



healthy communities by design

Public Health WORKS
Speaker Series – Feb 20/2007

Presented by Vivian Manasc
Manasc Isaac Architects

The twentieth century



George Jensen Silver Bowl, designed by Hansing Krøyer

Wick London
20th Century
Decorative Arts Auction

Monday 4 April 2006
11am - Noon
7pm - Fashion, Jewellery, Silver, Ceramics, Paintings, Sculpture & Graphics

Tuesday 5 April 2006
7pm - Furniture, Books, Works of Art, Lighting, Decorative & Glass

On View:
Saturday 2 April 10am-5pm
Sunday 3 April 10am-5pm

Success Chair designed by Poul Volmer

BOOKING IS OPEN

20th century - the space age



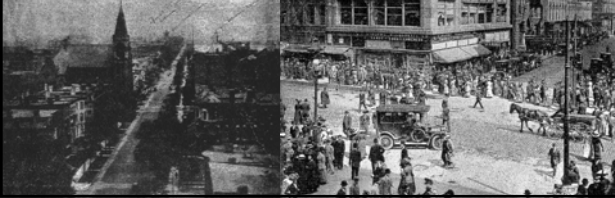
THE JETSONS
WAYS WITH WORDS™

JETSONS © 1963 Hanna-Barbera Prod.
© Mervel Electronics Inc. 1963. PRINTED IN U.S.A.

4845-4289

20th Century

- American/Canadian cities were not beautiful, nor clean nor desirable
- Cities were for work, and commerce
- The countryside was for leisure
- Garden cities (suburbs) were to create healthy places to live



The 20th century

- Knowledge was broken down into finer and finer silos
- People were experts (or non-experts)
- Nature was broken down to the nano-level
- We decoded the human genome, as well as the genomes of many plants
- We started to design genetically



Sustainable Design – What's new ?

- **1960's - Cheap Energy**
 - Design buildings without regard for energy performance
 - Design Communities to encourage automobile use
 - Advent of Don Mills and other sub-urban development
- **1970's - Energy Crisis**
 - Design buildings to improve thermal performance but not human performance
 - Communities continue to focus on cars & freeways
- **1980's - Sick Buildings**
 - Tight buildings found to have too little air and too many toxins, causing high rates of illness and absenteeism
 - New urban design strategies being explored in various communities.
- **1990's - Rethinking**
 - New building approaches start to emerge - C-2000 / R-2000 ?
 - Healthy for humans as well as the environment
- **2000's - Sustainable Healthy Buildings & Communities**
 - Integrated design and energy simulation allow healthy energy-efficient buildings to be built without increase in capital cost - improved energy and human performance
 - Increased concerns with water shortages and infrastructure costs



Why Now ?

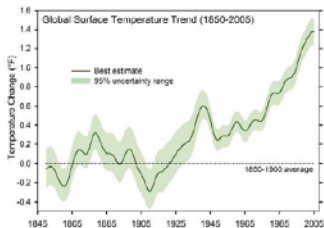


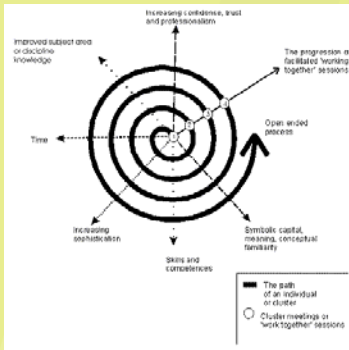
Figure 1. Average global surface temperature based on instrumental measurements (Adapted from Bragan et al. 2006, © Crown copyright 2006, data supplied by the Met Office). Temperature rise during the twentieth century is much larger than the uncertainty range.

- Political Will
 - Federal
 - Municipal
- Healthy Economy
- Changing demographics

CALGARY HERALD



Everything old is new again - but with a twist...



The 21st Century

- The project of the 21st century is integration
- Climate Change
- An educated community - what does that mean?
 - Life-long learning
 - Seeing connections
 - A need for engagement



21st century - what's changed ?

- Community is more knowledgeable
 - global village
- People want to be more involved
- People are travelling more & seeing more
- Public has a stake in the well-being of the community



The 21st century - fear

- Natural Disasters are making people more aware of the awesome power of nature
- Fear is the inability to control the future
- People want to control what they can
 - This includes the world around them -



Objects of of desire

- Design on a Human Scale
- Housing Choices
- Mixed Use Development
- Town Centres
- Transportation Options
- Neighbourhood Identity
- Enhance Environment
- Landscape/ Streetscape Design
- Healthy Communities



Public Health & The Built Environment

UNDERSTANDING THE RELATIONSHIP BETWEEN PUBLIC HEALTH AND THE BUILT ENVIRONMENT

A REPORT PREPARED FOR THE LEED-ND CORE COMMITTEE

May 2006

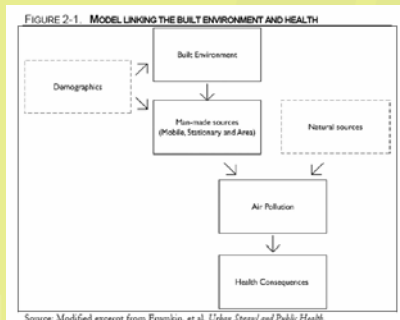
Prepared By:
Design, Community & Environment
Dr. Reid Ewing
Lawrence Frank and Company, Inc
Dr. Richard Kreutzer

Health Considerations

- Respiratory & Cardiovascular Health
- Fatal and Non-fatal Injuries
- Physical Fitness
- Social Capital
- Mental Health
- Special Populations



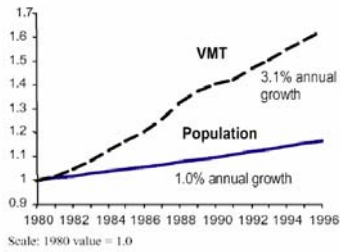
What are the connections?



Respiratory & Cardiovascular Health

- Air Quality
 - Increased vehicle use caused by changes in built form
 - Mixed land use results in fewer emissions than single land use

FIGURE 2-3 GROWTH IN VEHICLE MILES TRAVELED & POPULATION (1980-1997)



Sources: U.S. Department of Transportation, Federal Highway Administration, Highway Statistics (Summary to 1995, and annual editions, 1996 and 1997), Washington, and Environmental Protection Agency, *Our Built and Natural Environments*.

Fatal and Non-fatal Injuries

- Traffic Safety
 - Traffic Volume
 - Increased travel results in increased accidents
 - Vehicle Speed
 - The higher the speed of car travel, the more accidents
 - Street Environment
 - Grids with traffic calming measures reduce accidents
 - Narrower streets reduce accidents
 - Street lanes can be reduced to 9' (12'-13' is common)
 - Wider sidewalks improve safety and pedestrian use

Well Designed Density



Urban Advantage.com

Physical Fitness

- The built environment can facilitate or constrain physical activity
 - *Transportation Research Board Institute of Medicine*
- Transit use and walking increase as residential/commercial density increases
- Street "connectivity" is a factor in physical fitness
 - Increased walking and bicycling is correlated with better access

Mode	Seattle (Census 2000 Data)	Copenhagen (2001 - www.trafikinfo.dk)
Car	72%	30%
Bus	19%	20%
Train	0%	13%
Bike/walk	8%	37%

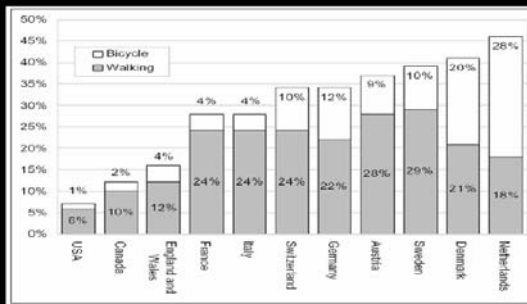
Varied Transportation Options



- Walking and bicycling are means of transportation
- Can trail systems be thought of as part of an overall transportation system ?
- Can we get access across the highway ?



Walking and Bicycling Travel Behavior North America & Europe 1995



Integrated transportation



Social Capital

- Increased Social Capital
 - Prolonged Life
 - Better Health Overall
 - Cardiovascular Health
- Urban Form is starting to be seen as a factor in Social Capital
 - In urban design terms this is a very old idea

Build on Vibrant Public Spaces



Mental Health

- Originally, people moved from the city to the suburbs for better access to nature
 - Some suburbs today provide some better access to nature...More is being done
 - Green suburban developments

Special Populations

- Women
- Children
- Elderly
- People with disabilities



Examples from around the world

- Malmö, Sweden



Vision Charettes

- Co-creating the future
- We can't predict the future - but we can imagine it



Engage Everyone



What are the values ?

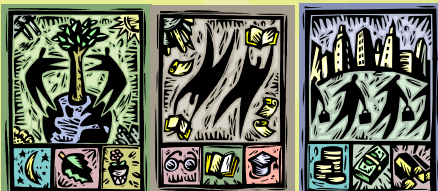
Nature

- Earth
- Air
- Fire
- Water

+

Humanity

- Beauty
- Health
- Economy
- Social well-being
- Engagement



Vision for Healthy Communities

- 1. Design on a Human Scale
- 2. Housing Choices
- 3. Mixed Use Development
- 4. Create Town Centres
- 5. Vary Transportation Options
- 6. Neighborhood Identity/ Healthy Communities
- 7. Enhance Environmental Resources
- 8. Landscape/ Streetscape Design
- 9. Integrated Planning and Design



1. Design on a Human Scale



- Walking distance matters
- Plan and design so they can get there from here
- Integrate human-scale amenities along the path, including coffee shops and conveniences
- Small scale elements make a space livable

2. Housing Choices



- What housing forms are working in the market?
- Are there other options ?
- What would the market want, if we could only provide it?

Flexible Housing Design



- Housing design that can adapt to changing lifestyles and life needs
- Housing design to provide a range of affordable options

Healthy Buildings = Healthy People



- Opening windows improve morale
- More daylight reduces depression
 - Studies show light therapy is as effective as Prozac - and much cheaper!
- Low VOC's in paints, adhesives & sealants
- Clean, dry surfaces reduce mould and toxins in the air.

Smart Density



An interesting example

- Prairie Crossing, Grayslake, Illinois

"It's a whole different concept here. You're not just buying a home, you're not a homeowner, you're part of the future. You just kind of get into the spirit of it."

- Prairie Crossing Resident



Well Designed Density



Neighborhood Commercial Center

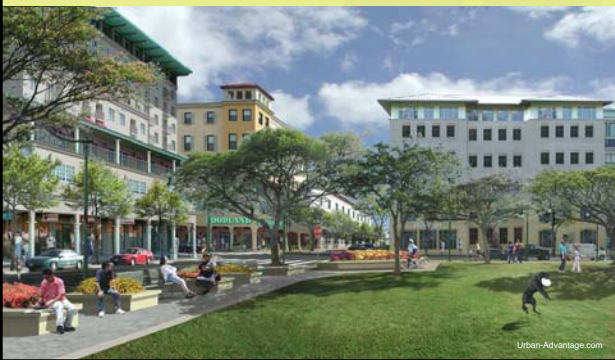


Transit-Oriented Areas



Urban-Advantage.com

Marginal Sites



Urban-Advantage.com

3. Mixed Use Development



- A mix of commercial and residential uses has been successful for centuries
- Re-define what is commercial, residential and industrial
- Consider different activities and patterns of use at times of day



4. Lively Town Centres



- Every “suburb” can have a town centre
- Town centres provide walkable destinations
- Town centres are meeting places and gathering places
- No need for “units counts”

5. Neighborhoods with identity



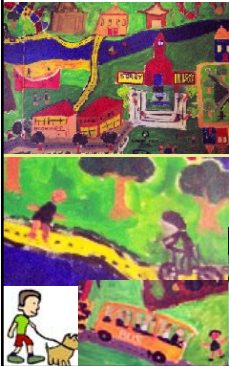
A "sense of place" gives neighborhoods a unique character, enhances the walking environment, and creates pride in the community.

Neighbourhoods with character



- A "main street" can be uniquely designed with a distinct identity
- A **community focal point** for recreational, cultural, government and business activities
- **People oriented**; active at all times of day and all seasons
- Pedestrian friendly, yet convenient for vehicles
- An **environmentally sustainable** community that is efficient, conserves energy and water, and provides a healthy environment

6. Healthy Communities



• Increasing physical activity is a national health priority. Encouraging 'active transport' has been identified by the National Public Health Partnership as one means of achieving this goal. 'Active transport' (or active commuting) relates to physical activity undertaken as a means of transport and includes walking, cycling and other non-motorised vehicles. It also includes public transport use because this usually involves walking or cycling at the beginning or end of the journey.

6. Healthy Communities



- Healthy People
- Healthy Environment
- Less vehicular traffic
- Stronger sense of community

7. Enhance Environmental Resources



- Linkages are important for wildlife
- Linkages for water flow are essential
- Wetlands can be enhanced
- Paths and wetlands can be integrated

8. Landscape / Streetscape Design



- Can streets and paths be designed differently?
- What about rainwater collection systems?
- Different storm-water management strategies?
- Rain Barrels ?
- Composting ?

Stormwater management ?



- Can we manage stormwater in a more sustainable way?

Parking Lots

- What's wrong with this picture ?



9. Integrated Planning & Design



"You know you are on the right track when your solution for one problem accidentally solves several others," observes Corbett. "You decide to minimize automobile use to conserve fossil fuels, for example, and realize that this will reduce noise, conserve land by minimizing streets and parking, multiply opportunities for social contact, beautify the neighborhood and make it safer for children."

- Developer Michael Corbett

Integrated Site and Architectural Design



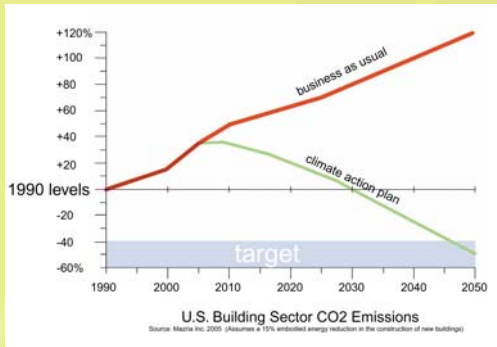
- Integrated Design respects environmental function
- Integrated Design allows developers and builders to work together
- Integrated design creates healthy, walkable communities
- Integrated design allows a more affordable and sustainable community.

Healthy Communities by Design



- Environmental Protection and Enhancement
- A Healthy Lifestyle
- A Sense of Place
- A Sense of Community
- Economic and Racial Diversity
- Convenient and Efficient Transportation
- Walkable communities
- Energy Conservation
- Lifelong Learning and Education
- Aesthetic Design and High-quality Construction
- Economic viability

Sustainable communities reduce the risk of Climate Change



The 21st Century

- The project of the 21st century is integration
- The 21st Century belongs to the creative people who can integrate ideas, people, technology and ideas.
- Healthy communities will result from changes in public policy that enable and require the design and construction of walkable, delightful and engaging places.

– www.miarch.com



*.....the start of the 21st century is a celebration of life. Conceived as an antidote to the violence and despair so prevalent in the 20th century, this phantasmagoria offers up a new vision of urban life, overflowing with optimism and joy.

This new century is anything but linear: rather, it is a kaleidoscope, a whirlwind, an adventure in which anything can happen. It has its own special language, and its spirit is conveyed through voice, movement and music and collaboration.- Cirque du Soleil
