TRANSPORTATION: INTEGRAL TO CREATING THE CONDITIONS FOR GOOD HEALTH!

THERE IS HEALTH IN ALL POLICIES (HIAP)

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Transportation issues are important every day

Events on May 22nd:

- **1570** - Abraham Ortelius published the first modern atlas
- **1819** - 1st steam-propelled vessel (Savannah) crossed Atlantic
- **1843** - 1st wagon train departed Independence, MO for OR
- **1849** – Abraham Lincoln received a patent for floating dry dock.
- **1868** - Great Train Robbery; Reno Brothers/$98,000
- **1906** - Wright Brothers patent an aeroplane
- **1943** - 1st jet fighter tested
- **1969** – *Apollo 10* lunar module flew within nine miles of moon
- **1977** - Janet Guthrie earned starting spot in the Indianapolis 500
- **2013** – Dan Roberts of the Crash Test Dummies turns 46
- **2013** – Dana Williams of Diamond Rio turns 52
Differing perspectives on transportation

• “Mass transportation is doomed to failure in North America because a person's car is the only place where he can be alone and think.”  Marshall McLuhan

“I think the internal combustion engine will disappear from the streets of our cities in the next thirty years because transportation will be mass transportation, or probably electrical power.”  Gaylord Nelson
Differing perspectives on health

• "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."

• WHO 1948
Differing perspectives on health

• “Health is a resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities.”

• Ottawa Charter for Health 1986
Differing perspectives on what creates health


- Hospitals: 31%
- Physicians: 21%
- Others:
  - Gov. & Private Admin.: 6.2%
  - Other Medical Products: 4.3%
  - Prescription Drugs: 9.2%
  - Home Health: 2.5%
  - Nursing Homes: 6.5%
  - Other Prof. Services: 7.6%
  - Public Health: 3.3%
  - Research: 1.9%
  - Bldgs & Equip: 4.7%

Differing perspectives on what creates health

Proportional Contribution to Premature Death

- Genetic predisposition: 30%
- Social circumstances: 15%
- Environmental exposure: 5%
- Health care: 10%
- Behavioral patterns: 40%

Public Health = Longer Lives

Life Expectancy at Birth, United States, 1900 – 1996

Gained 23 years 1900 – 1960
Gained 7 years 1960 – 2000

25 of the 30 years of life gained in the 20th Century resulted from public health accomplishments
Place/Community influences health

Health Factors

Health Outcomes
Community Indicators for Health and Quality of Life

1. Access to Recreation and Open Space
2. Access to Healthy Foods
3. Access to Medical Services
4. Access to Public Transit and Active Transportation
5. Access to Quality Affordable Housing
6. Access to Economic Opportunity
7. Completeness of Neighborhoods
8. Safe Neighborhoods and Public Spaces
9. Environmental Quality
10. Green and Sustainable Development and Practices
Differing perspectives on creating health

I’m looking for help in creating a healthy Minnesota

Transportation

Why ask me? We build roads.

Public Health

Please, can we be part of the team?

Medical Care

Look no further. It is our job.

Traditional silos getting in the way?
What issues override public health?

“Limited funding with many competing interests.”

“Domination by cars is entrenched in planning. It's common for planners to say they’ll 'improve the roadways,' when all they’re doing is widening the road, which creates more barriers to other modes of transportation, forcing more people into cars, and creates a future need to widen the road.”

“Transportation planners’ emphasis is on moving cars, not people.”
How does the transportation field view public health?

“As interlopers. I think that public health has a valuable message but is being pretty heavy-handed in pushing their agenda and demanding things be done their way.”

“Mostly benign and somewhat naive and uneducated about ‘the way things are...’”

“As a separate issue, not part of the core mission.”

“Unrealistic.”
May 22, 1965
Beatles' "Ticket to Ride" single reaches #1

• I think I'm gonna be sad,
  I think it's today, yeah.
  The girl that's driving me mad
  Is going away.

• She's got a ticket to ride,
  She's got a ticket to ride,
  She's got a ticket to ride,
  But she don't care.
Determinants of Health

Policies and Interventions

Physical Environment

Behavior

Individual

Social Environment

Biology

Access to Quality Health Care
Health In All Policies

• Health in All Policies (HIAP) is a collaborative approach that integrates and articulates health considerations into policy making and programming across sectors, and at all levels, to improve the health of all communities and people.

• HIAP requires public health practitioners to collaborate with other sectors to define and achieve mutually beneficial goals.
MNDOT: A transportation vision for generations

- Minnesota’s multimodal transportation system maximizes the health of people, the environment and our economy. It:
Quality of Life

• Recognizes and respects the importance, significance and context of place – not just as destinations, but also where people live, work, learn, play and access services

• Is accessible regardless of socio-economic status or individual ability
Environmental Health

• Is designed in such a way that it enhances the community around it and is compatible with natural systems

• Minimizes resource use and pollution
Economic Competitiveness

• Enhances and supports Minnesota’s role in a globally competitive economy as well as the international significance and connections of Minnesota’s trade centers

• Attracts human and financial capital to the state
MISSION OF MDH:
PROTECT
MAINTAIN
IMPROVE
THE HEALTH OF ALL MINNESOTANS

“Public health is what we, as a society, do collectively to assure the conditions in which people can be healthy.”

-Institute of Medicine (1988), Future of Public Health
Health and quality of life influenced by Health In All Policies. All policies affect health.

• “When health is absent, wisdom cannot reveal itself, art cannot become manifest strength cannot fight, wealth becomes useless, and intelligence cannot be applied.”
  • Herophilus of Calcedon
Community Indicators for Health and Quality of Life

1. Access to recreation and open space
2. Access to healthy foods
3. Access to medical services
4. Access to public transit and safe active transportation
5. Access to quality affordable housing
6. Access to economic opportunity
7. Completeness of neighborhoods
8. Safe neighborhoods and public spaces
9. Environmental quality
10. Green and sustainable development and practices
Transportation-related Public Health Indicators for Health and Quality of Life

- Increased Physical Activity
- Access to Healthy Food
- Adequate Income & Stable Employment
- Traffic Safety
- Clean Air
- Health Equity
Transportation influences community and public health indicators

- Mobility - access
- Road safety
- Air pollution
- Storm water
- Heat islands
- Economic development
- Disaster evacuation
- Energy conservation

- Complete streets
- Safe routes to school
- Transportation to health care for: elderly, pregnant women, low income, disabled, rural
- Obesity/Asthma/Diabetes
- etc

...and that influence is growing!
HEALTH CONCERNS

Obesity – lack of physical activity and poor nutrition
Obesity Trends* Among U.S. Adults
BRFSS, 1985
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Each additional hour spent in a car per day is associated with a 6% increase in the likelihood of obesity. Each additional kilometer walked per day was associated with a 4.8% reduction in the likelihood of obesity.
HEALTH CONCERNS

Traffic Safety
Minnesota Traffic Fatalities TZD Goal: 350 by 2014
Driving Is Dropping In The U.S.

Young People Driving
Percentage of Age Group with Driver's License

Graphic by Steven Melendez / WNYC
Data: Michael Sivak & Brandon Schoettle, University of Michigan Transportation Research Institute

Millennials Lead the Trend to Less Driving, But What Happens As They Get Older?
The Option Not to Drive
HEALTH CONCERNS

Air Quality
Air Quality

- Asthma is a major public health problem.
- Kids who attend school near highways have higher incidence of respiratory problems.
- Communities near highways have disproportionate rate of lung cancer.
“The figure for May 9 has now been revised down to 399.89 ppm, and is still deemed preliminary.”
HEALTH CONCERNS

Access & Equity
Transportation Access & Equity

- Nearly 1/3 of people living in this country cannot access or afford to access basic needs
- Poorest 1/5 of US families pay 42% of their income to own and drive a car
- Low-income neighborhoods often lack safe place to walk, bike or play
These concerns are part of a costly and preventable health crisis

- Traffic injuries and fatalities ~$200 billion
- Obesity/overweight societal cost ~$117 billion & the cost of inactivity ~ $76 billion
- Health problems from transportation related poor air quality $40 - $64 billion
- Exacerbating poverty and health inequities

www.bikeleague.org/conferences/summit09/transportation_health.pdf
TRANSPORTATION: INTEGRAL TO CREATING THE CONDITIONS FOR GOOD HEALTH!

THERE IS HEALTH IN ALL (TRANSPORTATION) POLICIES (HIAP)

We need transportation and public health working in partnership.
We are at a Transportation Crossroad

- Homes far from jobs
- Dependence on foreign oil
- Climate change
- Changing demographics
- Crumbling infrastructure
- Fluctuating gas prices
Community Leaders Concerns

• Homes far from jobs
• Changing demographics
• Crumbling infrastructure
• Rising prices
• Access to services
• Business interests supported
Transportation Leaders Concerns

- Accountability:
  - Limited budget

- Efficiency:
  - How to plan for existing cars on the road

- Flexibility:
  - Offering options

- Safety and security:
  - All modes of transport
Health Leaders Concerns

• Health
• Safety
• Air Quality
• Access and Equity
• Livable and safe places to walk, play, congregate
STRATEGIES: HEALTH-ORIENTED TRANSPORTATION
Strategies for Health-Oriented Transportation Projects and Policies

• Reduce Vehicle Miles Traveled
• Expand Public Transportation
• Promote Active Transportation
• Incorporate Healthy Community Design
• Improve Safety for All Users
• Ensure Equitable Access to Transportation Networks
• Initiate Health Impact Assessments
Reduce Vehicle Miles Traveled (VMT)

- Vehicle miles traveled tax, tolls, or congestion pricing in downtown areas.
- Implement parking pricing schemes.
- Reduce on and off street parking to encourage alternate forms of transportation.
- Create alternatives to single occupancy vehicle travel through the improvement of multimodal transportation options, including carpools, vanpools, public transportation, and active transportation—any self-propelled, human-powered mode of transportation.
Expand Public Transportation

- Pursue transit-oriented and mixed-use development projects near light rail or bus rapid transit projects.
- Increase connectivity among neighborhoods and communities for all transportation modes.
- Promote bicycling and walking to public transportation stations by providing sidewalks, bicycle lanes, and bicycle storage.
- Address safety hazards for pedestrians and bicyclists at transit stations, bus stops, and city car-share locations.
- Implement a coordinated fare and schedule system for existing transit.
- Encourage employee-sponsored transit passes for employment locations near transit stops.
Promote Active Transportation

- Encourage Safe Routes to School programs to enable children to walk and bike to school safely.
- Construct a connected network of multi-use trails.
- Accommodate all roadway users with comprehensive street design measures such as “complete streets,” including sidewalks, bicycle lanes, and share-the-road signs that provide safe and convenient travel for all users of the roadway.
- Separate motor-vehicle traffic from non-motorized traffic with physical barriers, such as the construction of bicycle boulevards.
- Prioritize infrastructure improvements near transit stops and public transportation stations.
Promote Active Transportation

• Provide safe and convenient bicycle and pedestrian connections to public parks and recreation areas.
• Promote safe roadway crossing through use of small block sizes, pedestrian refuge islands, and cross-walks.
• Provide streetscape amenities such as benches, landscaping, lighting, and public art.
• Encourage way-finding with signs, maps, and landscape cues to direct pedestrians and bicyclists to the most direct route.
• Encourage bicycle parking at workplaces and transit stops.
• Encourage the development of street-level shopping and restaurants along pedestrian and bicycle routes.
• Educate bicyclists and pedestrians on state and local laws, as well as on safe practices.
Incorporate Healthy Community Design Features

• Adopt land use regulations that prioritize needs of pedestrians, bicyclists, and transit users.
• Encourage high-density, multi-use neighborhoods.
• Improve connectivity with grid-like street patterns, greater intersection density, and limits to block size.
• Design streets to serve the needs of all transportation modes.
• Implement transit-oriented development.
• Expand green space.
• Incorporate communal gathering spaces into community design to strengthen social capital.
• Mitigate roadway noise.
• Locate residential and community facilities away from transportation-related emissions.
Improve Safety for All Users

- Implement traffic-calming measures.
- Reduce traffic speeds in neighborhoods.
- Account for pedestrian and bicycle vulnerabilities with streetscape design, placing an emphasis on increased visibility, route signage, and buffer zones.
- Improve the perceived safety of parks, neighborhoods, trails, and green space.
- Prevent crime at transit stops.
- Ensure adequate lighting on roadways, along trails, and in parks.
- Install emergency call boxes or cameras in parks.
- Ensure proper sight lines and increase “eyes on the street” to facilitate roadway surveillance.
Ensure Equitable Access to Transportation Networks

- Ensure public participation in transportation planning and decision-making.
- Prioritize socio-economic status in project selection.
- Provide multimodal transportation options and ensure safety and accessibility of the roadway for all users.
- Construct buffer zones to mitigate risks of environmental exposure to air pollution, noise pollution, and the heat island effect.
Ensure Equitable Access to Transportation Networks

• Use Universal Design Principles
• Provide mixed-income, affordable housing.
• Install audible and visual pedestrian crossing signals.
• Encourage healthy food outlets in neighborhoods and provide transportation infrastructure to ensure access to healthy foods for all residents.
• Encourage brownfield redevelopment.
Initiate Health Impact Assessments

• HIAs are a multidisciplinary process within which a range of evidence about the health effects of a proposal is considered in a structured framework...based on a broad model of health which proposes that economic, political, social, psychological and environmental factors determine population health.
Time of great opportunity

- Health is in the midst of transformational change
  - Upstream prevention – integration of clinical care and public health
  - Social determinants of health
  - Health In All Policies

- Transportation in midst of transformational change
  - From a model that moves cars to a model that efficiently moves people through a safe, accessible, and affordable system for everyone.

- Opportunity to reshape the transportation system to create the infrastructure we need which can also improve our health and improve quality of life.
May 22, 2013: Ticket to Guide HIAP

- I think I'm gonna be glad,
  I think it's today, yeah.
  HIAP is not a fad       (Health In All Policies)
  It is the new way, yeah

- We’ve got a ticket to guide, (the HIAP vehicle)
  We’ve got a ticket to guide,
  We’ve got a ticket to guide,
  A ticket we share. (Public Health and Transportation)

- I know we will be riding so high,
  HIAP is the right key
  I know we will be riding so high,
  HIAP is the right key
“Public health is what we, as a society, do collectively to assure the conditions in which people can be healthy.”

-Institute of Medicine (1988), *Future of Public Health*

And Health In All Policies is a way to move our collective actions.

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Minnesota DOT – Safe Routes to School