that although most methodologies for steps in an EIR/EIS process are already standardized, there was no established standard approach to incorporating broader health considerations into this HIA process, so the HIA team faced challenges in creating these for the project, especially for those related to opportunities for physical activity.

The informant also noted that the professionals who conduct and review EIS projects were more confident in their preexisting methodologies than in the new HIA methodologies that OPHI was utilizing. Although there are many previously-established methods for considering environmental impacts on health, no single generalized approach has been identified for the EIR/EIS process.

Despite the challenges with the methodologies, there were a number of positive takeaways from this HIA as it relates to the NEPA process. First, the HIA team conducted this project concurrently with the MPO's transportation transit study, which revealed how HIAs can complement other review processes, including transportation planning studies. Second, this HIA demonstrated the value of complementing standard required NEPA information with information explicitly about public health impacts. One of the jurisdictions involved in the project cited the HIA in support of their recommendation for the street car option.

While the final outcome was “no build”, the HIA enhanced the NEPA process by providing stakeholders with useful information. This project also highlights the need for the HIA field to develop and vet methodologies that could be used consistently in EISs to examine a broader set of health impacts. In addition, as noted previously, OR does not have a SEPA. Based feedback from staff involved in the HIA, that status did not seem to impact the ability of the HIA to be integrated with the NEPA process.

Analysis of Key Findings from Case Studies

Key informants from the case studies felt that HIAs added co-benefits to NEPA/SEPA process from a few standpoints. The informants had varying degrees of experience with the environmental regulatory process, but all had important takeaways from the HIAs used in this project. The variation of the case studies helped ASTHO draw a better picture of how HIAs fit into the NEPA puzzle. Future impacts associated with a transportation project will differ from those associated with energy, but the way that HIA teams engage stakeholders and the transparency of the process can influence any project's success. Below, we discuss several of the main themes that emerged from the case study interviews.

Health Impact Assessments Raise a Broad Range of Health Impacts

Many of the key informants noted that HIAs may identify more health impacts than may otherwise be noted when doing an EIS/EIA alone. As a result, HIAs can provide decisionmakers with additional information to identify project alternatives or potential mitigation measures for the proposed construction. In addition, HIAs can shed light on health disparities.

As was previously mentioned, the VA HIA identified more health impacts than those considered by the minimum air quality tests that are required to obtain an air permit for a litter facility. The minimum tests would not have considered the cumulative effect of stack emissions and facility truck traffic, for example, and their contribution to air pollution in the impacted area. Similarly, the CA HIA provided the health impact projections of indirect displacement—projections that CEQA does not require developers to consider.

The OR HIA was able to complement the health-related information in the DEIS with information on additional health impacts related to physical activity, crash safety, access to health supportive resources, and changes in air quality.

The MA HIA provided an opportunity to identify health concerns in the affected community, as well as evidence-based health risks that could inform subsequent planning steps, including the EIS. This HIA demonstrated the significant health and SES disparities in the affected communities, data that would not have been captured in an EIS alone. These findings raised concerns about possible gentrification in the area from future development, and highlighted the need to provide local employment opportunities

and cost controls for rental properties. By evaluating diabetes rates among adults and obesity rates in children, this HIA helped identify potential future health impacts that could be avoided with certain roadway alternatives.

Health Impact Assessments Can Foster Critically Needed Community Engagement

Community engagement plays an important role in advancing major construction projects, and the key informant interviews revealed that HIAs can facilitate more community engagement than the environmental regulatory process alone. In addition, HIAs offer an opportunity for community members to voice broad health concerns related to the NEPA projects at hand. Community engagement helps give impacted persons and groups a chance to weigh in on a project, whether it be simply to better understand the scope and timeline of the project, or to express their concerns about or support for project impacts. Community engagement empowers residents to let their voices be heard—a gesture that cannot be underestimated for impacted stakeholders.

The team from the VA HIA certainly felt that it prompted community involvement that wouldn't have happened otherwise. At the project kickoff, the HIA team held a public meeting that drew a cross section of the public, and then held a focus group of poultry growers to hear their unique viewpoints. Neither of those two engagements would have happened without the HIA. This was also important because the community had yet not built trust with the academic community and the HIA project team, and the HIA helped strengthen those relationships for future interactions.

The MN HIA actually served as the precursor to getting a larger project funded to do more community engagement for stationary planning efforts down the road. In particular, the follow-up project engaged unique communities of color and immigrant communities that would be light rail users. The HIA showed that you need to engage communities throughout the whole transit planning process, and the HIA team ended up focusing its recommendations on engaging traditionally under-represented groups.

The MA HIA benefitted from a robust stakeholder process that MassDOT had already established, which engaged a broad spectrum of representatives across the community from the beginning of the study. However, in this case study, the HIA team went a step further and created an HIA subcommittee of the MassDOT stakeholders to further hone in on health concerns. This displayed how well the HIA complemented the commonwealth's regulatory process and enhanced the process for individuals most interested in health impacts of the proposed project.

The key informant interviews also revealed that using HIAs early in the regulatory process was associated with more and, often, better community engagement. Through all steps of the HIA process, community members and coalitions were engaged and had opportunities to provide additional feedback regarding their health and safety concerns.

Health Impact Assessments May Provide an Opportunity to Proactively Address Community Concerns

In addition to the above themes, ASTHO's interviewees discussed how, when timed correctly, HIAs may help proactively address community concerns. The most optimal time seems to be during the EIS scoping period, which is before stakeholders have written the DEIS. Inserting an HIA into this part of the regulatory process can potentially reduce the risk of legal battles down the road due to opposition over health and safety concerns. (Although this has not yet been proven, anecdotes from the case studies point to this as a possible co-benefit.)

The VA HIA was conducted just as public discussions about poultry-to-litter facilities were beginning. In addition to conducting a site-specific assessment of a proposed facility in Virginia, the HIA provided a template for evaluating health impacts for forthcoming siting projects.

The MA HIA was conducted before the DEIS was prepared to de-escalate McGrath Highway, and was purposefully designed to be done during the transportation study period prior to beginning the SEPA process. As noted earlier, the public voiced a significant amount of concern from the very beginning of the transportation planning study. Although all stakeholders felt that something needed to be done to address the highway and its crumbling underpass structure, they wanted to make sure to address the potential health and social impacts associated with various alternatives. The fact that health was considered in the initial study and subsequently in the EIS allowed these stakeholders to proactively address issues and concerns identified by community members that would have likely continued to be problematic later in the planning process when most of the major decisions were made.

A Further Note: Guidance in Alaska

In addition to the case studies referenced above, it is worth noting that other HIAs also support these recommendations. For example, Alaska's Donlin Gold Project EIS examined a proposal to build mining and milling facilities at the site of the Donlin gold mine, build transportation facilities for the mine, and build a buried natural gas pipeline to power electrical generation at the mine site. In this project, stakeholders developed the HIA prior to the public release of the DEIS, but the timing wasn't optimal for a full public comment period, so the HIA team did not include the HIA as a separate document. Instead, the team folded the recommendations into the DEIS itself. The fact that many of the HIA recommendations were included in the EIS shows the complementary nature of the two processes. In addition, the HIA provided an opportunity for the EIS to address health considerations (such as chronic disease) beyond what it would have originally done without the feedback from the HIA.

The Alaska Department of Health and Social Services (ADHSS) has actually developed a [toolkit](#) to provide technical guidance for HIAs in Alaska. Given Alaska's abundant natural resources and resulting large number of construction projects, there have been a number of opportunities to integrate HIAs into the state's regulatory processes. Alaska also has many communities located in rural areas throughout the state that are highly dependent on subsistence hunting and gathering, and resource development has the potential to bring substantive changes to rural and indigenous communities that are located in close proximity to a project. These changes can include revitalizing communities through economic growth and community projects, but may also lead to environmental exposure to toxins, interference with subsistence activities, and disruption to communities.

When the ADHSS' HIA program develops an HIA for a project, ADHSS functions as part of the state interagency team that is coordinated by the Department of Natural Resources' Office of Project Management and Permitting. In these situations, ADHSS contributes its own expertise, along with that of subject matter experts from the other state agencies, typically the departments of Natural Resources, Fish and Game, Environmental Conservation, Transportation and Public Facilities, and Commerce and Community Development.

Message Testing

ASTHO developed test messages based upon feedback from key informants during the case study interviews and a review of completed HIAs. As previously discussed, the message points focused on the co-benefits of HIAs for projects subject to the NEPA process, as well as HIAs' ability to address health and community concerns. In addition, the message points referenced the potential for HIAs to proactively address community concerns early in the NEPA process, which may help save time due to delays and challenges later in the environmental regulatory process. ASTHO developed and shared four draft message points and sub-questions for discussion with the message testers:

Message 1: Using an HIA as part of the environmental regulatory process or EIS addresses several requirements related to community involvement and health considerations.

- How have you addressed community and health concerns in a NEPA/EIS review process historically?
- Did the community feel as though its issues/concerns were addressed? If not, what steps did you need to take to address them?
- Did you use another process or tool to help address health concerns?

Message 2: HIAs provide a forum to address health and other community concerns early, which can help gain project support and prevent or reduce opposition in host communities.

- In your experience with NEPA or the environmental regulatory review process, what types of stakeholders did you engage in the host community?
- Were local health officials included in the stakeholder engagement of government officials in your project?
- Was local government in communication with the communities most impacted by the proposed project or their corresponding local advocacy groups?

Message 3: Using an HIA to address potential health impacts early in the NEPA process saves time and money and can help avoid or reduce legal challenges.

- Has your previous experience with NEPA or environmental regulatory reviews been impacted by community opposition?
- Did the opposition delay your project?
- Were there legal and other costs associated with responding to or addressing community opposition?

Message 4 (specific to transportation): HIAs complement the standard transportation planning studies done before an EIS. Using HIAs with transportation studies will facilitate the EIS by addressing potential health impacts before the Draft EIS is prepared.

- Transportation studies require community advisory/stakeholder involvement to weigh transportation alternatives similar to that included in an HIA process.
 - Have you been involved in an HIA associated with transportation studies or projects?

- If not, how have you addressed potential health impacts in your project(s)?
- Who or which stakeholder group has been the champion(s) for addressing health concerns in such studies?

The project team sent the draft messages to the message testers in advance so that they had sufficient time to review them, and the message testers provided feedback via a series of email exchange and conference calls. This feedback and the resulting dialogue and exchange of opinions helped ASTHO refine the messages for final use.

Key Messages

Of the four draft message points, the themes that most resonated with the group related to HIAs' ability to address local health and environmental concerns that might not otherwise be captured in the environmental review process alone. Stakeholders noted that although air and noise concerns are often captured in an EIS, other public health impacts, including impact distribution, are often not accounted for in the analysis. An HIA that captures community input along the way and scopes potential health impacts is much more appealing, especially if it can provide a clear analysis of community health concerns.

In addition, the test message group was intrigued by HIAs' potential to save time. The group affirmed that if an HIA can help address some health and other community concerns early in an NEPA/SEPA process, it could enhance an environmental review process by reducing the amount of time and extra paperwork needed to address community health concerns once the review is drafted. Two of the message testers shared their experiences with legal battles due to community concerns after a DEIS was completed. This point about reducing time by proactively addressing community concerns was also discussed in the case studies. Although it has not yet proven measurable, it may be a key lever to gaining support for using HIAs in the NEPA/SEPA processes.

The final message points are provided below, as well as some sub-bullets that further explain the messages.ⁱ

Message 1: Using an HIA as part of the environmental regulatory process or EIS fulfills several required elements related to community involvement and health considerations.

- EIS project leads are often required to address environmental justice issues and engage the host community during their review process. Incorporating HIAs into the formal process can both help satisfy these requirements and enhance the review to include additional community health concerns.

Message 2: HIAs provide a forum for addressing health and other community concerns early, which can help gain project support and reduce opposition in host communities.

- Although community engagement is part of the EIS/EIR process, widespread health impacts outside of air, water, and wildlife, including cumulative impacts, are often not part of those conversations. HIAs provide a forum whereby communities can address these concerns in a

ⁱ Note: Although the final message points resulted from consultation with the message testers, the sub-bullets were not part of that process. Rather, they are based on the project team's experience, and are used here to more fully explain the messages in this report.

systematic way, and promote support of a project by showing communities that their concerns are being assessed. Ideally, engaging the community in this dialogue early on can help stakeholders design the scoping activities of the HIA and, thus, the EIS.

Message 3: Using an HIA can proactively address potential health impacts early in the NEPA process, which can potentially save time and help reduce legal and policy challenges down the road.

- By more fully engaging residents in a host community early on, stakeholders can hear and address their health concerns throughout the process instead of realizing that they have not been addressed after the EIS has been prepared. Historically, some projects have faced considerable delays or have failed due to local opposition to the project, resulting in costly and lengthy legal challenges.

Message 4 (specific to transportation): HIAs complement the standard transportation planning studies done before an EIS. HIAs can facilitate the process by addressing potential health impacts before the draft EIS is prepared.

- Transportation planning studies are routinely done to evaluate a number of issues prior to a project going through the formal NEPA/SEPA process (e.g., reducing the number of design alternatives). Similarly to how stakeholders conduct an HIA, these studies use community engagement and consider traffic, noise, and other impacts. Considering health impacts associated with such concerns as part of or alongside the transportation planning study can help facilitate the process and reduce the risk of receiving additional requests for data as part of the preparation of an EIS or EIR.

Limitations

Although ASTHO attempted to select five geographically and topically diverse HIAs to highlight in this report, this analysis could be enriched by closely examining more of the HIAs that have successfully been integrated into or completed alongside the NEPA/SEPA process. Although the project team felt that the case study feedback was relatively representative based on the project diversity, interviewing other project stakeholders may have elicited different feedback that could have altered our analysis.

The project team chose to develop just four message points to keep the communication piece succinct. However, there are likely other messages that we did not include that could also make the case for using HIAs with NEPA.

The message tester group was limited in number, and thus, in viewpoints. If this project timeframe had been longer, the project team could have doubled the size of this group to get more comprehensive feedback from additional stakeholders, with an emphasis on additional “non-HIA” partners who might have provided additional feedback on challenges to integrating HIA into the NEPA process (or even reasons why they don’t think it is necessary).

It is also important to note that the project team has made several assumptions regarding time savings in the regulatory process for some of the cases evaluated. Although these assumptions are based in logic and familiarity with the NEPA process, the project team has not quantified actual time savings. The team is looking at future opportunities to test this hypothesis and possibly provide supporting data for this statement.

Finally, ASTHO completed both stages of this project concurrently due to time constraints. Ideally, it would have been beneficial to have the first stage findings in hand prior to starting the second stage. This may have influenced which case studies were selected and informed some of the early decisions in the project. However, since the two teams worked closely together, there were still opportunities to provide feedback and review the complementary documents.

Conclusions

This project team conducted an in-depth examination of a handful of HIAs that were integrated into or completed alongside a NEPA or SEPA process. The case studies were geographically varied and targeted several sectors to help make our results more widely applicable. Although each HIA had varying degrees of success in soliciting involvement and support among non-health sector participants, all deemed HIAs a beneficial addition to their environmental regulatory process.

Results from the above case studies and key informant interviews show that HIAs can help address a broader scope of health concerns than an EIS or EIA alone, and can foster much-needed community engagement. In addition, HIAs can proactively address community concerns earlier in the regulatory process, such as before the DEIS has been prepared, which may help prevent delays down the road due to legal battles over stakeholder concerns. In addition, assessing the criteria used to evaluate the impacts of a construction project through a health lens may provide another important perspective and can expand the relevance of the evaluation criteria.

This project team also developed and refined a set of key message points showing the co-benefits of using HIAs alongside the NEPA/SEPA process. These messages are aimed at project leads of EIS or EIA, as well as other government agencies and private industry teams charged with carrying out environmental regulatory activities. It is clear, based upon our research and feedback from the case study key informants and message testers, that using HIAs holds promise for enhancing the environmental review process.

Although there are convincing examples that demonstrate the beneficial and complementary nature of HIAs with NEPA-mandated processes, the infrequent and episodic use of HIAs in this manner limits an appreciation of their full potential and more widespread use. It is incumbent upon public health practitioners to promote education and awareness efforts associated with HIAs across several important groups. These include non-health sector agencies and organizations and, importantly, representatives from private industry who lead environmental regulatory reviews and stand to benefit from incorporating health considerations into their decisionmaking.

Appendices

Appendix A: Interview Protocol

Pew Health Impact Assessment-National Environmental Policy Act Case Study Interviews

Goal

ASTHO will interview select jurisdictions to better understand how an HIA was successfully integrated into the NEPA or NEPA-like process, elucidate the impacts of relationships formed across sectors, and identify any public health outcomes that were the basis of or resulted from the project.

Methods

All interviewers will follow the same script. All calls will be recorded for quality assurance and future reference. Each interviewer will send a summary back to the contact to check for accuracy. The five case summaries will then be reviewed for trends.

Interview Questions

Initiating the Health Impact Assessment Process

- Which entity/agency/organization initiated the HIA?
- What did the HIA aim to accomplish?
- Why was an HIA selected for this project?
- Who requested that the HIA be conducted or was instrumental in its initiation?
- Was an EIS previously or concurrently conducted with the HIA? On the same or different timelines?

Conducting the Health Impact Assessment

- Who actually conducted the HIA? Which agency/organization(s) led the process?
- What resources (financial and full time employee-related) supported the conducting of the HIA?
- Can you provide a list of partners involved in the HIA process?
- Which, if any, federal, state, or local agencies were involved in, or were consulted, regarding the HIA?
- Were advocacy, community, or private sector groups involved in the HIA process?
- Was the community supportive of the HIA process?
- What specific public health impacts were considered as part of the HIA?
- Who were your best allies and supporters (e.g., the state housing agency), and why?
- What were the results of the HIA? What recommendations were made as a result of the HIA?
- Were law- or policymakers supportive of the HIA?
- What were the biggest challenges you encountered in conducting the HIA? (*Probe specifically for challenges related to the HIA in the context of environmental reviews.*)
- Were you aware of any existing legal support or barriers for conducting an HIA? What, if any, was the specific legal basis for conducting the HIA?

Follow-Up to the Recommendations

- How did the community react to the recommendations made as part of the HIA?
- How did law- or policymakers respond to the recommendations made as part of the HIA?
- How did industry/private sector respond to the HIA?
- In retrospect, what would you have done differently?
- What were the key elements to whether recommendations were accepted and acted upon?

Using Health Impact Assessments in the Environmental Regulatory Process: Test Messaging Points

Background

A health impact assessments (HIA) is a promising tool for providing health-based recommendations to decisionmakers in a variety of sectors. Through a semi-structured process, practitioners carefully select issues to assess, define the parameters of the assessment with stakeholders, explore the health impacts of a future proposal, determine avenues to address such impacts, and provide information to decisionmakers. The official steps include:

1. *Screening*: Determining whether the HIA is likely to succeed and add value.
2. *Scoping*: Looking at which health impacts to consider along with stakeholders.
3. *Assessment*: Describing the baseline health of people and groups affected by the decision, and then predicting the potential health effects.
4. *Recommendations*: Pointing the way to decisions that protect and promote health.
5. *Reporting*: Disseminating the findings to decisionmakers, affected communities, and other stakeholders, with a request for feedback.
6. *Monitoring and Evaluation*: Analyzing the HIA's impact on the project plan or policy. (As shown in graphic)ⁱⁱ

HIAs are currently voluntary in the United States (with a few exceptions), but their use is becoming increasingly important in assessing proposed projects or policies' impacts and providing pathways to proceed that are supported by host communities and the individuals tasked with moving through a regulatory approval process. In some cases, HIAs have been successfully integrated into environmental regulatory processes such as an environmental impact statement (EIS) or other processes required by the National Environmental Policy Act (NEPA) or its state-based equivalents (SEPA).



ⁱⁱ The Pew Charitable Trusts Health Impact Project. *The HIA Process*. Available at <http://www.pewtrusts.org/en/projects/health-impact-project/health-impact-assessment/hia-process>. Accessed 12-8-2016.

Methods

In order to better understand how to successfully integrate an HIA into an EIS, elucidate the impacts of relationships formed across sectors, and identify any public health outcomes that were the basis of or resulted from the project, ASTHO interviewed contacts in five select jurisdictions (California, Massachusetts, Minnesota, Oregon, and Virginia) regarding these projects.

The following messaging points were developed based on interviews with stakeholders involved in these projects, as well as a review of other projects where an HIA has been successfully integrated with the environmental review process.

Goal

This project aims to test the messaging points listed below with an identified stakeholder group to determine if they resonate with “non-health” partners. The message points were developed with input from project partners at Arizona State University, Network for Public Health Law, and Pew’s Health Impact Project, based on an analysis of the case studies and real-life examples where an HIA has been successfully integrated with the environmental review process.

Draft Messages

Message 1: Using an HIA as part of the environmental regulatory process or EIS addresses several requirements related to community involvement and health considerations.

- How have you addressed community and health concerns in a NEPA/EIS review process historically?
- Did the community feel as though their issues/concerns were addressed? If not, what steps did you need to take to address them?
- Did you use another process or tool to help address health concerns?

Message 2: HIAs provide a forum to address health and other community concerns early, which can help gain project support and prevent and/or reduce opposition in host communities.

- In your experience with NEPA or the environmental regulatory review process, what types of stakeholders did you engage in the host community?
- Were local health officials included in the stakeholder engagement of government officials in your project?
- Was local government in communication with the communities most impacted by the proposed project or their corresponding local advocacy groups?

Message 3: Using an HIA to address potential health impacts early in the NEPA process saves time and money and can help avoid and/or reduce legal challenges.

- Has your previous experience in NEPA or with environmental regulatory reviews been impacted by community opposition?
- Did the opposition delay your project?
- Were there legal and other costs associated with responding to or addressing community opposition?

Message 4 (specific to transportation): HIAs complement the standard transportation planning studies done before an EIS. Using HIAs with transportation studies will facilitate the EIS by addressing potential health impacts before the draft EIS is prepared.

- Transportation studies require community advisory or stakeholder involvement to weigh transportation alternatives similar to that included in an HIA process.
 - Have you been involved in an HIA associated with transportation studies or projects?
 - If not, how have you addressed potential health impacts in your project(s)?
- Who or which stakeholder group has been the champion(s) for addressing health concerns in such studies?

Final Messages

Message 1: Using an HIA as part of the environmental regulatory process or EIS fulfills several required elements related to community involvement and health considerations.

Message 2: HIAs provide a forum to address health and other community concerns early, which can help gain project support and reduce opposition in host communities.

Message 3: Using an HIA can proactively address potential health impacts early in the NEPA process, which can potentially save time and help reduce legal and policy challenges down the road.

Message 4 (specific to transportation): HIAs complement the standard transportation planning studies done before an EIS. HIAs will facilitate the process by addressing potential health impacts before the draft EIS is prepared.

Appendix C: Case Study Executive Summaries

- Case Study 1: ["The Potential Health Impact of a Poultry Litter-to-Energy Facility in Shenandoah Valley, Virginia."](#)
- Case Study 2: ["Assessing Health and Equity Impacts of the Proposed Reef Development Project in South Central Los Angeles."](#)
- Case Study 3: ["Health Impact Assessment of the Massachusetts Department of Transportation \(MassDOT\) Grounding McGrath Study."](#)
- Case Study 4: ["Hennepin County Bottineau Transitway Health Impact Assessment."](#)
- Case Study 5: ["Lake Oswego to Portland Transit Project Health Impact Assessment."](#)

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