Planes, Trains, and Automobiles: Promoting Health in Transportation Planning

Exploring the Promise and Practice of Health Impact Assessments:
A New England Conference
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Outline

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II. MaxPak bike trail HIA

III. NEPA EIRs/EIAs vs. HIA

IV. Transportation reform in Massachusetts

V. Summary

I. Introduction / State experience in assessing environmental exposure and health impacts

Imagination Station / Leominster

- MDPH contacted by Mayor John Mahan in 1990 asking for assistance in determining feasibility of using abandoned industrial lot to create play/recreational facility for children
- Site was bordered by baseball field and heavy industrial sources (e.g. plastics industry)
- Primary chemicals of concern included: heavy metals contamination, PAHs, and chemicals associated with plastics (e.g. styrene, vinyl acetate)
- MDPH evaluated environmental data and made recommendations for soil removal and significant gravel cover
- Imagination Station opened one year later providing children a range of physical activities to promote health

State experience in assessing health effects/impacts as part of the environmental regulatory process

- Historically, environmental regulatory decisions related to NEPA have relied on risk assessments associated with project specific contaminants of concern to evaluate potential environmental health impacts

- The public, however, generally wants to best understand how a given project may impact health and demands evaluation of cumulative environmental exposures and disease status in a given host community

- As a result, proponents of projects subjected to NEPA and environmental regulatory agencies charged with oversight of the process, meet with resistance

II. MaxPak Bike Trail / HIA
Somerville

Issue: Nearby residents were concerned about railroad tie removal and building demolition at MaxPak site and exposure to contaminants/fugitive dust and impacts on health

- MaxPak site consisted of two large abandoned buildings and railroad ties/line no longer in use
- Site located only yards away from densely populated residential neighborhood
- Primary concerns raised by state legislators related to asbestos and other airborne contaminants impacting health of nearby residents

Somerville, cont.

- In response, MDPH/BEH reviewed plans for railroad tie removal and building demolitions to ensure that best practices were implemented during removal/demolition to minimize offsite dust migration
- MDPH/BEH also reviewed developer plans to conduct continuous air monitoring before and during demolition activities to ensure no offsite migration of contaminants

Somerville, cont.

- Photograph shows site last summer; railroad bed on one side of site cleared and ready for bike path development. Bike path also leads to MBTA subway system; buildings have been demolished and site is ready for residential development

III. NEPA EIRs/EIAs vs. HIA

Enhancing NEPA through incorporation of health outcome data

- A review of the literature demonstrates that individuals with preexisting asthma, chronic lung disease, coronary heart disease, and heart failure who are exposed to air pollutants suffer from increased health impacts

- While risk assessment used to generate health-based standards/guidelines considers sensitive populations (e.g., the very young and old), ambient levels below the standards/guidelines can present concerns in communities with pre-existing disease burdens higher than state/national trends

- There are also a wide range of less obvious health impacts that may be missed without a systematic effort to identify and address them using the best available data

- For that reason, public health and environmental regulatory agencies must work together to enhance current protocols

Elements of an enhanced review

1. Identify affected community (ies) through modeling of air quality impacts of proposed project
2. Assess background concentrations of COCs in affected community (ies)
3. Assess total project emissions (stack, vehicular, etc)
4. Assess available community health statistics/health indicators (e.g. disease outcomes, income, employment)
5. Determine need for mitigation based upon review of environmental and health data
6. If mitigation efforts can address environmental health impacts, agencies can work with project proponents on community benefits to improve health (e.g. infrastructure improvements, health promotion efforts)

Are health data specific to a given community available for proponents to access/evaluate?

- Yes. In 2002, Congress authorized the US CDC to establish a nationwide Environmental Public Health Tracking (EPHT) program
- EPHT is the on-going collection and dissemination of environmental and health data
- EPHT is currently funded by the US Centers for Disease Control and Prevention (CDC) in 23 states and NYC (goal eventually to include all states)
- EPHT has helped expand data, tools and workforce in funded states
  - Methods and tools for local health impact are being developed in a collaborative project with states, CDC, EPA and Emory University
- Resources to expand EPHT across all states are critical
- Identifying mechanisms to provide data and simultaneously address privacy concerns are also critical and states and CDC are ensuring protection of privacy/data in the EPHT system

IV. Transportation Reform in Massachusetts

Healthy Transportation Compact

- Under M.G.L. Chapter 6C, Section 33 the Healthy Transportation Compact is directed to:
  - (v) establish methods to implement the use of health impact assessments (HIAs) to determine the effect of transportation projects on public health and vulnerable populations; and
  - (x) institute a health impact assessment for use by planners, transportation administrators, public health administrators and developers.

- Transportation planning projects often have a range of health implications that are not uniformly considered but can be now with EPHT data

- MDPH was awarded funds from the RWJ/Pew Health Impact Project to conduct a transportation-related HIA

Overall Goal to Meet HIA Directives of Transportation Reform

- The goal of the proposed transportation-related HIA project is to work together with MassDOT, EEA and other community representatives to:

Pilot an HIA of a proposed transportation-related project

Serve as a vehicle for training staff responsible for implementing the HIA directives

Provide the framework for developing methods to determine which types of transportation projects might benefit from an HIA and the process to make such determinations

Background on "Grounding McGrath" Study

- Project underway by the MassDOT that the HIA will inform is "Grounding McGrath" Study in Somerville, MA
  - Overall this transportation project aims to determine the future of the Route 28 corridor
  - MassDOT indicated that the size of the investment necessary to restore the highway provided an opportunity to evaluate the feasibility, benefits, impacts, and costs of removing at least a portion of the elevated structure on Route 28/McGrath Highway
  - MassDOT's existing study protocol lends uniquely to the HIA process including establishment of an Advisory Group composed of community representatives to evaluate alternatives


Somerville Ave.


N
McGrath Hwy, Somerville, MA
© 2011 Google
Google
Imagery Date: 6/18/2010
1995
42°23'10.37" N 71°05'25.32" W elev 29 ft
Eye alt 1372 ft

Incorporating HIA into the Decision Making Process

- The HIA will provide supplemental health data analyses to augment the "Grounding McGrath" Study to promote decision making for optimal transportation design

The HIA work at MDPH is a collaborative effort between the Bureau of Environmental Health and Bureau of Community Health and Prevention

Various alternatives will be considered in terms of the future of Route 28 but in addition to feasibility, benefits, impacts, and costs, health will become a component of the final decision

The HIA will use existing health surveillance data at the highest geographical resolution possible (e.g., neighborhood level data)

The community surrounding Route 28 is also designated as an Environmental Justice community. Hence, socio-economic factors including income, housing availability/costs, and access to medical care are important factors that should be considered in the baseline health assessment

Examples of baseline health data for consideration in HIA

Health Determinants	Health Outcomes	Data Sources
Air pollution – high gradient near roadways and scientific evidence that continues to emerge regarding health impacts	Respiratory disease/illness (e.g., asthma), cardiovascular disease (e.g., heart attack), all-cause mortality, certain cancers	MDPH Bureau of Environmental Health **Environmental Public Health Tracking (EPHT) Portal** **http://matracking.ehs.state.ma.us/**
Access to active transportation and increasing physical activity (e.g., access to sidewalks, bicycle paths)	Benefits for reducing obesity, diabetes, cardiovascular disease, premature mortality, improved mental and physical health	MDPH Bureau of Community Health and Prevention
Access to public transit mobility for vulnerable populations (people with disabilities, elderly)	Access to goods/services that support health, such as groceries, clinics	MassDOT
Traffic Safety	Injury to pedestrians, vehicle drivers, and cyclists	MassDOT
Economic: vitality of small businesses; property values and health care costs that could be reduced based on HIA outcomes	Multiple indirect impacts on health	Economist to be hired
Environmental Justice	Multiple indirect impacts on health	EEA/MDPH **EPHT**/MassDOT

Proposed Pathways and Examples of Indictors for the Grounding McGrath HIA

- Mobility and Connectivity
  - Vehicle use
  - Pedestrian/Bicycling Network
- Air Quality
  - Air pollution from vehicles
  - Proximity (200 meters) to roadways
- Noise
  - Noise from motor vehicle
  - Impact from de-elevation
- Public Safety
  - Injuries and fatalities
  - Crime or fear of crime
- Land Use and Economic
  - Local business investment
  - Access to goods & services (e.g., prediction of walk/bike to goods and services)

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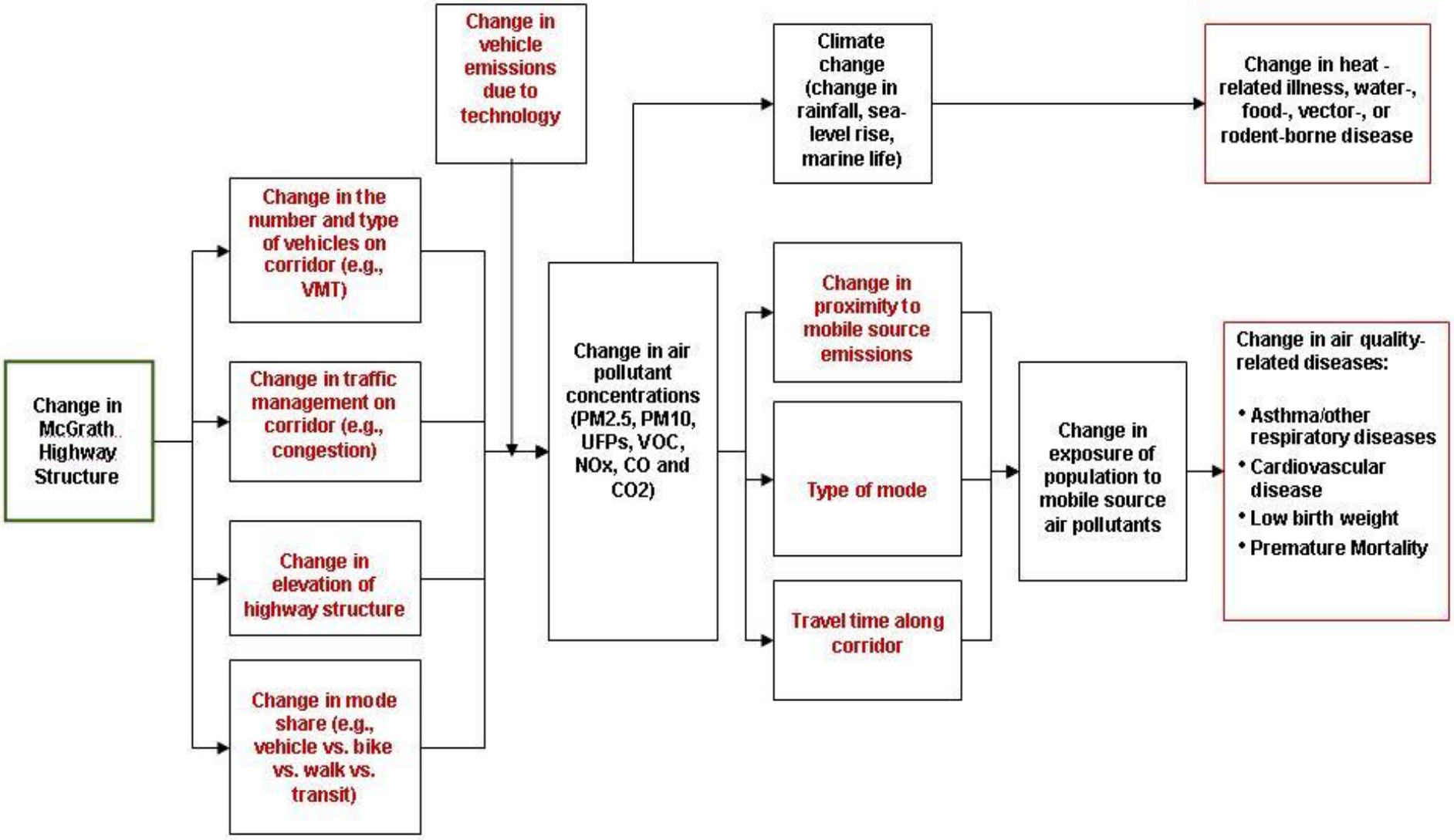
AIR QUALITY



Cost of Health Impacts will be considered when feasible

Timeline for "Grounding McGrath" HIA

Screening	Identify projects or policies for which an HIA would be useful	Complete
Scoping	Determines which health impacts to evaluate, methods for analysis, and a workplan	Complete
Assessment	Provides: 1) a profile of existing health conditions 2) evaluation of potential health impacts	Underway
Recommendations	Provide strategies to manage identified adverse health impacts	Summer/Fall 2012
Reporting	Includes: 1) a final HIA report 2) communication of findings & recommendations	Fall/Winter 2012
Monitoring	Tracks: 1) impacts on decision-making processes and the decision 2) impacts of the decision on health determinants	2012

V. Summary

- HIAs provide unique opportunity for public health officials to work collaboratively across agencies and secretariats
- NEPA always intended for health data versus regulatory standards/modeling to guide health impacts of proposed projects
- Transportation reform in MA allows us to explore and establish optimal HIA methodologies
- Use of HIAs in transportation planning and projects subject to MEPA promotes national HIA planning efforts