WINTER CITY Planning

HOUGHTON, MICHIGAN

WINTER CITY Planning

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May 1997

In cooperation with:
Winter Cities Association

Sponsored by:
City of Hancock
City of Houghton
MFC First National Bank and Trust
North Country Bank
Houghton Business Association
Main Street Hancock
Hancock DDA
U.P. Engineers & Architects, Inc.

Table of Contents

PURPOSE

The purpose of this report is to develop a process which can determine how awareness and implementation of winter city planning and design issues might be achieved,. The major objective is to preserve those quality-of-life factors which make winter communities unique places, and to enhance lifestyles where efficient management of urban services, sensory stimulation and economic vitality constitute the basis of a richly textured, multi-seasonal existence, in step with nature's rhythms.

The Winter Cities Association, an international, non-profit organization has recognized there is on-going need for provision of direct assistance to northern communities enabling them to generate 'winter city' thinking and action both for embracing positive attitudes toward winter - and the marginal seasons of early spring and late autumn - and for mitigating a range of discomforts induced by winter's harsh demands.

". . . in step with nature's rhythms."

Planning workshops, undertaken from May 2-4, 1997 brought three 'winter cities' experts -- Patrick Coleman, Harold Hanen and Norman Pressman -- into two northern Michigan communities. Their mission was to educate, build awareness, and assist with goal setting and project identification to take full advantage of winter in the planning of public and private sector actions, and to provide clear identification of winter-related problems and responses as well as issues and opportunities. These incorporated four broad thematic areas:

- **Visual Environment**
- **Access and Mobility**
- **Land Use and Built Form**
- **Public Space**

PURPOSE cont.

Legislative norms, administrative frameworks, economic dictates and political priorities - together with stylistic trends and fashions - have been among the most influential forces shaping our built environment. These factors of national and even international character have often been insensitive to climatic considerations and the attributes of place. They have tended to produce buildings and spaces -- indeed entire neighborhoods -- which epitomize placelessness, so similar are they in their use of materials and exploitation of site, frequently dismissing the unique qualities of the natural landscape. It is critical that communities create places which possess genuine meaning, springing from the respective geographical and cultural contexts, adapted to seasonal imperatives, and inject a sense of pride in all inhabitants.

"These factors of national and even international character have often been insensitive to climatic considerations and the attributes of place."

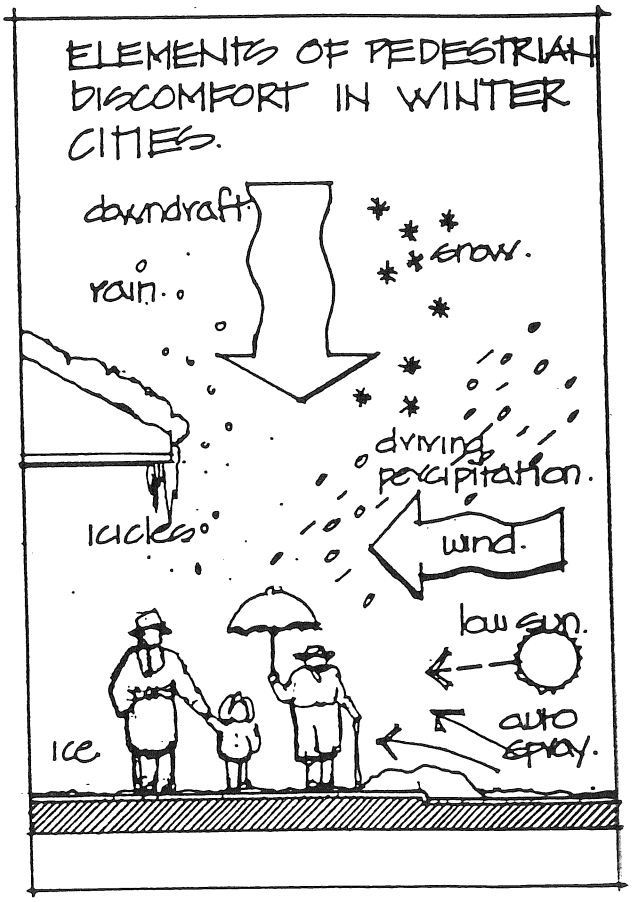
THE NEED FOR A WINTER CITIES APPROACH

Northern communities, which occupy the top quarter of the globe, must be more competitive than their southerly counterparts. Winter is often perceived as a negative force - generating inconvenience and added cost - instead of a positive one which includes overcoming challenges in innovative ways and embracing healthy lifestyles. Therefore, a thorough understanding of who we are and where we live will inevitably lead to increased productivity and economic competitiveness in an era of globalization and in the desire to attain a higher quality of life and an enhanced standard of living.

" . . . special attention to winter's problems and opportunities are essential."

Some of the **negative aspects** of being a Winter City are associated with:

- increased costs for snow management
- health expenses related to auto accidents, slips and falls
- psychological depression related to lack of daylight
- decreased mobility, especially for seniors (on foot and by car)
- prolonged cold temperatures, ice, snow, and wind-chill
- limited outdoor activities for many groups
- increased heating expenditures and energy consumption
- reduced effectiveness of public transit (where existing)
- a generally drab environment lacking in color and warmth



APPROACH cont.

However, many **positive aspects** also exist - which are usually underemphasized or overlooked - such as:

- opportunities for innovation (in fields such as energy, construction, clothing design, transportation, snow removal etc.)
- outdoor sports such as ice hockey, downhill and cross-country skiing, figure skating
- a generally more fit and robust population
- a strong will to confront challenging situations
- utilization of ice and snow for civic art to embellish the town
- unique urban planning concepts for weather-protection such as skywalks which promote ease of movement for pedestrians
- intense cultural involvement (theater, opera, dance, cinema)
- winter tourism and recreation events such as snow festivals, ski trails throughout town, winter safari programs and nature interpretation
- enjoyment of seasonal variation and its associated activities

". . . many positive aspects also exist . . ."

Goals and Objectives

The **goals** and **objectives** of Winter City design and planning are the following:

- rejecting denial of our potentials and opportunities
- taking measures to curtail importing of "California-type" styles
- applauding innovative interventions already taken in design
- increasing awareness and education for winter's demands
- conceiving future plans and designs with winter in mind
- creating multi-seasonal projects and plans - for all seasons
- designing in harmony with nature and its diverse expressions
- shifting attitudes - thinking in a winter mode
- acknowledging winter explicitly in urban frameworks
- adopting a 'winter-oriented' organizational perspective
- developing energy efficient, sustainable urban frameworks
- generating local and regional pride
- securing a globally competitive position for northern towns
- ensuring success in socio-economic and physical well-being

APPROACH. cont.

The Winter Cities philosophy recommends that planners, designers and policy-makers encourage and promote application of climatological know-how in land-use and design concepts, while keeping abreast of newly evolving technology. Builders should be provided with incentives to demonstrate advantages of climate-adapted projects on particular sites. Local governments should embrace climatically-sensitive plans and zoning ordinances together with the inclusion of climate-driven performance specifications. Finally, approvals for buildings and site plans should be subjected to a rigorous review of how well designs and proposals are adapted to the local conditions (rain, ice, snowfall, wind, etc.) in conformity with explicitly stated "winter livability" criteria.

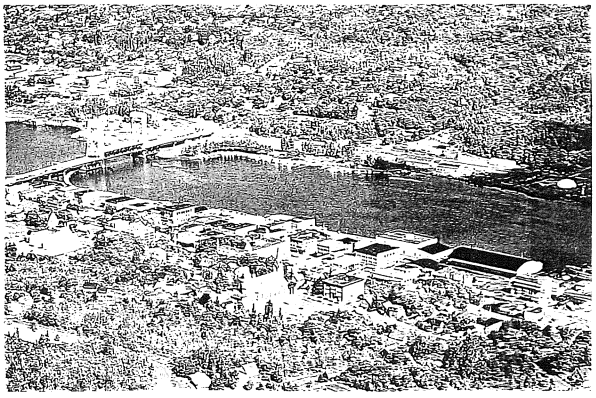
The Winter Cities approach believes firmly that we need to create, as soon as possible - the trends and ideas which will, in the future, offer the environments all northern residents deserve. These must ensure that all groups in society experience optimum conditions of well-being, habitation, work and intellectual development in each of the four seasons. Working with nature rather than against it will assist in reducing winter-induced discomfort and contribute toward enjoyment of seasonal diversity. While year-round comfort must be targeted in planning, special attention to winter's problems and opportunities are essential. That is the essence of a "winter cities" perspective.

EXISTING COMMUNITY CONDITIONS

HISTORICAL PERSPECTIVE

The Keweenaw Peninsula is a unique geological land formation. On satellite photos, the eye is drawn to the peninsula as it separates the waters of Lake Superior.

The geology of the peninsula is special because it is one of the few places in the world where copper can be found in a pure, native form. Aboriginal people traveled great distances to mine this copper for use in tools and weapons. In the early 1840's, the findings of Michigan's first state geologist, Douglass Houghton, stimulated the first mineral rush in the USA to the Keweenaw Peninsula.



The richness of the copper mines and the wealth created by the great mining companies is very evident in the Keweenaw Peninsula, or "Copper Country". The cities of Houghton and Hancock, located in the center of the peninsula, include much of this legacy. Architecturally significant commercial and public buildings, historic neighborhoods, and tracts of mining company housing can be found in both cities.

The mining boom lasted until the 1930's, followed by a long slow decline of the industry. In 1968, the last mine shut down in nearby Calumet. Continued decline was followed by economic stabilization through the 1970's and 80's. The area is now achieving moderate growth.

PORTAGE LAKE

Houghton and Hancock straddle both sides of Portage Lake, part of the Keweenaw Waterway. This natural lake was traveled by aboriginal people and early explorers to avoid the long journey around the Keweenaw Peninsula. The "portage" at the northwest end of the lake gave the peninsula its name. A canal was constructed around the turn of the century to provide deep water access from the west to Portage Lake.

" . . . both cities have exciting, spectacular views of the other city, surrounding hillsides, and Portage Lake."

THE BRIDGE

Houghton and Hancock are connected via the Portage Lake Lift Bridge. This impressive bridge provides the only visible connection between the two cities. It is the only bridge across Portage Lake to the Keweenaw Peninsula. As such, it is a critical link as well as a symbolic tie.

TOPOGRAPHY

The cities of Houghton and Hancock share another unique characteristic . . . topography. Both cities occupy steep hillside areas sloping to Portage Lake. Hancock's slope faces south and Houghton has a northerly orientation. As a result of topography, both cities have exciting, spectacular views of the other city, surrounding hillsides, and Portage lake.

CLIMATE

Lake Superior exerts great influence on the climate of the Keweenaw Peninsula. The open waters of the lake moderate temperatures in summer and winter. Springtime temperatures tend to be cooler and the fall is typically a little warmer than other areas with the same latitude.

Lake Superior also creates lake effect winter snowfall. Average annual snowfall exceeds 200 inches. It is common for snow to fall and accumulate every day during the months of December through February. Despite the amount and frequency of snowfall, snow removal service provided by the cities is very good. The cost of snow plowing and removal also has a major impact on the budgets of both sides.

The winter season begins around mid-November when snow begins to stay on the ground. The last evidence of winter snow disappears by early May. For nearly six months of the year, the two cities deal with generally harsh conditions, even though the calendar indicates that a less severe climate might prevail in the marginal periods of fall and spring.

"For nearly six months of the year, the two cities deal with generally harsh conditions..."

CLIMATE cont.

Winter also brings great opportunity to the cities. The quality and volume of snow and moderate winter temperatures create excellent conditions for winter sports, especially skiing and snowmobiling. Hockey has long been a traditional activity in the area. Michigan Technological University's Winter Carnival has been an event involving the community and the University for 75 years and winter tourism has grown dramatically in recent times.

ACCESS

The location of Houghton and Hancock on the Keweenaw Peninsula isolates the cities from other major urban centers. Highway access is provided by US Highway 41 and Michigan Highway M-28. The cities are at least 200 miles from a major city with a population of over 100,000 and a full days drive from the major metropolitan areas of lower Michigan. The area has air service to Detroit and Minneapolis.

Within the cities, US 41 is routed through the downtown areas on an east-west oriented one-way pair linked by the Portage Lake Lift Bridge. This system serves to move traffic efficiently through the cities, but creates conflicts with pedestrians and other modes of travel. The bridge bottlenecks traffic on both sides of the lake while the steep topography limits north-south movement in both cities.

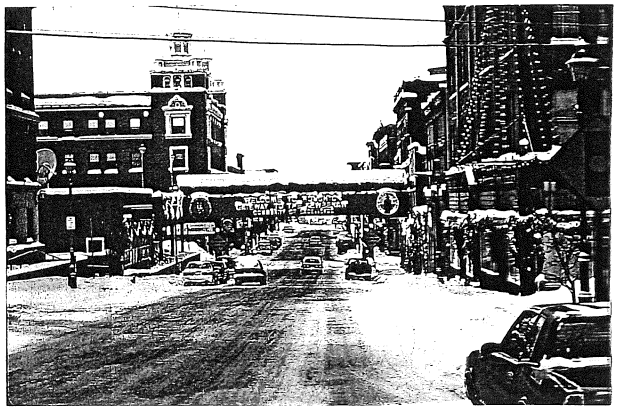
"The bridge bottlenecks traffic on both sides of the lake while the steep topography limits north-south movement in both cities."

City of HOUGHTON

In the last fifteen years, the City of Houghton has taken a proactive approach to problem-solving. The city has had stable and effective leadership which has enabled the community to plan and implement major development efforts.

The city has benefitted greatly from the presence of Michigan Technological University. Growth at MTU stabilized the economy of the region and provided Houghton with market opportunities.

Houghton has successfully carried out development efforts in several areas of the city, including the downtown district, the waterfront, a highway-oriented commercial strip and new residential areas. The city made great use of financial tools available, including tax increment financing, state and federal grants, and effective use of public works personnel and resources.



Downtown revitalization efforts included improving the streetscape on Shelden Avenue, the redevelopment of major historic buildings, the construction of parking decks, and the creation of a pedestrian linkage system. This system of skywalks, interior passageways and doors between stores was recognized with a design award at the 1988 Winter Cities conference in Edmonton, Alberta, Canada.

Houghton's waterfront development involved extensive land acquisition and the redevelopment of abandoned industrial and railroad land for recreational, residential, and commercial activity. A paved pathway along the waterfront extends for more than three miles.

"Houghton has successfully carried out development efforts in several areas of the city, . . ."

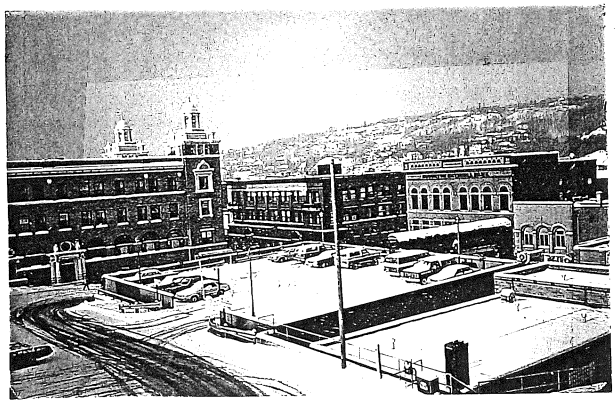
In response to increasing demand for highway oriented commercial land, the city planned and implemented a highway corridor plan which concentrated commercial activity and provided for a system of access drives to reduce turning movements and other traffic related conflicts.

HOUGHTON cont.

The city has been very active in the creation of new residential neighborhoods. Through land purchases and trades, the city has been able to expand the city limits to include land suitable for residential development. By working with developers and land owners, and utilizing city public works crews, the city has participated in the development of residential subdivisions which has resulted in a residential building boom.

"The city has been very active in the creation of new residential neighborhoods."

Houghton has also carried out city beautification projects, including extensive flower planting, the flying of international flags, and historic street lighting.



ISSUES

Winter City Planning Workshops held in Houghton-Hancock involved a public awareness-education session attended by city leaders from both cities in addition to workshops in each city. The event marked the first time in many years that both communities came together to discuss common problems.

While each city possesses it's own identity with problems, issues and opportunities unique to it's own development, the cities share a number of common concerns, as listed below:

- The negative perception of persons from within and outside of the area about the winter climatic conditions of the Keweenaw Peninsula. The perceptions effect attitudes of residents and the overall business climate of the region.

- The increasing cost and environmental issues associated with snow plowing and snow removal, and the need for better snow management.

- The impacts of growth and new development on traffic, resulting congestion, desirable land-use patterns, environmental protection, and regional planning.

- The need to provide better access to the waterfronts from within each of the cities.

HOUGHTON ISSUES

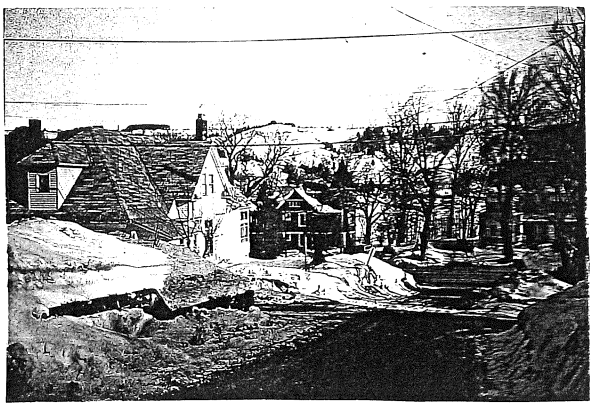
The Winter City Planning Workshop in Houghton involved civic and business leaders who came together to discuss issues and concerns affecting their city. The workshop facilitators engaged the participants to identify specific issues in these four workshop focus areas:

VISUAL ENVIRONMENT
ACCESS/MOBILITY
LAND USE / BUILT FORM
PUBLIC SPACE

These identified issues are outlined below:

VISUAL ENVIRONMENT

The need for funding for public art
The use of more color and storefront appearance
Signage design
Streetscapes and sidewalks
The "post winter carnival gap" in winter activities
A lack of sunlight and the need to cheer up the town
Unsightly overhead wires
Maintenance of public areas
Gateway features / way-finding
Illumination of streets and public space



ACCESS / MOBILITY

Traffic calming desired
Re-route truck traffic
Safe pedestrian crossings needed
Cycle trails / blading / x-c skiing
Interior walkways
Connections unclear between the city and the waterfront
Transit shelters and service
Snow management
Parking - amount, location, visibility
Need for continuous green networks

HOUGHTON ISSUES cont.

LAND USE / BUILT FORM

Conversion of single to multi-family housing
Diversity and mixed use of downtown buildings
Parking - where best to locate
Growth in strip malls - how much
Blending old with new
Pull of periphery vs. Downtown
Parking visually intrusive
Need to link waterfront socially and visually to the city center
Reduction of wind turbulence (and snow drift)
Need more effective design guidelines

PUBLIC SPACE

Winter use of parks and gardens
Wind mitigation / reducing thermal stress
Gathering place / focal point
Continuous open space network
College Avenue - festivity, animation, but far from downtown
How to animate public life / space

Analysis and Recommendations

City of HOUGHTON VISUAL ENVIRONMENT

Houghton is endowed with a striking and visually memorable natural setting, strengthened by it's interesting juxtaposition with Hancock. The challenge is to enhance visitors' and residents' experiences of Houghton by enriching their views of its unique natural and built legacies in all their seasonal forms.

NATURAL FORM

Houghton's setting on a hill slope framed by the Portage Lakefront and the hill-top / skyline silhouette reveals it's **dramatic visual natural character**. This one view perspective reinforces the importance of adopting a "comprehensive" all season visual development strategy. Therefore, the following should be considered:

- establishing an open space framework consisting of natural corridors in an east / west orientation along the waterfront, midway and top of the hill, as well as north - south corridors from the top to the bottom of the slope

- adopting within the "whole" hillside an integrated framework for pedestrian access and recreation corridors by adjacent development

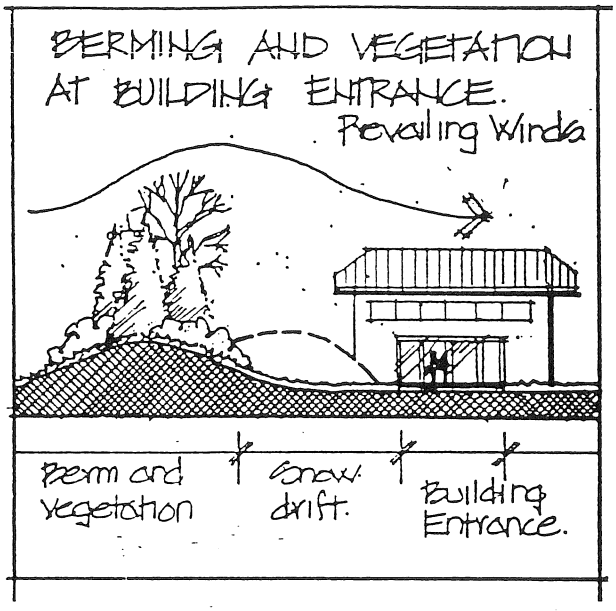
- adopting development guidelines to ensure that all new construction contributes to the open space corridors and to the harmonious all-season visual quality of the "whole" hillside, it's skyline, waterfront and the overall urban texture of the slope

EAST / WEST

NORTH / SOUTH

BUILT FORM

The best of Houghton's buildings reflect their immediate and extended surroundings (e.g. sloped roofs for snow, south facing windows to catch scarce sun and use of local stone). Houghton's natural geology and mining heritage has resulted in a distinctively strong visual presence of stone in its natural state, quarried stockpiles, and in buildings. To respect and reinforce these natural and cultural legacies, and to develop a more complementary, distinctive and harmonious built environment expressive of Houghton's distinct natural environment and residents, the community should consider the following:



- preserving and extending the existing small scale feeling by ensuring that new buildings fit with context (e.g. discourage high-rise with materials, colors, and forms which are not in keeping with local character)

- encouraging the use of local stone in new buildings and their sites

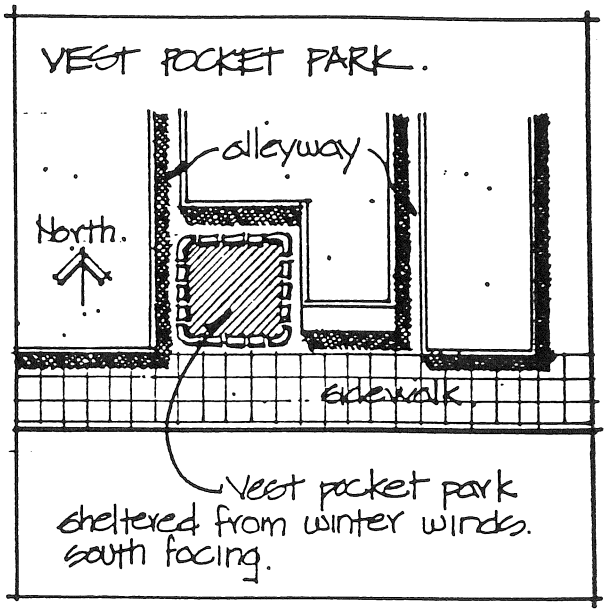
- consistently using sloping roofs with detailing to prevent "ice damming"

- promoting the visual enrichment of the Portage Bridge through warm colors and structure enhancing lighting

PUBLIC FURNITURE

Artistry, responsiveness, and indigenous expressions should be exercised in all details of city furnishing design. The benches, the places to wait for buses, the places children play, the lights that illuminate the streets, and the signs which direct are a few examples of everyday urban objects to be carefully designed as details of the city. Therefore we should consider:

- undertaking design initiatives with Suomi College for climate-responsive urban furniture responsive to the needs of multi-season use, (e.g. chairs, benches, banners, bus shelters, phone booths, parking meters) for Houghton and as prototypes for other "Winter Cities"



PUBLIC ART

Our cities in the last several decades, influenced by growing mass consumerism and global communications have developed a veneer of sameness and a sense of placelessness. Public art, free standing or incorporated into urban design, is one of the more effective ways to reconnect residents and their visitors to the specialness of their particular place. Therefore, the Houghton community should consider:

- including art, free standing or incorporated, into the engineering, architectural or landscape design of all ongoing public development projects and encouraging it's inclusion in private sector developments projects

- encouraging all public art expressions to incorporate the uniqueness of their settings and seasonal variations. Example--water / ice sculpture fountains, seasonal lighting color changes, snow enhanced sculptured forms and snow and ice sculptures

WAY-FINDING

Urban way-finding comprises a system of information clues which assist residents and visitors in all seasons to reach their destinations safely and efficiently. It can also provide a strong reinforcement of the unique beauty of a place. Typically it is defined by the topological elements: gateways, links, nodal points, edges and landmarks. A systematic and comprehensive upgrading of Houghton's visual way-finding system would greatly improve people's movement and appreciation of the city. Therefore, the Houghton city council should consider:

- identifying and assessing the effectiveness of the residents' and visitors' key orientation locations (including to parking areas)

- developing timely, effective and thematically consistent way-finding strategies which reinforce all-season movement and positive impressions of Houghton

GATEWAYS
LANDMARKS
NODAL POINTS
EDGES
LINKS

SNOW AS A RESOURCE

Houghton's significant snowfall creates major visual opportunities. Therefore, the following should be considered:

- examining alternate snow management strategies to visually reinforce winter way-finding (e.g. gateways, places of activity, edges, and landmarks), encouraging seasonal artistic, recreational, or comfort opportunities (e.g. snow sculptures, winter adventure playgrounds and windbreaks)

COLOR

In Houghton, the seasonal color differences are strikingly apparent through Summer's greens, Autumn's dramatic gold and reds and Winter's refracted whites. Color combinations, which complement the seasonal background variations will visually warm the winter experience and be more aesthetically pleasing all year round. Therefore consider:

- identifying colors for the community's buildings and furnishings that are complementary with all of Houghton's extremely different seasonal visual backdrops, that add warmth and color to cheer up its residents and visitors in the winter periods of little sunlight

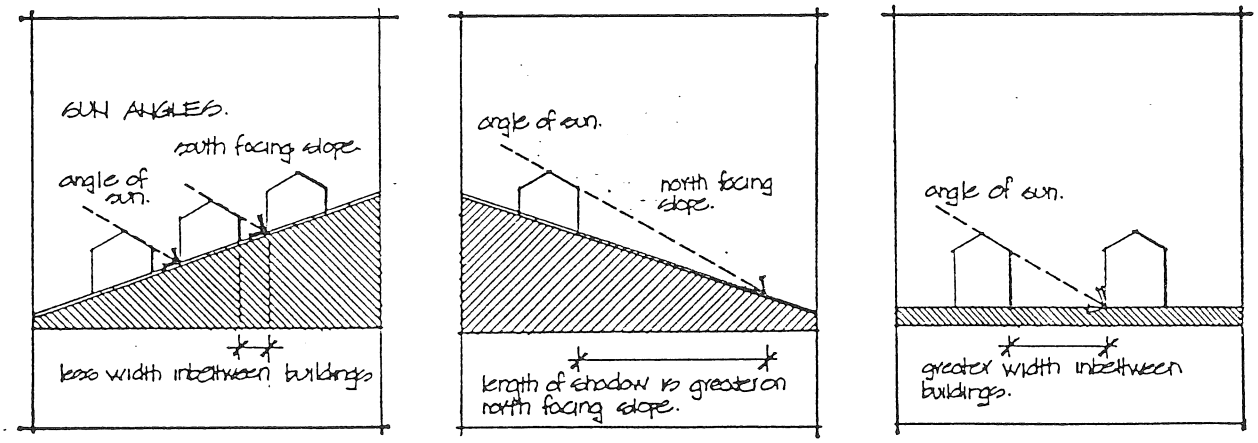
- implementing "eco-color" awareness programs, and adopting color guidelines which relate to the dominant natural color palate

WATER / ICE SCULPTURE FOUNTAINS

SEASONAL LIGHTING COLOR CHANGES

SNOW-ENHANCED SCULPTURED FORMS

ICE SCULPTURES



City of Houghton
ACCESS AND MOBILITY

Houghton's movement infrastructure is similar to many other similarly sized American cities. It supports car driven movement and access, often at the expense of pedestrians and cyclists, the city's visual character and downtown business. During the winter period, circulation problems are significantly more complex to resolve.

AUTOMOBILE TRAFFIC

Currently, pedestrian and vehicular driver access through downtown is stressful because of vehicles' speed, incompatible vehicles, pedestrian- vehicle conflicts and hill slopes. Therefore, the following should be considered:

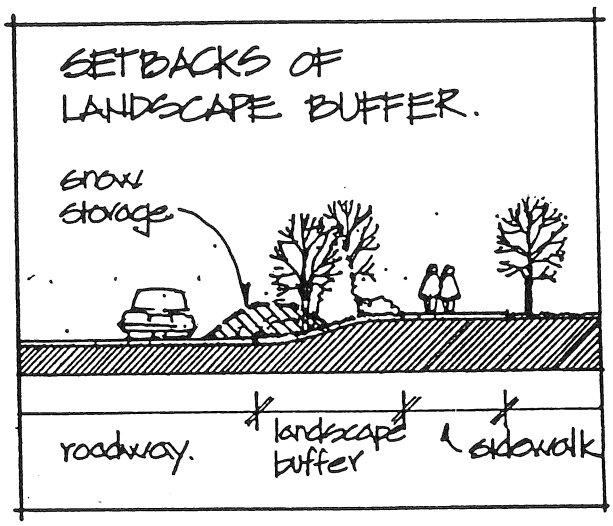
- closing streets and adopting seasonal management strategies

- increasing surface traction in winter with higher textured paving surfaces

- slowing traffic by design and enforcement, especially along the main connectors of Isle Royale and Huron Streets

- providing alternative routes for incompatible vehicles (e.g. large, passing-through trucks)

- computer modeling of alternative traffic configurations to identify optimal balanced solutions to present problems and future needs.



TRAFFIC MANAGEMENT
AESTHETIC
APPEARANCE
MICROCLIMATIC ZONES

A / M cont.

PEDESTRIAN TRAFFIC

Pedestrian safety, especially at intersections is the key to establishing a more pedestrian-friendly atmosphere. There, consider the following:

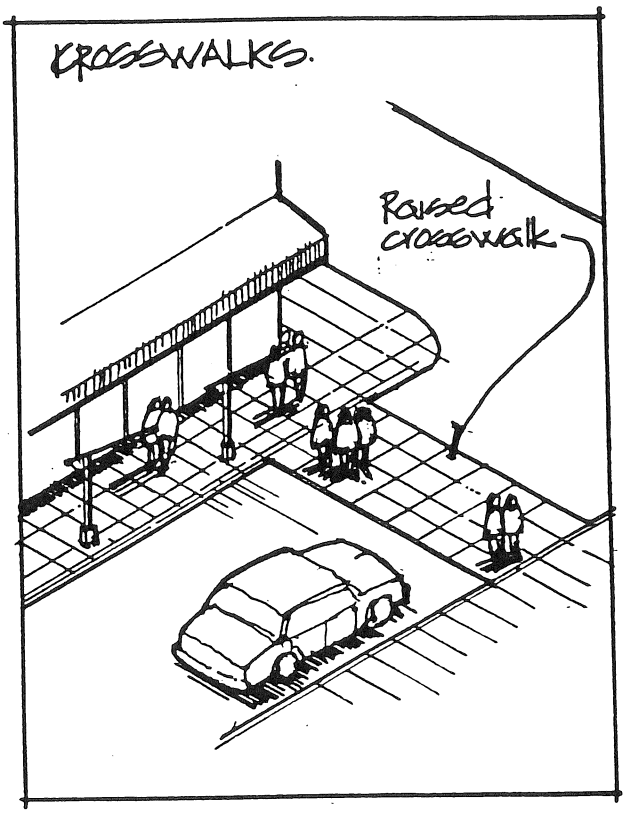
- implementing "raised crosswalks" for easier pedestrian crossings (especially important for the physically challenged and seniors)

- encourage more pedestrian-friendly gathering places downtown, on top of the bluff, (e.g. parks maximizing views to the north), and on the waterfront

- ensuring public ramps and stairs are all season accessible by being gradual, covered where appropriate and designed as integral parts of the landscape, especially to the waterfront

- increasing surface traction for safer pedestrian and cyclists winter use

- prevent or manage snow and ice build-up on sidewalks (canopies, enforcement, shared clearing machines)



Pedestrian Access
Recreational Corridors

A / M cont.

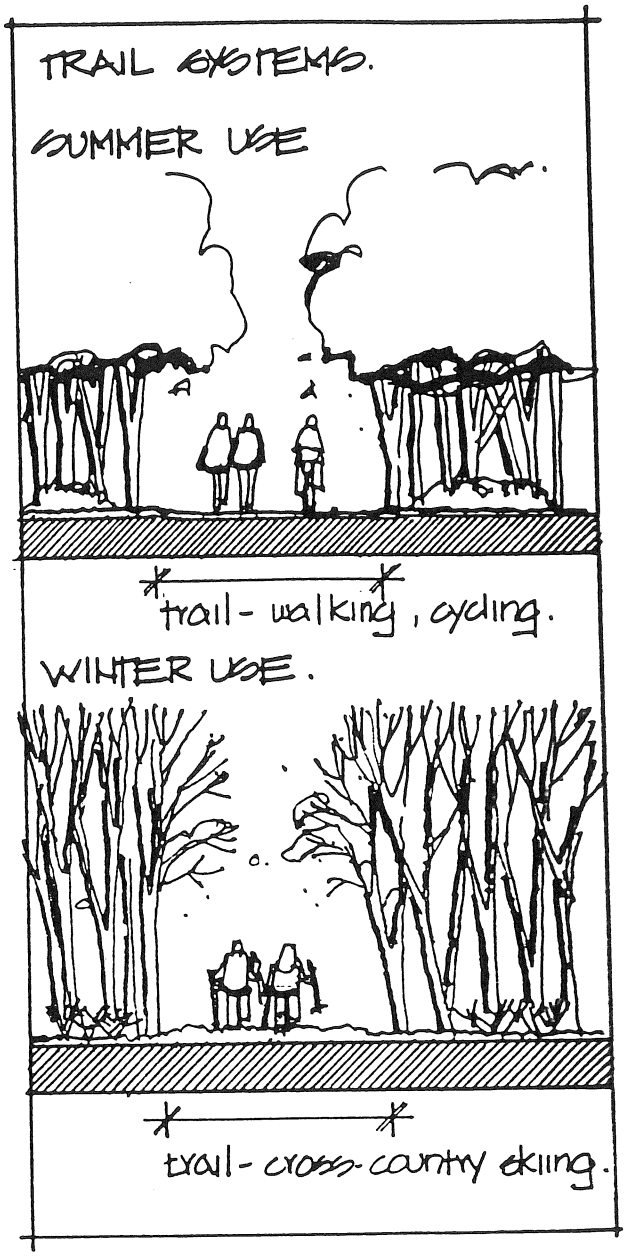
CYCLING AND OTHER TRAILS

The social, economic, and environmental benefits of integrating all season non-motorized vehicle trails with the street design and / or providing them their own exclusive rights of way are now widely accepted. Therefore, the Houghton community should consider:

- extending both summer and winter non-powered mobility systems (e.g. walking, biking, cross-country skiing, etc.) By linking existing and future parks / open spaces to form a grid of green / white trail corridors

- incorporating cross-country ski trails within the city and giving north-south links priority

- designating clearly the "motorized only" trails



SNOW MANAGEMENT

Houghton's significant snowfall creates significant functional and economic challenges. Therefore, the city council should consider the following:

- identifying significant snow build up areas and their negative and positive impacts (e.g. along curb line, along waterfront trail, etc.)

- evaluating capital cost expenditures (e.g. additional land or drainage costs)

- encouraging the incremental construction of canopies on business fronts with awareness programs and development guidelines

City of Houghton
LAND USE

A fundamental guiding principle to successful Winter City planning is resolving diverse planning needs and issues into comprehensive and synergistic strategies. This often expressed in built form by complementary but diverse uses being brought together into dynamic compact groupings. Therefore, the following suggestions should be considered:

- creating a strategic versus master plan to coordinate the processes of meeting the needs of diverse community groups and thereby facilitating doing more with less, saving resources, energy, reduce travel/commuting, etc.

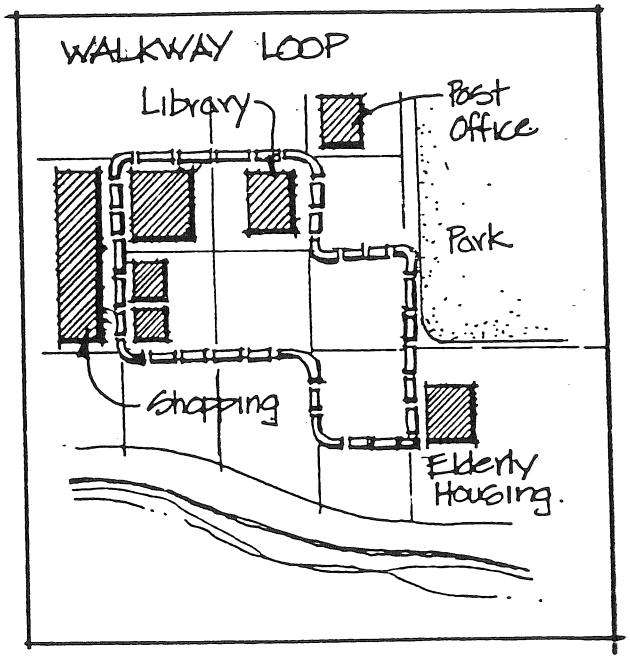
- developing the overall compactness of Houghton and specifically the commercial zone

- encouraging districts which are experiencing growth and new districts to realize a multi-use blending of complementary activities

- encouraging development of housing clusters

- promoting alternate forms of movement to help alleviate car dependency

- consolidating activities and services along travel routes at strategic activity nodal points, especially where motor and non-motor routes intersect e.g. all-season recreation areas, washrooms, car and bike parking areas, bus stops, shelters, phones, sand storage, information, etc.



LAND USE cont.

- identifying new uses in vacant downtown buildings to suit new needs

- including terraced housing on bluff (stepped down to shoreline)

- formulating urban design guidelines based on Winter City concepts, principles and standards, to help ensure the coordination and continuity of both public and private sector efforts in realizing the community's short and long range visions of the future.

City of Houghton
PUBLIC SPACE

Houghton has a number of public spaces which are not being used to their all-season potential. This is especially true in the downtown area. To realize their potential requires recognition of the diverse all-season needs of the Houghton residents and visitors, developing physical improvement strategies to enhance their all-season comfortable use, and initiating all-season animation programs.

PUBLIC PLACES

Public places are the symbolic locations for meeting within a public space system. Therefore consider:

- creating "gateways" connecting bluff / shoreline / downtown, using stairways, ramps, setting areas maximizing views to the water

- providing seating areas maximizing views to the water

- developing public space / activity / events at key locations along the waterfront trail system

- developing a central gathering place (Mattila Square) with restaurants, markets, etc. in the area bounded by Isle Royale and Huron Streets, providing a more cohesive waterfront

PUBLIC SPACE cont.

CELEBRATION AND ANIMATION

All-season animation programs are effective in coordinating community gatherings, encouraging tourism and testing the feasibility of capital improvements prior to commitment. Therefore, the Houghton community ought to consider:

- identifying for each season, especially for winter, existing and desirable community life-enhancing public activities (e.g. art in the park, farmers market, ice / snow sculpture displays and competitions in publicly visible places, etc.)

- inventorying seasonally appropriate existing and new public gathering spaces

- instituting a task force to develop and promote a full four-season celebration and animation program

- providing electrical and structural supports for decorative seasonal lights

COMFORT

Safety and comfort is a prerequisite to the full and successful use of public spaces. Therefore, consider:

- instituting a winter safety committee to explore winter safety issues and solutions

- developing an ongoing wind break retrofit program to protect residents and visitors from prevailing cold winter winds (key impact areas can be identified from local documented experience or from wind studies) by planting clusters of conifer trees, strategically placing buildings and wind break walls

- encouraging transition and protected retreat areas in close proximity to winter outdoor activity and gathering areas

"Safety and comfort are prerequisites to the full and successful use of public spaces."

PUBLIC SPACE cont.

- including time responsive radiant heating devices at key public gathering areas

ALL-SEASON USE

To realize full economic and social benefits of Houghton's public spaces requires ensuring they are designed to accommodate all-season activities. Therefore, consider the following:

- adopting policies to ensure public spaces are designed with all-season use in mind (e.g. bicycle trails to ski trails, decorative lighting)

- adopting an evergreen tree plating program to beautify the public areas, add all-season color, and provide protection from the wind

- incorporating wind sheltered sun pockets in all outdoor areas

- locating public sheltering structures in close proximity to outdoor activity areas to help ensure comfort and sense of safety during the colder months (e.g. winter garden, city hall lobby)

- encouraging flexible fronted structures and porches which provide fuller all-season enjoyment and extend the time for outdoor use (e.g. Faunal Hall, Boston or Montreal's street restaurants)

COMFORT INDEX
DEVELOPMENT
CHECK-LIST
WINTER CITY
COMMUNITY
CENTRAL PUBLIC SPACE

Sun pockets
Evergreen tree planting
Comfort & safety
Consolidation
Flexible fronted structures

SUMMARY

The Winter City Planning Workshops sought to provide the cities of Houghton and Hancock with background information, technical assistance and inspiration to begin a different approach to managing growth, development and community improvement. This approach recognizes that it is critical for northern cities to employ creative measures and to apply climate sensitivity in the development and design processes.

The Planning Workshops brought Houghton and Hancock together cooperatively to develop new thinking about how to resolve old, common problems. Although different in many ways, the two cities share many commonalities, problems and opportunities. Cooperating on these issues can create strength, resources and resolution. Traffic planning / studies, and bridge issues were only a few of the issues identified in the planning workshops that would benefit from joint action.

" . . . it is critical for northern cities to employ creative measures and to apply climate sensitivity in the development and design process."

It is hoped that both cities will build upon the inspiration, creativity and momentum established in the Winter City Planning Workshops. There are several recommended steps to keep this effort alive and moving forward:

- Adopt the "winter city policy" included within this report as a demonstration to the public that the city is taking a new direction in it's thinking and actions.

- Establish a "winter city committee" as a sub-group or separate committee that will focus on the recommendations included in this report.

- Engage in selective follow-up studies to identify priority areas for policy and design at appropriate scales of intervention.

SUMMARY cont.

Adopting a "winter city" approach to planning, management and urban design can create marketing and business opportunities in products, services or technologies associated with living, working and playing in winter climatic zones. Moreover, residents and tourists alike will benefit from reduced inconvenience and a deeper sense of pride. A high quality of year round living will attract people and businesses and deter those at mid-career and retirement stages in the life-cycle from moving away. The result is a more economically healthy and more socially vital urban life, building on an improved sense of place, well integrated activities in the business, cultural, recreational, and educational realms. It creates the opportunity to expose and market one's own town as an innovative prototype -- exhibiting characteristics unique to winter locations -- not only within the USA but also in foreign countries interested in learning from North American experience.

The Planning Workshop identified a number of key areas requiring immediate attention:

1. The necessity of establishing "winter city" policies based on carefully formulated urban development and design guidelines. These will be the motor determining built form well into the future, integrating movement systems, open space networks, snow management, civic embellishment, quality of the visual landscape and promoting balanced year round celebrations and public life.

" . . . residents and tourists, alike, will benefit from reduced inconvenience and a deeper sense of pride."

2. The desirability of creating within a changing seasonal perspective, prototypes for winter activities (e.g. festivals and carnivals), civic art and urban furnishings that are expressive of winter's unique attributes and which enhance significantly the actual and perceived quality-of-life in all seasons, but with special emphasis on winter, early spring and late fall -- when outdoor public life tends to diminish.

SUMMARY cont.

3. The development of a traffic management plan accommodating pedestrians, automobile users, cyclists, public transit, snowmobiles, cross-country skiing and other alternative sustainable forms of movement. These should be integrated within the parameters of any existing or new building regulations, site planning requirements and municipal guidelines so that all systems are mutually supportive. Parking policies are to be an integral component of such a traffic planning strategy.

4. The encouragement of an extremely high-quality visual (aesthetic) appearance within all sectors of the town, especially in the central business district. This includes the scale of buildings and traffic areas, the articulation of building volume (masses), the use of appropriate colors and materials on building facades, the design of a visually attractive and efficient wayfinding system (with pictograms and other graphic symbols), the creation of important landmarks based on the local history, and use of the full potential of nature (e.g. topography, vegetation, water, hills, etc.).

5. The creation of year round comfortable microclimatic zones and areas in the town center and near the waterfront where factors such as temperature, sunlight, wind, rain and snow are taken into account. The microclimate can also, to some extent, be manipulated though size, location, and grouping of buildings as well as by planting and the injection of wind-break elements. Planting can articulate outdoor areas visually, and can have positive effects on microclimate and on the extent of wind disturbance. It can provide protection and achieve powerful visual effects.

SUMMARY cont.

6. The identification -- based on snow, wind and environmental modelling -- of areas in the downtown core experiencing excessive wind conditions, snow deposition problems in intensively used spaces, and unacceptable amounts of snow and wind scour. With this information, a comfort index for pedestrians at critical locations can be established and measures suggested to ameliorate winter-induced discomfort, caused largely by ice and snow build-up and by windy conditions.

7. The preparation of a "winter cities" urban development check-list that would assist in evaluation of new planning and building proposals, particularly at the detailed planning scale. This check-list would address all critical aspects of decision making at the levels of:

a) the Master Plan
b) community structure
c) services to be provided
d) landscape design and treatment
e) environmental protection
f) historic preservation
g) traffic and mobility
h) visual appearance
i) snow management
j) building configuration and orientation

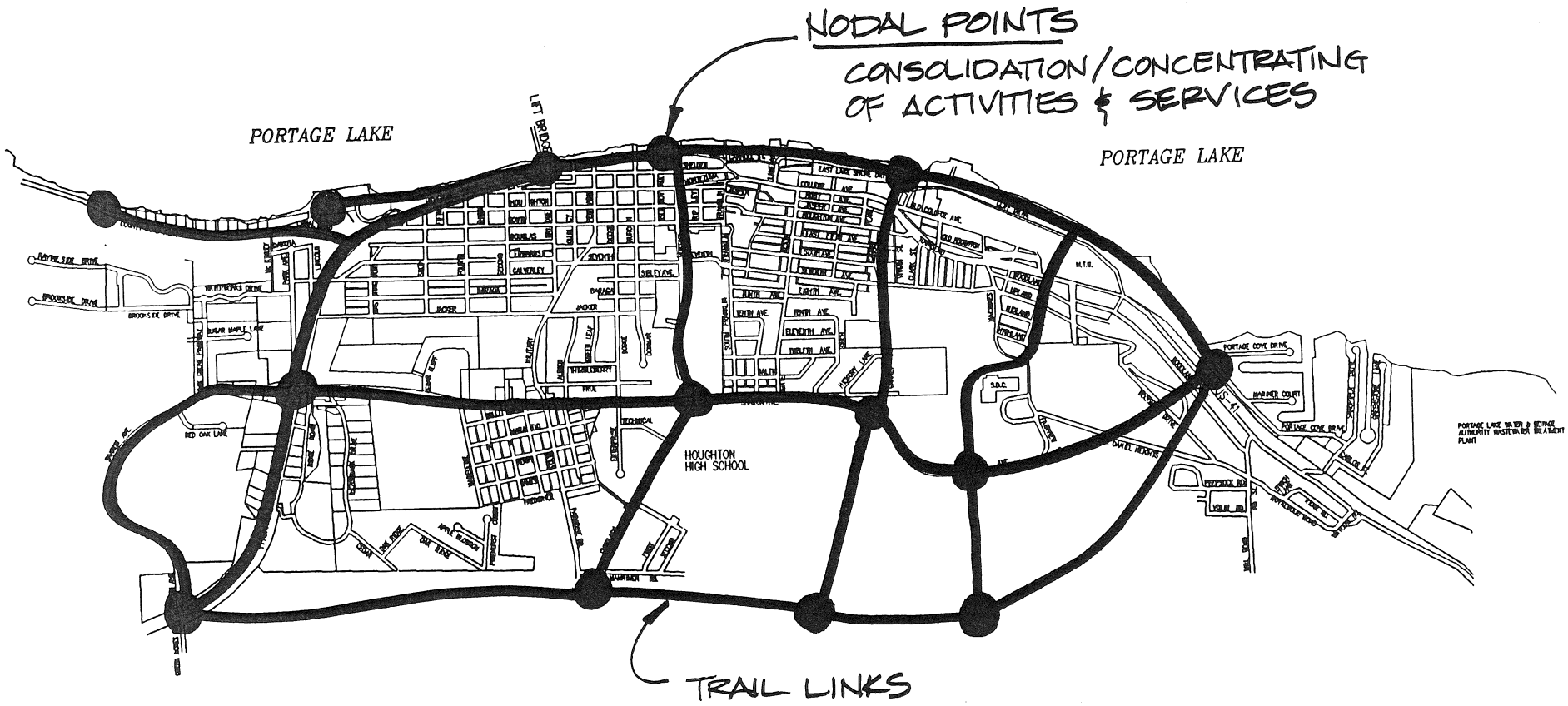
8. The formulation of urban design guidelines directing future building and urban development that would be coordinated with "winter cities" policies broadly adopted by a winter city committee working within municipal government.

9. The undertaking of a specific design project that would define a central public space where events celebrating winter - and culturally based activities -- and the changing seasons could occur. This space would embody all the design principles inherent in exemplary winter city design, serving as a model for other northern communities to emulate.

WINTER CITY Planning

APPENDIX

MAPS
WINTER CITY POLICY
BIOGRAPHIES



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CITY OF HOUGHTON, MICHIGAN

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