

## SPECIAL FONVCA AGENDA

THURSDAY Feb 24th 2011

Place: DNV Hall 355 W. Queens Rd V7N 2K6

Time: 7:00-9:00pm

Chair: Paul Tubb – Pemberton Heights C.A. Tel: 604-986-8891 Email: petubb@hotmail.com

Regrets:Corrie Kost

#### 1. Order/content of Agenda(\*short)

2. Adoption of Minutes of Jan 20<sup>th</sup>

http://www.fonvca.org/agendas/feb2011/minutes-jan2011.pdf

- 3. Old Business
- 3.1 Council Agenda Distribution continued -Basic Agenda listing still missing from District Dialogue
- 4. Correspondence Issues
- 4.1 Business arising from 13 regular emails:
- 4.2 Non-Posted letters 0 this period
- 5. New Business

## 5.1 DNV 2011-2015 Draft Financial Plan

This meeting is mostly dedicated to the Introduction and Discussion of subject Financial Plan by DNV Rick Danyluk.

For details of the plan see <a href="http://www.dnv.org/article.asp?c=1021">http://www.dnv.org/article.asp?c=1021</a>
Refs:

http://www.cscd.gov.bc.ca/lgd/infra/financial\_circulars/cir0714.htm http://www.cscd.gov.bc.ca/lgd/infra/fax\_rates/tax\_rates2010.htm Quote from Oct 23/1996 NSNEWS "your property taxes are going to go up, and go up big time on the North Shore" – Gordon Campbell

- \* 5.2 DNV Population Growth by Nancy Pow <a href="http://www.nsnews.com/news/swelling+population+will+fatten+bills/4293546/story.html">http://www.nsnews.com/news/swelling+population+will+fatten+bills/4293546/story.html</a>
- \* 5.3 Example of good use of Indicators http://www.whistler2020.ca/whistler/site/explorer.acds
- \* 5.4 The Good & Bad of High rises

http://goliath.ecnext.com/coms2/gi 0199-6576657/The-consequences-of-living-in.html

http://www.pdf-freedownload.com/pdf-folder/architectural-forms-for-high-rise-buildings-pdf.php

 $\underline{\text{http://web.uvic.ca/psyc/gifford/pdf/ASR\%20High\%20Rises\%20proof.pdf}}$ 

http://repository.tamu.edu/bitstream/handle/1969.1/5430/ESL-IC-06-11-273.pdf?sequence=4

http://eprints.ucl.ac.uk/2647/1/2647.pdf (cost/sq-m increases)

http://www.ottawa.ca/residents/planning/design\_plan\_guidelines/completed/high\_rise\_housing/guidelines\_high\_rise\_housing\_en.pdf

#### \* 5.5 Sustainable Communities

http://www.sustreport.org/issues/sust\_comm3.html

#### \* 5.6 Residents Association Guide

<u>www.wearvalley.gov.uk/media/pdf/r/2/ResidentsAssociationGuide.pdf</u>

#### 6. Any Other Business

#### 6.1 Legal Issues

a) West Vancouver Feb 21<sup>st</sup> Public Hearing: To allow Non-Owner Occupied Secondary Suites:

http://www.fonvca.org/agendas/feb2011/west-vancouver-11feb21-R1.pdf http://www.fonvca.org/agendas/feb2011/west-vancouver-11feb21-crnotes.pdf http://www.nsnews.com/news/news/4293548/story.html

This would be a break from the 2 other North Shore Municipalities which both require that owner occupy building.

#### b) Abbotsford Considers Break from Region

http://www.canada.com/vancouversun/news/westcoastnews/story.html?id=2d95f927-65d5-4084-9464-56cb89912039&k=83562

\*c) Court Upholds House Height Covenant

http://www.nsnews.com/news/Court+upholds+house+height+covenant/4264467/story.html

#### 6.2 Any Other Issues (2 min each)

\* (a) History of Internet usage based billing

- \* (b) Ethics and use of Email BCC Corrie Kost http://www.fonvca.org/agendas/feb2011/ethics-bbc.pdf
- \* (c) UV Efficacy in Water Treatment Plants http://www.environmentalexpert.com/Files/11087/articles/5662/uv 01 33.pdf
- (d) Print Shop & Healthy Neighbourhoods Funding <a href="http://www.fonvca.org/letters/2011/17jan-to/Jeanine\_Bratina\_24jan2011.pdf">http://www.fonvca.org/letters/2011/17jan-to/Jeanine\_Bratina\_24jan2011.pdf</a>

### 7. Chair & Date of next meeting.

Thursday March 17<sup>th</sup> 2011

ATTACHMENTS -List of Recent Emails to FONVCA

OUTSTANDING COUNCIL ITEMS -Cat Regulation Bylaw;
Review of Zoning Bylaw; Securing of vehicle load bylaw;
Snow removal for single family homes bylaw; Tree Bylaw.

## FONVCA Received Correspondence/Subject 17 January 2011 → 20 February 2011

LINK	SUBJECT
http://www.fonvca.org/letters/2011/17jan-to/Monica_Craver_17jan2011.pdf	Mountain Biking
http://www.fonvca.org/letters/2011/17jan-to/Jeanine_Bratina_24jan2011.pdf	DNV Print Shop ends service to CAs
http://www.fonvca.org/letters/2011/17jan-to/Monica_Craver_28jan2011.pdf	Mountain Biking and Wetlands
http://www.fonvca.org/letters/2011/17jan-to/Monica_Craver_28jan2011b.pdf	Tourism, Recreation, & Wetlands
http://www.fonvca.org/letters/2011/17jan-to/Monica_Craver_30jan2011.pdf	Mountain Biking & Risk Management
http://www.fonvca.org/letters/2011/17jan-to/Monica Craver 31jan2011.pdf	Mountain Biking & Animal Cruelty
http://www.fonvca.org/letters/2011/17jan-to/Monica Craver 3feb2011.pdf	Mountain Biking and Wetlands
http://www.fonvca.org/letters/2011/17jan-to/Monica Craver 4feb2011.pdf	Risk/Liability issues of Mountain Biking
http://www.fonvca.org/letters/2011/17jan-to/Monica_Craver_8feb2011.pdf	Mountain Biking & Risk Management
http://www.fonvca.org/letters/2011/17jan-to/Monica_Craver_14feb2011.pdf	Mountain Biking & Environmental Damage
http://www.fonvca.org/letters/2011/17jan-to/Monica_Craver_15feb2011.pdf	Need for Endangered Species Legislation
http://www.fonvca.org/letters/2011/17jan-to/Monica Craver 17feb2011.pdf	Northern Red-Legged Frog
http://www.fonvca.org/letters/2011/17jan-to/Wendy Qureshi 17feb2011.pdf	Negative Densification
http://www.fonvca.org/letters/2011/17jan-to/Monica Craver 18feb2011.pdf	Mountain Biking in ski resorts

Past Chair of FO	Notetaker		
Feb 2011	Paul Tubb	Pemberton Heights	Notetaker
Jan 2011	Diana Belhouse	S.O.S.	Brenda Barrick
Dec 2010	John Hunter	Seymour C.A. ← Meeting with DNV Staff on Draft#1 OCP	None
Nov 2010	Cathy Adams	Lions Gate C.A.	John Hunter
Oct 2010	Eric Andersen	Blueridge C.A.	Paul Tubb
Sep 2010	K'nud Hille	Norgate Park C.A.	Eric Andersen
Jun 2010	Dan Ellis	Lynn Valley C.A.	Cathy Adams
May 2010	Val Moller	Lions Gate C.A.	Cathy Adams
Apr 2010	Paul Tubb	Pemberton Heights	Dan Ellis
Mar 2010	Brian Platts	Edgemont C.A.	Diana Belhouse
Feb 2010	Special		
Jan 2010	Dianna Belhouse	S.O.S	K'nud Hille
Nov 2009	K'nud Hill	Norgate Park C.A.	Eric Andersen
Oct 2009	Dan Ellis	Lynn Valley C.A.	Cathy Adams
Sep 2009	Brian Platts	Edgemont C.A.	Dan Ellis
Jul 2009	Val Moller	Lions Gate N.A.	Diana Belhouse
Jun 2009	Eric Andersen	Blueridge C.A.	Diana Belhouse
May 2009	Diana Belhouse	S.O.S	Eric Andersen
Apr 2009	Lyle Craver	Mt. Fromme R.A.	Cathy Adams
Mar 2009	Del Kristalovich	Seymour C.A.	Dan Ellis
Feb 2009	Paul Tubb	Pemberton Heights C.A.	Cathy Adams
Jan 2009	K'nud Hille	Norgate Park C.A.	Eric Andersen
Dec 2008	Dan Ellis	Lynn Valley C.A.	Paul Tubb
Nov 2008	Cathy Adams	Lions Gate N.A.	Dan Ellis
Sep 2008	Brian Platts	Edgemont C.A.	John Miller
Jul 2008	Diana Belhouse	Delbrook C.A.	Lyle Craver
Jun 2008	Eric Andersen	Blueridge C.A.	Diana Belhouse
May 2008	Herman Mah	Pemberton Heights C.A.	Cathy Adams
Apr 2008	Del Kristalovich	Seymour C.A.	Del Kristalovich
Mar 2008	K'nud Hille	Norgate Park C.A.	Dan Ellis
Feb 2008	Lyle Craver	Mount Fromme R.A.	Lyle Craver
Jan 2008	Dan Ellis	Lynn Valley C.A.	John Miller
Nov 2007	John Miller	LCCRA	Lyle Craver
Oct 2007	Cathy Adams	Lions Gate N.A.	John Miller
Sep 2007	Diana Belhouse	Delbrook C.A.	Lyle Craver
Jul 2007	Eric Andersen	Blueridge C.A.	Lyle Craver
Jun 2007	Brian Platts	Edgemont C.A.	Diana Belhouse
May 2007	Dan Ellis	Lynn Valley C.A.	Eric Andersen
Apr 2007	John Miller	Lower Capilano R.A.	Lisa Thon
Mar 2007	Cathy Adams	Lions Gate N.A.	Dan Ellis
Feb 2007	Diana Belhouse	Delbrook C.A.	Jenny Knee
Jan 2007	Brian Platts	Edgemont C.A.	Jenny Knee

## **FONVCA**Minutes January 20, 2010

Place: DNV Hall, 355 West Queens

Time: 7:00pm

#### **Attendees**

Eric G Andersen Blueridge C.A.
Brenda Barrick (notes) Inter-River C.A.

Diana Belhouse Delbroook C.A. and SOS

Dan Ellis
Katherine Fagerlund
Val Moller
Paul Tubb
Corrie Kost
Lynn Valley C.A.
Deep Cove. R.A.
Lions Gate N.A.
Pemberton Hts C.A.
Edgemont C.A..

Regrets: Lyle Craver, Cathy Adams, John Hunter

The meeting was called to order ~ 7:05pm

#### 1. ORDER / CONTENT OF AGENDA

Notetakers list (out of phase with chair list) is to be constructed – ACTION for Corrie

\* items are for information only – ie. little or no discussion.

Added agenda items: 6.2b Monday's Council Agenda

#### 2. ADOPTION OF MINUTES – Nov. 18th, 2010

http://www.fonvca.org/agendas/jan2011/minutes-nov2010.pdf

The minutes were adopted as written – Val moved/Eric seconded.

#### 3. OLD BUSINESS

#### 3.1 Council Agenda Distribution

DNV Agenda items can mostly be found (with some searching) in NSN. Concern still expressed over adequacy in DNV notifying public about council agenda items – especially those who are not web enabled. Regular council meetings agenda items should be placed in corresponding District Dialogue.

Action: Corrie and Cathy will send the letter previously drafted re this to DNV.

#### 3.2 Update on OCP Process

- Deadline for feedback on draft#1 of OCP is Jan 28<sup>th</sup>
- FAQ to be put on DNV web page
- Glossary of terms coming for OCP draft #2
- Missing elements to be provided in draft #2
- Financial implication of plan before council Jan 24<sup>th</sup>
- Targets for parks, tree canopy, rental housing, where employment will come from, status of LAPs still in writeup stage
- Feb to be spent assimilating material for draft#2
- Public to have 2 weeks in March to digest draft#2
- Public hearing around beginning of April

- 3<sup>rd</sup> read of OCP bylaw by end of April/begin of May
- Next roundtable meets Feb 15<sup>th</sup>
- OCP to accommodate 20,000 additional people by 2030

   it does not promote/invite that number by 2030.
- Anticipate 80-90% of growth in "Town centres"
- Growth pay its own way? [council workshop Jan 24<sup>th</sup>]
- Developers invited to build multi-family units
- OCP makes some fundamental changes to NS character
   Concerns of maintaining adequate park space especially in light of CNV developments.
- Current DCC parkland charges (up to \$12,914/SF home, and \$55/sq-m for multi-family units) – see <a href="http://www.dnv.org/upload/documents/finance/dcc-lylaw.htm">http://www.dnv.org/upload/documents/finance/dcc-lylaw.htm</a>.
- Public plaza spaces not considered as a substitute for park space.
- Workshop on Lower Cap/Marine drive OCP held in Woodcroft Tower was well attended (standing-room only crowd ~130). Many concerned about road capacity to handle increased traffic.
- Lengthy discussion about status of Local Area Plans (LAP). Desire to preserve the existing bylaws within OCP until reviewed. Proposed OCP should not override LAPs. CA's should each express their views on this to council.

#### 3.3 Tree Bylaw

Coming back to council 1st quarter 2011.

http://www.nsnews.com/columnists/3877419/story.html gives overview of views on this matter.

http://www.thetreecouncil.org.nz/index.php/page/links/ gives some valuable links on the subject

https://fp.auburn.edu/sfws/YaoqiZhang/UrbanForestryProject/ Tree%20Ordinances%20as%20public%20policy%20and%20 participation%20tools%20.pdf reviews ordinances in the US and point out that public support essential, allows for great opportunity to engage public, allows for compromise, flexibility, and compassion.

http://haltonhelps.org/Tree%20Protection%20Measures%20in %20other%20Municipalities.htm ← many links

#### 3.4 Healthy Neighbourhood Funds FONVCA

This DNV fund allocated up to 13cents/capita per year to cover expenses of a representing community association. <a href="http://www.dnv.org/upload/documents/cpolicy/c1047902.pdf">http://www.dnv.org/upload/documents/cpolicy/c1047902.pdf</a>

http://www.fonvca.org/agendas/jan2011/Healthy%20Neighbourhoods %20Fund%20and%20CA%20Policy%20under%20review.pdf
Corrie had emailed those (8) associations (that had contributed \$20 each) that the DNV had covered the shortfall of \$271.51 for 2010. The FONVCA web site is thus now paid for to Nov/2013. Only yearly incidental photocopying charges need be covered till then.

#### 4. CORRESPONDENCE ISSUES

**4.1 Business arising from 15 regular e-mail** No action required.

#### 4.2 Non-Posted Letters

There were also 2 non-posted letters. No action required.

## 5. NEW BUSINESS Council and other District Issues

#### \*5.1 BC renames Ministry

Ministry of Community and Rural Development

→ Ministry of Community, Sport and Cultural Development http://www.gov.bc.ca/cscd/ - FYI - no discussion

#### \*5.2 On Integrated Resource Recovery

http://www.ruralbc.gov.bc.ca/library/Webinar/Slides/IRR Presentation.pdf a whole-system approach to managing all our wastes from a "Value" perspective. — FYI - no discussion

#### 5.3 DNV Lease Returns – John Hunter

In John's absence this item was deferred to the next regular FONVCA meeting.

#### \*5.4 Metro Vancouver Transit Market Share

www.th.gov.bc.ca/transit\_plan/Provincial\_Transit\_Plan\_LR.pdf 12% in 2008 & 12% in 2010

Projected 17% for 2020 & 22% in 2030

http://www.publicpurpose.com/ut-19802008jtw.pdf

"Because the number of older people is expected to increase significantly over the next ten years, the proportion of auto trips is expected to increase based on today's travel behavior" <a href="http://www.th.gov.bc.ca/gateway/reports/pdr-supp/Trip\_Diary\_Summary-TransLink.pdf">http://www.th.gov.bc.ca/gateway/reports/pdr-supp/Trip\_Diary\_Summary-TransLink.pdf</a> – FYI - no discussion

### \*5.5 GHG of High Rise vs. Single Family Homes http://cedb.asce.org/cgi/WWWdisplay.cgi?0601129

It was pointed out that although the average apartment unit produced a lot fewer green house gases than a single family home, when measured on GHG per square foot of living space the GHG generated by single family homes were comparable to those generated by multifamily units. – no further discussion

#### 5.6 Beginning of the end of Community Policing

http://www.bclocalnews.com/greater\_vancouver/northshoreoutlook/community/113374254.html

In the future this community based program is to be run out of the DNV hall and no longer in the communities.

#### \*5.7 Urban Water Use in Canada

http://poliswaterproject.org/sites/default/files/report1\_full.pdf
It was pointed out that it seems that, despite the economy of scale, the larger the city, the more one pays/unit of water. It was alleged to be due to high infrastructure maintenance and renewal costs.

http://www.ec.gc.ca/Publications/0B6E24B6-0421-4170-9FCF-9A7BC4522C54%5C2008MunicipalWaterPricingReportMunicipalWaterPricing2004Statistics.pdf – no further discussion.

#### 5.8 Garbage & Recycling

GVRD Fees rise to one of highest in North America

http://www.vancouversun.com/business/Higher+dumping+fees+aimed+reducing+garbage+landfills/4035345/story.html

#### A good overview is at

http://www.epa.gov/epawaste/nonhaz/municipal/msw99.htm#links It appears that both the per capita generation of waste and % of recycling may have peaked in the US.

#### 5.8b Tax Cuts - "The stuff that dreams are made of"

http://www.cfib-fcei.ca/english/advocacy/british\_columbia/58-budgets\_public\_finance/2311-municipal\_spending\_unsustainable.html
Six copies of the above report — made available free of charge by the Canadian Federation of Independent Business were distributed to FONVCA members on a first come basis.

During the discussion it was clear that community involvement and support is needed to keep further tax

increase (beyond inflation) at bay. This is especially evident from the increasingly high cost of policing and fire – despite our community having lowering crime and fire rates. Some members felt that escalating municipal taxes would unnecessarily force many seniors out of their homes and the community.

5.9 Green Building Strategy – Better allows Bigger After a sparsely attended public hearing on Dec 14/2010 <a href="http://www.dnv.org/upload/documents/Council\_PH/phm101214.htm">http://www.dnv.org/upload/documents/Council\_PH/phm101214.htm</a> Council gave unanimous 3<sup>rd</sup> reading to bylaws on Monday Jan 10/2011 that would allow an increase for single family homes to the maximum floor space of **up to 8%** above what had been adopted in previous years for many neighbourhoods (as well as the district wide zoning) in the DNV.

#### 5.9b DNV 2011 Draft Financial Plan

In keeping with past tradition FONVCA members unanimously endorsed that the **next regular FONVCA meeting** (normally held Feb 17) **will now be held Thursday Feb 24** in order to hold a special FONVCA meeting with DNV staff **to deal with Q/A about the 2011 Draft Financial Plan** (which is to have been presented to Council about 10 days earlier).

**ACTION:** DNV staff to be contacted to confirm our availability at 7pm Feb 24<sup>th</sup>.

#### 6. ANY OTHER BUSINESS

#### 6.1 Legal Issues

a) \*Smoking - CNV allows smoking on patios

http://www.nsnews.com/health/health/3877402/story.html
It is hoped that more potential CNV customers would now instead avail themselves in using DNV restaurant patios – as these, along with those in West Vancouver, are smoke free!

b) \*Tracking all vehicles→Tracking all people→All people tracking <a href="http://www.vancouversun.com/news/news/3997801/story.html">http://www.vancouversun.com/news/news/3997801/story.html</a>
Free wheeling use of government license plate scanning/tracking, not to ticket traffic violation, but to track the whereabouts of citizens, was felt to be a concern and a violation of privacy.

c) Fine Print Matters – Especially for an OCP <a href="http://www.nsnews.com/news/news/4000035/story.html">http://www.nsnews.com/news/news/4000035/story.html</a>
The above article illustrates the need for clear language in drafting an OCP and all associated bylaws.

#### 6.2 Any Other Issues (2 min each)

a) \*Civility Matters

http://www.neh.gov/news/humanities/2005-01/civility.html http://www.vancouversun.com/news/news/3997849/story.html Shows the importance of manners by both governments and its citizens.

b) Council to hold workshop on affordability of OCP network of centres 6pm Jan 24/2011. It is open for the public to attend.

#### 7. CHAIR AND DATE OF NEXT MEETING

**Chair: Paul Tubb** 

Date: Thursday February 24, 2010 Subject: 2011 Draft Financial Plan

### NV's swelling population will fatten tax bills

BY NANCY POW, NORTH SHORE NEWS FEBRUARY 16, 2011

#### Dear Editor:

The District of North Vancouver's draft Official Community Plan calls for 20,000 more people by 2030, less than one per cent growth per year (DNV Population to Grow 20,000 in 20 Years, Feb. 4, North Shore News). One per cent sounds low, but it isn't. At that rate, a population doubles every 70 years -- less than your average Canadian lifespan.

The district argues growth provides needed tax revenue, but studies show urban growth rarely pays its own way. It places a burden on resources by creating a need for increased infrastructure -- from roads, water, and sewage treatment to police, fire, and hospital services. And while experts agree densification is cheaper than sprawl, new developments create infrastructure costs regardless of density and design. Generally, the larger the city, the higher the taxes. Having more people to provide tax revenue might look good initially, but inevitably leads to the need for even more tax dollars. When does it end?

The best time frame for measuring sustainability is forever. A sustainable action, policy, or process is one that can be continued forever without degrading the ecological integrity and life-supporting capacity of the natural environment.

This definition of sustainability provides an easy check for decisions about our lifestyles and communities. If something can be continued forever, it's sustainable. Quantitative growth, whether it's our population or our high consumption and waste, fails the test. Qualitative growth, on the other hand, is sustainable. There's no limit to creativity, enterprise, or personal growth. At some point, our community will need to get creative about how to thrive without population growth. Why not now?

Nancy Pow

North Vancouver



© Copyright (c) North Shore News

1 of 1 18/02/2011 12:20 PM



#### **Invited Review Paper**

### The Consequences of Living in High-Rise Buildings

#### Robert Gifford

Department of Psychology and School of Environmental Studies, University of Victoria, Victoria, British Columbia V8S 2H1, Canada Tel: 1 250 721 7532; Fax: 1 250 721 8929; Email rgifford@uvic.ca

Invited Paper: Received 24 October 2006; accepted 28 January 2007

Abstract: A full account of architectural science must include empirical findings about the social and psychological influences that buildings have on their occupants. Tall residential buildings can have a myriad of such effects. This review summarizes the results of research on the influences of high-rise buildings on residents' experiences of the building, satisfaction, preferences, social behavior, crime and fear of crime, children, mental health and suicide. Most conclusions are tempered by moderating factors, including residential socioeconomic status, neighborhood quality, parenting, gender, stage of life, indoor density, and the ability to choose a housing form. However, moderators aside, the literature suggests that high-rises are less satisfactory than other housing forms for most people, that they are not optimal for children, that social relations are more impersonal and helping behavior is less than in other housing forms, that crime and fear of crime are greater, and that they may independently account for some suicides.

Keywords: Tall buildings, Research methods, Residential satisfaction, Mental health, Stress, Crime and security, Social relations, Prosocial behavior, Suicide, Children

"There is every reason to believe that [the] hi-rise...apartment dwelling has adverse effects on mental and social health." (Cappon, 1972, p. 194).

"...[B]lank condemnation of high-rise dwellings that does not consider specific contexts should be questioned...residents [in my study] showed a high degree of satisfaction at all floor levels" (Kim, 1997, p. iv).

#### A Brief Historical Background

#### Natural and Social Science Approaches to Architecture

The ancient Egyptians probably were the first to apply scientific knowledge to the construction of buildings; in any case, their amazing structures are the best-understood ancient large buildings. Not only did their architects use geometry and astronomy to plan the pyramids, but also they had to understand and apply much natural-science knowledge about the properties of materials to design the huge yet precisely constructed tombs that include intricate rooms and passageways. So sophisticated were their calculations that the Great Pyramid not only remains the largest stone building in the world after 4,000 years, but also was built so accurately that the opposite corners of its foundation, some 324 meters apart, are only 2 cm different in elevation.

Later, the architects of the great gothic cathedrals of Europe so well understood advanced principles of construction that modern engineers sometimes marvel at, or are even baffled by, their ar-

chitectural feats. Finally, of course, modern architectural science is full of advances that ancient and medieval architects probably could not imagine, given modern materials, computers and construction technology. All these have been amply documented in this journal for years.

However, in parallel with these natural science accomplishments, social scientists interested in architecture have also been toiling away, but until recently, they have done so beyond the formal mandate of the *Architectural Science Review*. Now the time has come to bring some of the insights of the interdisciplinary social sciences into *ASR*, to complete the domain embodied by the phrase "architectural science."

As documented by several authors (e.g., Gifford, 2002; G. T. Moore, 1984, 1987) social science approaches to architecture can be dated to the middle 1960s, although less rigorously science-oriented understandings of human-building interactions must be traced back as far as the ancient Egyptians. Doubtless, for example, the construction and mere existence of the pyramids had far-reaching social effects in Egyptian society. The study of harmonious proportions (for example, of temples) with psychological implications (the perception of beauty) can be traced to Pythagoras and his school 2500 years ago (Murray & Kovacs, 1972), and one may easily imagine that equally profound social effects were associated with the subsequent design, construction, and use of Greek temples, Roman baths, gothic cathedrals, early industrial factories, and the first high-rise buildings, constructed in the late 19th century.

Architectural Science Review Volume 50, Number 1, March 2007

Modern, formal study of the social and psychological effects of architecture may be attributed to the Chicago school (e.g., Park, 1925), whose members studied the social ecology of cities, which led to a number of sociological studies of housing and community (e.g., Chapin, 1938; Isaacs, 1948; McClenahan, 1945). Research began to focus on the more personal or psychological scale with several seminal studies in the 1950s on housing in relation to social behavior and mental health (e.g., Campelman, 1951; Chapin, 1951; Festinger, Schachter & Back, 1950; Kennedy, 1950; Wallace, 1956; Wilner, Walkley & Tayback, 1956).

The field then organized itself in the 1960s, moving from isolated studies to conferences on what was then called architectural psychology at the University of Utah (1961 and 1966), books like Robert Sommer's *Personal space: The behavioral basis of design* (1967), special issues of journals, like that in the *Journal of Social Issues* (October, 1966), the Environmental Design Research Association (first conference, 1969, co-founded by the current editor of this journal), journals (*Environment and Behavior*, begun in 1969), and interest from sociologists (e.g., Michelson, 1970).

In short, architectural science must be a social science as well as a physical and technical science. In this regard, this paper focuses on the psychological, behavioral and interpersonal influences of high-rise buildings.

#### A Brief History of High-Rise Buildings

If the minimal definition of a high-rise is a building taller than three storeys, then the history of high rises may be traced back to the pyramids of Egypt (about 48 storeys in height) and the Tower of Babel. Genesis 11 in the Christian *Bible* briefly tells the story of the Tower of Babel. According to the account, before the tower was complete God decided that if humans could complete such a tower, they could accomplish anything. That was not acceptable, so God caused confusion among the people by cursing them with multiple languages (everyone had spoken the same language until then, and their tower-building success was attributed to this). Then the people were dispersed, and apparently the tower was deconstructed soon afterward. Some modern critics of high-rise buildings may believe that God had the right idea about the human conceit involved in building tall buildings.

People did not build tall structures again until the late 1600s, apart from a few Roman apartment buildings of six or seven storeys and Europe's gothic cathedrals. Seventeenth-century Paris had thousands of houses five to seven storeys tall (Laurens, 1954). Tall buildings with iron skeletons began to be constructed in the 1860s (Sundstrom, 1986); in 1885, a ten-storey building was constructed in Chicago by William Le Baron Jenney (Yeung, 1977), followed by Sullivan's Wainwright Building five years later. The rest is history; millions now live in high-rise buildings.

Thus, given the age of our species, living more than a few storeys up is a very recent phenomenon. This tempts one to conclude that high rises are unnatural, and some would argue that what is unnatural must be, in some way, harmful. (Of course, the same has been said about plastics, electricity, automobiles and other recent inventions.) Nevertheless, the question remains a fair one: are high-rise buildings a net benefit or cost to their residents?

## The Issue: Are High Rises Bad or Good for People?

#### What is Bad About Them? What is Good?

High rises have been accused of causing many unpleasant outcomes. Among those examined in this paper are fear, dissatisfaction, stress, behavior problems, suicide, poor social relations, reduced helpfulness, and hindered child development. Early studies and reviews concluded that high-rises are, on balance, not beneficial for residents (e.g., Angrist, 1974; Cappon, 1972; Conway, 1977). At the societal level, they are accused of burdening existing services and infrastructure, worsening traffic problems, and damaging the character of neighbourhoods (Broyer, 2002).

High-rise residences evoke at least six fears. The first is that the residents themselves, a loved one, or a neighbour will fall or jump from a high window. Whenever this tragedy occurs, it receives much media attention, perhaps because the nightmare has come true for someone. Second, perhaps paradoxically, some residents fear that they may be trapped inside during a fire; it usually takes longer to reach the street from a high-rise dwelling than from dwellings of a few storeys. Third, residents in places with active tectonic plates worry about the entire building falling because of an earthquake. Fourth, in the post-McVey, post-911 era, residents cannot help harbouring at least a slight fear that their building might be attacked. Fifth, the sheer number of people who reside in One Big Residence means that, in a sense, strangers share your dwelling, at least the semi-public areas of it. This fear of strangers leads to fear of crime, a felt lack of social support and the absence of community in the midst of many. Anonymous interaction in visually screened areas within high rises creates the objective possibility of crime. This is more likely when outsiders can enter the building. The very fact that many high-rises have entrances with keys and guards proves that this fear exists, even if no strangers manage to enter. Sixth, the sheer number of people in one building may increase the fear of becoming ill from communicable diseases generated by others. Air- and touch-borne flus and colds, for example, spread more easily when many people share hallway air, door handles and elevator buttons.

Perhaps none of these fears is realistic. Perhaps they simply are salient because so many people live so close together, and communicate their fears verbally or nonverbally. Perhaps, on a base rate or per capita basis, no more negative outcomes occur among high-rise residents than among residents of any other form of housing. On the other hand, perhaps, there truly are more negative outcomes, but they are caused by factors other than housing form. These extra-architectural moderators of negative outcomes are considered later. First, this question might be rhetorically posed: Why is it that so few writers (Jacobs, 1961, is a notable exception) hypothesize that high-rise buildings will lead to *positive* outcomes for those who live in them?

What might be *good* about high rises? Tall thin buildings have smaller footprints than the equivalent number of low-rise housing units, and therefore may occupy less land area (but not necessarily, depending on siting). This, in principle, leaves more room for parks and green space (Broyer, 2002), although this open space has

often become a dangerous no-man's land controlled by undesirable elements. High rises offer great views (at least to upper-level residents, unless their view is blocked by other high rises), and relative urban privacy. Their usual central urban location is an advantage for those who desire it. Many services and transportation options are likely to be near, and the large number of nearby neighbours affords greater potential choice of friends and acquaintances for social support (Churchman, 1999). Those who live in their upper reaches experience less noise from outside the building, and may breathe cleaner air. For some residents, high population density at the building level (not the dwelling level) may promote more and better social interaction. Controlled entrances reduce crime and the fear of crime. Compared to the single-family resident, high-rise residents are free of yard and maintenance work, although part of the rent or condominium fees must go to pay others to do that work.

All this, so far, reflects conventional wisdom and speculation, a list of complaints and benefits one might hear anywhere. How many of the negative and positive claims are supported by research? The answer is complex and incomplete, but research does provide some partial answers. The height of a building presumably has few, if any, direct causal effects. Ultimately, as one early research team concluded, different buildings probably have different advantages and disadvantages for different residents (Sinnett, Sachson & Eddy, 1972). The task of the architectural social scientist is to discover which buildings are salutogenic or pathogenic for which people. Furthermore, the outcomes of living in a high rise depend in part on various non-building factors, including characteristics and qualities of the residents themselves, and the surrounding physical context. These factors *moderate* the relation between living in a high rise and the outcomes of living in one.

## The Importance of Moderating Factors in Understanding the Impacts of Housing

High-rise buildings can be associated with negative outcomes without causing those outcomes. At least eight factors that are independent of high-rise architecture perse may moderate residents' outcomes. Moderators are factors or variables that are associated with differences in outcomes, but not in a causal sense. In contradistinction, mediating factors or variables are part of a causal link between the environment and the outcome (Evans & Lepore, 1997). The moderators may be broadly grouped into two categories, those associated with residents (their personal characteristics and social relations) and context (the environmental and neighborhood) . These factors are presumed to influence outcomes for residents in conjunction with building height.

Four such moderating factors are residents' economic status, the amount of choice among residences a resident has, the building's location within the urban fabric, and population density. We might expect that if high-rise residents (a) are not poor and (b) choose to live in a high rise when they have other housing options and (c) the high rise is located in a good neighborhood, and (d) its dwelling-unit population density is low, they may well escape most negative outcomes and experience many of the positive outcomes. This appears to be the case, for example, with the high rises on the

edge of Central Park in Manhattan, which are expensive, usually spacious, and in a highly desirable neighborhood.

Consider how one of these moderators, building location, affects the relation between high-rise living and exposure to crime. Research shows that building location plays a role in a resident's exposure to crime that is independent of building form (Luedtke and associates, 1970; Molumby, 1976). For example, crime seems to be more frequent when buildings are placed near easy escape routes (Brill, 1972) or on corners (Brantingham & Brantingham, 1975). Lighting, street activity, and the crime rate of the larger neighborhood also affect crime rates separately from building form (Reppetto, 1974).

Four further possible moderators of a resident's outcomes of living in a high-rise building include life-cycle stage, gender, culture and dwelling design. That is, high-rise living may in general be more suitable for some stages of life than others, one gender more than the other, some cultures more than others may, and in some arrangements of space within the unit or within the building more than in others.

Thus, high rises may have positive or negative effects on those who live in them, depending not on building height alone (the defining characteristic of high rises), but on at least eight other moderating factors. Each of these will be discussed later, where evidence exists.

#### **Typical Research Methods**

Understanding how the effects of high-rise living are studied is important. Five general methodological approaches have been used. First, in the simplest and least rigorous design, an outcome measure (e.g., satisfaction or helping behavior) is examined in a case study of a single high rise or solely in high-rise buildings (e.g., Korte & Huismans, 1983; Williamson, 1981). Second, slightly better research designs compare high rises with low rises, but fail to consider possible moderating factors (e.g., Oda, Taniguchi, Wen & Higurashi, 1989; Zalot & Adams-Webber, 1977). Third, more sophisticated research designs compare numerous high rises with numerous low rises, and consider at least some potential moderators, perhaps in a more sophisticated correlational or quasi-experimental design (e.g., Edwards, Booth & Edwards, 1982; Gillis, 1977). The more buildings in the sample, the better chance that variations in the construction, design, age, neighborhood, or level of maintenance among the high rises and among the low rises, that is, variations that are not themselves of immediate interest, will not affect the results.

Fourth, and closer to the ideal, is the research design that compares many high rises with many low rises and considers many potential moderators, but also involves (a) random or essentially random<sup>1</sup> assignment of residents to buildings and (b) investigator control of key variables. Some studies have been able to approximate random assignment because of some naturally occurring social process (e.g., Fanning, 1967; D. McCarthy & Saegert, 1978; Wilcox & Holahan, 1976), but architecture researchers virtually never have control over key or independent variables.

In a fifth research design that can be very useful, but also has disadvantages, researchers assess the progress of a group of residents over time, in a longitudinal design. This approach may be used with any of the four previous designs, which is one reason it can be less or more ideal. Longitudinal designs also have the advantage of assessing changes in the same group of residents, but disadvantages, too, such as not always being able to ensure that any observed changes in the residents are caused by factors other than the building.

Probably no study of high rises has been conducted meets all the requirements of a true experiment, and therefore no absolutely certain causal conclusions may be drawn. Many studies have shortcomings and a few have been models of ideal research. Complaints about the adequacy of high-rise housing research have been aired for the last 35 years (e.g., Cappon, 1972; Evans, Wells & Moch, 1998; van Vliet, 1983). However, researchers are not entirely to blame. To carry out a study of housing that meets standard criteria for scientific hypothesis testing is very difficult; often researchers are forced to use non-optimal research designs. On the other hand, when numerous imperfect studies reach similar conclusions, that conclusion has the weight of replication behind it. Alternatively, when different methods are employed ("triangulation of methods") and similar results are found, conclusions based on those results may be taken more seriously. This review occasionally will note which grade of research design a study employed, as a reminder that even published research does not always (in fact, can not) meet the most rigorous standards.

## The Evidence: Findings, Conclusions and Interpretations

#### Experiencing the Dwelling

Before residents are satisfied or not with a dwelling, they perceive or experience its features or qualities. For example, a study of dormitories found that residents of higher floors experienced their rooms, which were all the same size, as larger (Schiffenbauer, Brown, Perry, Shulak & Zanzola, 1977). A similar investigation in another college dormitory complex found different experiences for men and women: the women found higher rooms more spacious, but the men found higher rooms less spacious (Mandel, Baron & Fisher, 1980).

Few studies have examined even such an obvious topic as the ways in which high-rises are perceived. However, one study examined how silhouette drawings of high-rises were related to pleasure and psychological arousal in viewers (Heath, Smith & Lim, 2000). Visual complexity was the strongest predictor of pleasure and arousal. Surely, however, there is much more to the experiencing of a dwelling than this. Presumably, high-rise buildings influence residents' moods, thinking, imagination,

1 In true experimental studies (often conducted in laboratories), partici pants are assigned to different conditions truly randomly, by using a table of random numbers or some equivalent method. The term "essentially random" as used in this paper means that a housing authority assigns each resident to a unit in a building or buildings based on availability, that is, when some previous resident leaves. Thus, the assignment to a unit ("condition") is "essentially" random, but not as purely random as when laboratory methods are used.

spatial cognition and perceptions other than the apparent size of their unit and their visual complexity. Unfortunately, these are unanswered questions.

#### Residential Satisfaction and Preferences in High-Rise Buildings

Satisfaction or (the lack of it) obviously is an important outcome of living in one's dwelling, although subsequent sections will show that it is not the only consideration. All else being equal, are residents of high rises more satisfied with their dwellings than residents of low-rise dwellings? Of course, neither all high-rise residents nor all low-rise residents are satisfied. Among high-rise residents, for example, presumably most wealthy denizens of tall expensive apartment buildings in desirable locations are quite pleased with their high rises, and we know that many residents are miserably unhappy with their broken-down ghetto high-rise dwellings. Nevertheless, is there a difference, on average, or in particular contexts?

A number of studies report broad satisfaction with high-rise apartments. For example, Jephcott (1971, p. 48) reported that 90 % of the Glasgow residents in her study of multi-storey buildings were satisfied. Over 75 % of Singapore high-rise public housing residents were satisfied, according to Yeh and Tan (1975, p. 226). Three studies have been conducted in Israel. One found two-thirds of high rise residents were satisfied, although over 40 % intended to move anyway (Ginsberg & Churchman, 1984); another found that 85% of the women interviewed were satisfied with the building, yet half were interested in moving, and only half of them would choose a high-rise again (Landau, 1999). The third reported that general satisfaction was high, but only a few wished to move away (Broyer, 2002). The latter study reported that willingness to reside in tall buildings increased with floor level. A study of eight high rises in major U.S. cities found a high level of satisfaction among residents at all floor levels (Kim, 1997).

Sceptics might point to a well-known social psychological principle, cognitive dissonance (Festinger, 1957), in discounting these results. Once a choice is made (where to live, for example), if residents are not pleased after living there for some time, it may be easier for them to change their mind (decide it is a good place to live) than to change their residence (move), as a way to reduce the discomfort of living in a place they do not like.

Furthermore, some of the studies just cited investigated only high rises; it may be that residents of nearby low-rise or single-family residences more (or less) satisfied, but without a comparison, we cannot know. For example, Kim's (1997) study showed that residents of lower floors were no less satisfied than residents of upper floors, which is interesting in itself, but without a comparable group of low-rise residents, to conclude that high rises are more or less satisfactory than low rises to their residents would be incorrect.

Six studies that included buildings of different heights suggest that satisfaction is lower in high rises. In the first (in chronological order), British flat-dwellers were less satisfied than house-dwellers, and complained more about privacy, isolation, loneliness, and noise (N. C. Moore, 1975). The second investigated satisfaction in low-versus high-rise college dormitories (Holahan & Wilcox, 1979). It

had the scientific advantage of essentially random assignment<sup>1</sup> to rooms, based on how the university placed students in dorm rooms. Residential satisfaction in low-rise dormitories (2 to 5 storeys) was much greater than that in 10- and 13-storey high-rise dormitories, although this relation was moderated by the students' level of social competence. That is, in the low-rise dormitories, more socially competent students were significantly more satisfied with the dormitory than were less socially competent students, whereas in the high-rise dormitories residential satisfaction did not significantly vary with social competence. The third study was a nationwide survey of 23 urban centers in Canada (Canada Mortgage and Housing, 1979). In general, housing satisfaction was quite high (about 9 on an 11-point scale). However, housing tenure moderated satisfaction: among owners, satisfaction was highest for residents of detached houses, followed by low-rises (6 or fewer storeys) and high-rises. Among renters, satisfaction was highest in the high-rises, but the other housing forms were very close behind, and so the differences among renters may not be important.

Fourth, a New York study also had the scientific advantage of essentially random assignment to high-rise (14-storey) versus low-rise (3-storey) buildings (Saegert, 1979). In these public housing projects, families were assigned to buildings of either type as vacancies arose, creating naturalistic random assignment to conditions. As would be expected from this, the families in the two building types did not differ on any of several demographic variables, except that families in 3-storey buildings had more children. Residents of the high-rise buildings reported greater feelings of alienation and less satisfaction with their building. Nevertheless, citing other studies, Saegert speculated that these differences may not have been the result of the building form *per se*, but of social factors such as mistrust, heterogeneity, and unfamiliarity among residents that themselves are encouraged by the high-rise building form.

If turnover and degree of place attachment are indicators of satisfaction then, according to a fifth study, done in moderate-income subsidized housing, high rises are less satisfactory than row houses and walk-ups: turnover was greater and attachment was lower in the high rises (Franck, 1983). The sixth study (Rohe, 1985-86) found that the taller the building, the lower the residents' satisfaction, after statistically controlling for several possible influences (stage in the life cycle, education and income).

Against these general trends, certain demographic groups are more likely to be satisfied with life in a high rise. For example, a study in New York of residents who lived in three middle-income high-rise sites located in a good neighborhood showed high levels of satisfaction with the city, housing development, and apartment (Mackintosh, 1982). The most satisfied residents were those who lived in the newest development that embodied features illustrating the latest in design theory. The two demographic groups that were most attracted to urban high-rise living were families with employed women and people who had grown up in apartments. Mackintosh concluded that well-designed middle-income high-rises could provide a satisfying housing option and have a positive impact on family dynamics.

A Chicago study suggests that young mobile singles and childless couples prefer high-rise living to suburbia (Wekerle & Hall, 1972).

Singles may want to spend more time working on their social lives than on suburban activities like gardening or mowing the lawn; married couples may be willing to mow the lawn to provide a play area for their children; freed from the time-consuming courtship phase, they have more time for gardening. Thus, an important moderator may be whether residents have children who live at home. That high-rise dwellers with small children are dissatisfied is one of the most consistent trends in the literature (e.g., Gittus, 1976; van Vliet--, 1983). Up to 87 % of parents were unhappy with play facilities in one study, and in an Australian study 60% of parents believed that the high rise was having a detrimental effect on their children (Conway & Adams, 1977). These are merely samples of many other studies that have reached similar conclusions, although one large-scale survey in Britain reported a relatively modest 39 % dissatisfaction rate among households with children all under 5 years of age (Conway & Adams, 1977). However, such figures should be contrasted with the rate of dissatisfaction of parents with other forms of housing; it is possible that parents of younger children are equally unhappy with other housing forms.

Another group that some experts (e.g., Newman, 1975) believe to be well suited to high-rise living is the elderly. At this stage in the life cycle, gardening may be tiresome or beyond one's physical abilities; in many communities elderly persons may feel safer within a large building than alone in a single-family dwelling. Studies of the elderly in high rises versus low rises have produced mixed results. A nationwide U.S. study of the elderly found that residents of low buildings liked their housing more than residents of taller buildings, although the magnitude of this effect was quite small (Lawton, Nahemow & Teaff, 1975). A much smaller study of elderly persons who were randomly assigned to high- and low-rises reported a small difference in morale that favoured high rises over low rises (Duffy & Willson, 1984). A study in India found quite widespread dissatisfaction with high-rise living among the elderly, although no comparison was made with other housing forms (Dasgupta, Bhattacharyya & Asaduzzaman, 1992).

The lack of differences in satisfaction among the elderly may be caused in part by a tendency on the part of many elderly persons to report satisfaction no matter what their situation (Nahemow, Lawton & Howell, 1977). However, when more pointed questions are asked, some differences emerge. For example, in one study lowrise residents were happy with their closeness to nature, whereas high-rise residents were happy with the social life in their building (Devlin, 1980). This suggests that a key strategy for maximizing satisfaction may lie in matching resident characteristics and preferences to buildings, where this is possible (Gifford, 1999).

Devlin (1980) also found that low-rise residents offered more positive reasons for liking their residence than high-rise residents did, and the high-rise residents offered more negative comments than the low-rise residents did. This suggests that despite the lack of differences in response to overall or generic questions about residential satisfaction, elderly persons actually are more satisfied with low-rise buildings. Of course other factors, such as fear of going outside, the quality of social relations, and management factors can also affect residential satisfaction.

Architectural Science Review Volume 50, Number 1, March 2007

All the above studies focus on residents. Only a few studies of tall buildings have examined the satisfaction and preferences of non-residents. Despite the dearth of studies, this is an important topic: more people have to look at high-rises than live in any given building. Old brick, complex modern, and "plain" high rises were shown to viewers, who were asked for their preferences (Stamps, 1991). Contrary to the researcher's expectations, the modern high-rises were preferred over the other two types.

#### Strain, Crowding and Mental Health in High-Rises versus Other Types of Housing

Strain--the effect on a person of overexposure to stressors--has many determinants. Whether high rises contribute to, or ameliorate, strain probably cannot be answered in a definitive manner because of the numerous social and physical factors that may play a role. For example, teens who live in public housing high rises report experiencing high degrees of exposure to violence and concerns for their personal safety (Sweatt, Harding, Knight-Lynn, Rasheed & Carter, 2002), but obviously this is connected with socioeconomic conditions as much or more than with housing form.

Some studies report neutral or even positive results. A study that compared the optimism of residents in a controversial public-housing high-rise with base rates of optimism in the general population found that they were no less optimistic than most people (Greenberg, 1997), suggesting at minimum that difficult high-rise housing does not necessarily crush the human spirit. Another reported that slum-dwellers who moved into apartments showed slight improvements in mental health (Wilner, Walkley, Pinkerton & Tayback, 1962). This result may be anomalous because the apartments had an unusual design that included children's play areas on every floor. A third compared three groups of 25 London families each living in high rises, low rises, and single-family dwellings (Richman, 1974). No significant difference in the number of mothers with psychiatric disturbance was found.

Nevertheless, the evidence, on balance, suggests that high rises do cause strain or mental health difficulties, at least for some residents. More typically, studies report some form of strain associated with high-rise living. In a study with essentially random assignment, British military families in walk-ups (3-4 storeys) had about three times the rate of neurosis as those who lived in detached houses (Fanning, 1967). A study that compared walk-ups and houses found trends in the same direction, but not significant differences (N.C. Moore, 1974, 1975). Moore's residents may have differed in age and gender, so these unexamined moderator variables may have artificially minimized the differences (Ineichen, 1979). Walk-ups seem to act as a stressor for residents with neurotic tendencies: those who lived in walk-ups were more likely to develop psychiatric illnesses than those without neurotic tendencies, whereas residents of houses who had neurotic tendencies were no more likely than residents of houses who were without neurotic tendencies to develop psychiatric illnesses (N.C. Moore, 1976).

Another moderator is resident kinship. Emotional strain among Hong Kong residents who dwelt in very high densities depended more on dwelling density and whether residents of a given unit were members of the same family than on building height (Mitchell,

1971). However, Mitchell's study did find greater emotional strain among people living in multiple-family units who also resided on higher floors. Therefore, kinship did moderate the effect of building height on strain.

Parenthetically, building height might seem to be inextricably interwoven with population density. However, this is not necessarily so: redevelopment in Hong Kong produced taller buildings, yet provided not only more space per person inside the new dwelling, but also more space per person in terms of outside or neighborhood density (Yeung, 1977). Thus, building height and dwelling density should always be considered independently when investigating resident outcomes.

Population density is related to, but not isomorphic with, *crowding*, the psychological sense of overload from too many proximate others. High indoor density has been associated with many negative outcomes, including the strain of crowding (Gifford, 2002, chapter 8). A study of working-class and lower-middle class residents of high rises and low rises in the Bronx found that high-rise residents felt more crowded and reported a lower sense of control and less social support than low-rise residents (McCarthy & Saegert, 1978). This occurred even though the groups were not different in various demographic measures, except that residents of the low rises had slightly larger families but also one extra bedroom, so dwelling density probably was about equal.

Crowding may vary with floor level within high rises; in another study, those who lived on higher floors felt less crowded than those who lived on lower floors (Schiffenbauer, 1979). However, a separate study reported that crowding did not vary with floor level (Schiffenbauer, Brown, Perry, Shulak & Zanzola, 1977). In Parisian high-rises, residents reported being more crowded, so that relationships within the building were worse, the building and dwelling felt too densely populated, acoustic isolation was poor, and residents believed there were too many dwellings on each floor (Bordas-Astudillo, Moch & Hermand, 2003).

Mixed results, not only concerning crowding, but in other outcomes to be considered in this paper, may be the result of uneven outcomes in different parts or levels of high-rise buildings.

More serious mental health problems have tenuously been related to building height. In an English study, mothers who lived in flats reported more depressive symptoms than those who lived in houses (Richman, 1974). Rates of mental illness rose with floor level in an English study (Goodman, 1974). Psychological symptoms were more often present in high rises (Hannay, 1979). When residents moved out of high-rise dwellings, they reported fewer symptoms of depression (Littlewood & Tinker, 1981). In India, a study of 100 elderly male residents suggested that the residents failed to cope with the stress produced by living in high-rise buildings (Dasgupta & Bhattacharyya, 1992). Among the negative influences cited by the authors were noise, gloomy and depressing conditions, inadequate size, lack of security and lack of a friendly atmosphere.

The emotional health of 271 elderly African-Americans who lived in high rises in Nashville were compared with that of 373

elderly African-Americans who lived in low-rise neighbourhoods in the same city. The high-rise residents showed a higher incidence of depression, schizophrenia and phobias than the community residents (Husaini, Moore & Castor, 1991; Husaini, Castor, Whitten-Stovall, Moore et al., 1990). Unfortunately, the high-rise group was poorer, less educated, less likely to be married, reported more medical problems and had fewer social contacts, so conclusions are difficult to draw from this study. The same is true of other studies. Bagley (1974) and Hannay (1981) reported that residents of lower floors in high-rises had more mental symptoms or signs of neuroticism, but residents of the higher and lower floors were different in other ways, such as age and life cycle stage, which may have accounted for the differences.

A Canadian study did employ more control over possibly confounding factors, and is worthy of special attention. It investigated strain in 39 public housing projects in Calgary and Edmonton (Gillis, 1977). The housing projects encompassed eight basic design types ranging from single detached houses to 16-storey high rises, including 441 living units in all. Very commendably, twelve possible moderators were considered. Strain was not a function of building height if relations between a resident's gender and such building characteristics as floor level, indoor density, etc., were not considered. (This demonstrates the crucial importance of examining moderators). Once these factors were considered, however, statistically significant trends emerged. For example, on higher floors, men experienced less strain, whereas women experienced more strain. The women in this study were all mothers, so the difference may well result from the difficulties of parenting from on high, a problem noted in the Pruitt-Igoe studies (e.g., Yancey, 1972), or from fear of themselves or children falling (cf. Izumi, 1970), but this does limit the study's generalizability to women with children. Nevertheless, the Gillis (1977) study is among the best in the literature in terms of scientific quality.

Two other moderators of high-rise strain appear to be marital status and gender within a marriage. A variety of outcomes for 560 families who lived in (a) single-family, (b) duplex or triplex, or (c) low- or high-rise apartments were examined (Edwards, Booth & Edwards, 1982). Strain levels in the three housing types were compared, and the analyses controlled for age, education and occupational level. Residents of apartments reported more strain symptoms and more family conflict than residents of the other two housing forms. Husbands' and wives' outcomes differed: husbands had a greater incidence of psychiatric impairment in apartments than in the other housing forms, but wives did not. Both genders reported more marital discord in apartments than in other housing forms. Fathers had worse relationships with their children in apartments, including striking them more often.

However, not every study reports more strain in bigger buildings. For example, the mental health of wives in high rises in one study, although not good, was better than that of wives living in single-family dwellings (Ineichen & Hopper, 1974). In an Israeli study (Churchman & Ginsberg, 1984), crowding did not linearly increase with building height (nor was it related to density within the dwelling). More precisely, crowding was significantly less among residents of 12-storey buildings than of either 8- or 20-storey buildings.

Two important points implicit in this study's results should be noted. First, the residents as a whole were a homogenous, mutually familiar and mutually trusting group. Thus, social homogeneity and relations within a building may moderate strain. This is interesting because we are reminded that social relations may be viewed either as an outcome or as a moderator. Researchers must try to decide, based on other evidence, whether the social conditions preceded or followed a given resident's entry into a building. Second, this study's results should remind researchers not to overlook another important possibility: curvilinear relations between variables. Often the de facto assumption is that if an outcome varies with building height, that the relation will be a linear. These data (that crowding increased from 8 storeys to 12 storeys and then decreased from 12 storeys to 20 storeys) demonstrate that some outcomes are related to building height in a curvilinear, rather than a linear, manner. Ignoring that possibility in an analysis could lead to the incorrect conclusion that no relation at all exists.

Finally, building location may moderate the relation between building height and mental health (P. McCarthy, Byrne, Harrison & Keithley, 1985). Distress was (non-significantly) greater in low-rise buildings than in houses, and greater in high rises than low rises. However, when the results were examined in terms of building location in desirable versus undesirable areas of town, distress was more related to that factor than to building form. McCarthy et al. took age, gender, health and social class into consideration as possible moderators, and the results held up. Incidentally, another curvilinear relation was found in this study: distress itself was less in the under-25 and over-65 age groups than in the 25-64 age groups.

#### Suicide and Tall Buildings

Do high-rise buildings contribute to suicide? One school of thought (the substitution hypothesis) holds that individuals who wish to dispose of themselves will find a way, regardless of the possible means. The substitution hypothesis asserts that if one means of suicide is removed or absent, people simply will use another means to their end. The substitution hypothesis has been most frequently debated in the context of the gun control issue, but can also be applied to high rises; certainly some people do commit suicide by jumping from tall buildings.

A different view, the availability hypothesis, holds that tall buildings, to some extent, encourage or facilitate suicides that would not have otherwise occurred (Clarke & Lester, 1989). Greater access to lethal means is expected to increase the overall suicide rate. This hypothesis implies that tall buildings give some people the notion and a means of killing themselves that would not otherwise have occurred to them.

Suicide rates in Seattle and Vancouver were compared (Sloan *et al.*, 1990). The study focused on firearms, because guns are more closely controlled in Vancouver yet overall suicide rates are very close in the two cities, which are roughly similar in size, climate, proximity to the ocean, and other ways. Sloan *et al.* found that the rate of suicide by gun was 2.3 times greater in Seattle, but suicide by other means was greater in Vancouver. The researchers combined suicide by jumping and drowning, which is unfortunate for present purposes, but the data showed that Vancouver's rate by

these means was double that of Seattle's. The substitution hypothesis was therefore supported. When suicide methods were more specifically compared (guns versus leaping) before and after gun control legislation in Ontario and California (Rich et al., 1990), a reduction in the number of gun suicides after the legislation was offset by an increase in suicides by leaping, and once again the substitution hypothesis received support.

However, not all studies agree. Suicide rates in the five boroughs of New York City were examined (Marzuk *et al.*, 1992). The five boroughs had quite different basic rates; Manhattan's rate, for example, is about double that of Brooklyn's. However, after correcting for age, gender and method variations in suicides, the authors concluded that all five counties had about equal rates for suicide methods that were equally accessible, and the differences in rates were almost all related to differential availability of methods—including falls from heights. That is, suicides in Manhattan occur about as frequently as in the other boroughs for methods that are equally available in all boroughs (e.g., hanging), but Manhattan's tall buildings added to (rather than substituted for) its total rate. Thus, in contrast to the earlier studies, Marzuk et al. (1992) conclude that the availability hypothesis has more merit than the substitution hypothesis.

A subsequent study conducted in Singapore also supports the availability hypothesis (Lester, 1994). From 1960 to 1976, as the percentage of the population who lived in high-rises climbed from 9 to 51%, the per capita suicide rate by leaping increased from 1.43 to 5.71 per 100,000, a fourfold increase. Over the same period, suicide by all other means declined from 7.17 to 5.49 per 100,000. Thus, although the overall suicide rate increased by 30 %, the rate of suicide by leaping increased many times faster, suggesting that more tall buildings leads to more suicides by providing opportunities to leap from them. One is tempted to speculate that dissatisfaction with the high-rise form itself is a contributing factor.

#### Behavior Problems and High-Rise Housing

Are tall buildings responsible for behavior problems? Human behavior generally results from many influences, and it is difficult to unequivocally attribute it to any one source. Thus, the following studies are merely suggestive. Children who resided in high-rise (versus non-high-rise buildings) were reported to manifest twice as many behavior problems, such as bedwetting and temper tantrums (Ineichen & Hooper, 1974). Juvenile delinquency has been shown to be predicted by living in multiple-unit (as opposed to single-unit) dwellings, and predicted even better than by population density, which has often been associated with social pathology (Gillis, 1974). Yet another study in the same year found no differences in behavior problems among children who lived in high-rises, low rises, and single-family dwellings (Richman, 1974), so the results are not consistent. In this case, and perhaps for other outcomes in this review, the variation in results may be explained by differences in the physical quality of the residence, regardless of housing form. A recent study demonstrated a strong connection between the physical condition of dwellings and behavior problems among children (Gifford & Lacombe, 2006).

However, if children have access to green space, these problems may be ameliorated; that is, nature may moderate the relation between high-rise living and behavior problems. In a study of high-rises that considered the degree of "naturalness" of views, the more natural a girl's view from home, the better she performed on tasks that require self-discipline (e.g., concentration, impulse inhibition, and delay of gratification (Taylor, Kuo & Sullivan, 2002), but this was not true for boys.

In a study that matched children in terms of gender and economic well-being, children who lived in high-rises were significantly more likely to have severe behavior problems than children in other forms of housing (Richman, 1977). In another, boys (but not girls) who lived in 14- versus 3-storey buildings were rated by their teachers as having more behavioral problems, such as hyperactivity and hostility (Saegert, 1982).

#### Crime and the Fear of Crime in High -Rise Residential Environments

Progress in the 1950s meant "cleaning up" slums. Tall buildings were seen as the modern, efficient solution to poverty. The most infamous example, Pruitt-Igoe in St. Louis, was touted in this manner prior to its construction (Slum surgery, 1951). It had no "wasted" space. However, as Yancey (1972) pointed out, the lack of semi-private space "atomized" potential community feeling among the residents in the development's 2762 apartments. The lack of semi-private or defensible space was, in Yancey's view, a prime cause of crime and fear of crime in the complex. One might argue that the crime rate mainly was caused by poverty. However, when Sommer (1987) compared crime rates in two student dormitories in California full of presumably middle-class students, the highrise dormitory was the site of more crime than a nearby low-rise dormitory. The severity of crimes in the dormitories was much less than that of the crimes in Pruitt-Igoe. Nevertheless, it may be that, within any given income group, more crime (per capita) will occur in high- than comparable low-rises.

Building size, in a study of over 2500 residents of moderate- and low-income housing projects in the U.S., strongly increased fear of crime, although it had a more modest effect on personal crime itself (Newman & Franck, 1982). Moderators such as income, the provision of semi-private space, location, and other design details may have reduced the magnitude of the relations between building size and crime, but they also might have revealed groups for whom the relation was even stronger.

Newman's (1975) data show that the number of felony crimes rose with the height of the building in which the family lived for both poor and single-parent families and for moderate-income and two-parent families, although the rate of felonies in the former was about double that of felonies in the latter. Crimes, according to Newman, occur at about the same rate in low- and high-rises inside the apartments, are somewhat more frequent on the outside grounds of high rises and are much greater in the interior public spaces of high rises. A plausible conclusion is that the increased anonymity that naturally accompanies the larger number of people in tall buildings is a key ingredient of the problem, coupled with the existence of interior public spaces that can hide criminal activities from the surveillance of most potential observers.

Among the poor, crime seems to be more associated with high rises than with low rises. Dubrow and Garbarino (1989) interviewed

poor Chicago mothers who lived either in high rises or low rises. The level of crime and fear of crime the mothers reported in the high rises was severe; the authors convincingly drew a parallel with wartime conditions. For example, 100 % of the 5-year old children in the study had "direct contact" (p. 11) with shooting. Gangs, robbery and violence were part of everyday life. In the low rises, far fewer crime fears were expressed. One is reminded of Yancey's (1972) conclusion that the architecture of high rises "atomizes" poor communities, which in turn allows or encourages criminality and violence. Of course, poor community families may have been "atomized" before they entered the high rise, or high rises may merely fertilize the seeds of atomization that lay dormant until residents moved into a high rise.

One may be surprised, then, to hear otherwise. In a study of 900 elderly residents of 42 public housing sites in 15 U.S. cities, residents of taller buildings reported less fear of crime than residents of row houses and walk-ups (Normoyle & Foley, 1988). The actual crime rate also was lower in sites dominated by high rises. The authors suggest, however, that the lower crime rate did not cause the lower fear of crime, citing other work (e.g., Newman & Franck, 1982) that showed, somewhat counterintuitively, little relation between crime rates and fear of crime. Fear of crime was lower even when residents assessed the local crime problem as more serious, and was unrelated to their own history of being crime victims, two potential moderators. The suggestion, then, is that the high-rise housing form itself is associated with reduced fear of crime, at least among the elderly (see also Devlin, 1980).

#### Housing Form and Prosocial Behavior

Prosocial behavior includes actions that help others. Does housing form affect prosocial behavior? Several studies have compared the helpfulness of residents in high- and low-rise buildings. Students who lived in low rises said they were more willing to offer help and to seek help than those who lived in high rises (Nadler, Bar-Tal & Drukman, 1982). Sense of community was investigated in low-rise and high-rise dormitories for university students in the U.S. Midwest (Bynum & Purri, 1984). The low rises were 3- and 4- storeys and the high rises were 6-10 storeys. Presumably students were essentially randomly assigned to buildings, so the study had that advantage. No differences were found for the reported rates of residents being willing to help one another or "going their own way." Students in the high-rise dormitories reported knowing fewer others of whom they felt they could ask a favour. Although this difference was statistically significant, it was not large in magnitude (54 % versus 47 % believed they could ask "most" other residents for a favour).

Other studies have examined prosocial behavior in a more concrete manner, by measuring behavior, as opposed to asking opinions. For example, stamped, addressed letters without a return address were placed on hallway floors in college dormitories that were 22-25 storeys, 4-7 storeys, or 2-4 storeys (Bickman et al., 1973). The number of letters mailed was the measure of prosocial behavior. Letters were mailed in inverse proportion to building height in both studies, a significant difference in favour of low-rise buildings.

Using a different measure of prosocial behavior, donations of milk cartons for an art project were sought. Again, the fewest donations per capita were received in the high rises. Interviews of residents performed also indicated that the high-rise building was perceived as having the least amount of resident cooperation. The latter was also reported in a different college dormitory study (Wilcox & Holahan, 1976), one that added that perceived social support and involvement declined with height within buildings. Social support also was lower among elderly African-Americans in a high rise than among elderly African-Americans in nearby low-rises (Husaini et al., 1990), although the two groups were dissimilar in other ways, too, which may have had an influence.

#### High-Rise Housing and Social Relations

Does high-rise housing influence social interaction? Social relations may be divided into two main domains, relationships within a dwelling and relationships among neighbours in the building. One review concluded that high-rise residents have poor social relationships, both among themselves and toward outsiders (Korte & Huismans, 1983). In one within-dwelling study in a building in which residences were equal in floor area and supplied furniture, roommates on higher floors got along with one another better than roommates on lower floors (Schiffenbauer, 1979). However, as reported earlier, Edwards, Booth, and Edwards (1982) concluded that high rises are associated with greater marital discord than low rises.

What about relations among neighbours within the building? Many years ago, Festinger, Schachter and Back (1950) demonstrated that housing form influences friendship patterns among residents. However, theirs was not a study of high rises. An examination of friendship patterns within a high rise showed that proximity is a major determinant of social interaction (Bochner, Duncan, Kennedy & Orr, 1976). Experience suggests that most social interaction occurs among residents of the same floor; if this is so, then buildings with many floors will include a few friends and acquaintances for the typical resident, and many strangers from other floors. In an Israeli study of women who lived in 8- and 20-storey buildings, 97 % knew at least someone on their own floor, and 67 % knew everyone on their floor; in contrast, 36 % knew over 30 % of all people living in their building (Ginsberg & Churchman, 1985). Most women did interact with neighbours, yet reported no problems with privacy (how men fared in the buildings is unknown). Interview of university dormitory residents found that the residents' small living units believed that they facilitated more social interaction than large, high-rise dormitories (Sinnett, Sachson & Eddy, 1972).

In contrast, a large-scale study in Toronto found that high-rise apartment dwellers tended to choose friends outside the building, from school or work (Michelson, 1977). These residents viewed their neighbours negatively and as dissimilar to themselves, except that they were approximate financial equals. In Hong Kong, a high-rise, high-density city, interview results suggest that the overall sense of residential community is low and that where respondents had a very strong sense of neighborhood, their interactions were often work- or school-based, with colleagues or schoolmates living in the same area (Forrest, La Grange & Ngai-Ming, 2002).

Architectural Science Review Volume 50, Number 1, March 2007

Studies that compare housing forms suggest that high-rise dwellers may have more residential acquaintances than low-rise dwellers. For example, German and Italian high-rise respondents reported knowing about twice as many families as those in low rises (Williamson, 1978). However, knowing more neighbours did not translate to close relations; the German (but not Italian) high-rise residents reported less visiting and borrowing among their neighbours, and that their closest friends were more likely to be colleagues at work than neighbours. Both the German and Italian respondents said that they would like to have more friends among their neighbours, and that they believed they would have more friends if they lived in a smaller building.

10

Outdoor socializing was examined in a study of three housing types in a low-income neighborhood: an old ghetto neighborhood of low-rise tenement houses, a traditional high-rise housing project and an innovative high-rise housing project, where a creative outdoor design had been added to encourage outdoor use (Holahan, 1976). The old neighborhood and the innovative project showed higher levels of outdoor socializing than did the traditional project, which suggests that high-rises will discourage social interaction in their vicinity but that this can be overcome by setting aside an area designed to encourage social interaction. Nature also seems to facilitate social interaction. Researchers observed the presence and location of trees and the presence and location of youth and adults near a high-rise and a low-rise public housing development (Coley, Kuo & Sullivan, 1997). Spaces with trees attracted larger and more mixed groups of people than did spaces without natural elements.

High-rise residents may have more acquaintances but fewer friends because residents of high rises simply encounter a larger number of people in their building than residents of low rises (Churchman & Ginsberg, 1984). More of these people are strangers, too, but one gets to know some of the strangers, over time, at least superficially. In a study conducted in Israel, women who lived in higher floors knew more of their neighbours, but women who lived on lower floors had closer relations with their neighbours. Consistent with the notion that lower levels are associated with more friendships, garden apartment residents reported having three times as many friends in the building as did high-rise residents (Boyd, Morris & Peel, 1965). Similar results were reported in another study: three-quarters of low-rise residents reported they had made good friendships within their project, but only half of the residents of a high rise could make the same claim (Stevenson, Martin & O'Neil, 1967). Saegert's (1979) study of public housing projects found poorer social relations in high-, as compared to low-rise buildings. Zalot and Adams-Webber's (1977) results repeated this trend, and added that, probably as a consequence of less-frequent interaction, high-rise dwellers tended to have less cognitively complex impressions of their neighbours. In a study that investigated the sense of community in high-rise and garden apartments in public housing for the elderly, the residents of garden apartments had a significantly greater overall sense of community, and expressed a greater sense of membership (Zaff & Devlin, 1988).

On the other hand, Franck (1983) found no differences in the frequency of making acquaintances and friends in her comparison

of high rises with row housing and walk-ups. One-third of highrise residents in public housing estates in Hong Kong had never socialized with their next-door or nearest neighbours, suggesting a low rate of community interaction, but the rate was no different in low-rise neighbourhoods (Chang, 1975).

Of course, friendship formation depends on multiple factors, which probably explains some of these inconsistencies. For example, a study of college dormitory residents found no overall effect of high- versus low-rise building on friendship formation, but did discover that women made many more friends in low-rises than did men; in the high-rises there was no gender difference in friendship formation (Holahan & Wilcox, 1979). However, differences between the low- and high-rises in the friendship-related attitudes were found. High-rises were experienced as lower in involvement, support, order and organization, and student involvement, but higher on independence, suggesting that less social interaction and involvement is found among students in the high-rise dormitories.

#### Children in High Rises

Numerous studies suggest that children have problems in highrises; none suggest benefits for them. Early reviews are clear. One states flatly that "for...families with small children, the evidence demonstrates that high-rise living is an unsuitable form of accommodation" (Conway & Adams, 1977, p. 595.) Another concludes that "high-rise housing does not provide an appropriate living environment for preschool or school-age children because too few of the attributes of a single-family house have been accounted for..." (Cooper Marcus & Hogue, 1976, p. 34), although the authors did soften that by concluding that high-rise housing has both positive and negative features for teenagers. This has not changed much with time. Two of the more recent Israeli studies found that raising children in high-rises, especially on the higher floors, is problematic (Broyer, 2002; Landau, 1999). Children under 8 were not allowed to go downstairs by themselves, but after they were allowed to go down, parents found it difficult to supervise their play.

The problems range from fundamental child development issues to everyday activities such as play. For example, a Japanese investigation (Oda, Taniguchi, Wen & Higurashi, 1989) concluded that the development of infants raised above the fifth floor in high-rise buildings is delayed, compared to those raised below the fifth floor. The development of numerous skills, such as dressing, helping and appropriate urination was slower. Children who live on higher floors also go outside to play less often (Nitta, 1980, in Oda et al., 1989). A study in India recognized that children's difficulties are not solely a function of living in high rises (Oke, Khattar, Pant & Saraswathi, 1999). As the authors put it, "The ecological constraints of crowding, the high-rise buildings, unsafe streets, scarce open spaces, the preoccupation with the "idiot-box," all seem to conspire against the urban child's natural propensity to play with joyous spontaneity" (p. 207).

Learning to read may be affected by the floor level on which children live (Cohen, Glass & Singer, 1973). The researchers measured sound levels, ability to discriminate auditory stimuli, and reading skills in children who lived in high rises built above a major highway in New York. Children in lower-level apartments,

which had higher sound levels from traffic, were less able to discriminate sounds and had poorer reading skills, than children who lived in higher floors. Apparently, where traffic noise is a considerable factor, high rises may be good for children who live higher up in high rises.

Children's play clearly is affected, as parents in high rises either keep their children indoors more often, which means close protection or over-protection in an indoor environment, or allow them outside, many floors away, which can result in under-supervision. One outcome is that children in high rises, on balance, spend more time playing alone and in restricted play (Gittus, 1976). Perhaps this is why there is evidence that high-rise raised children have lower levels of motor ability than children reared in single-family dwellings (Crawford & Virgin, 1971; cited in Michelson, 1977). Another outcome is that younger children, up to 20 minutes away from the home bathroom, have been reported to have many "bathroom accidents" in elevators and hallways of high rises (W. Moore, 1969).

#### **Conclusions**

The following conclusions must be tentative because the evidence still is imperfect and incomplete, but some trends in the findings certainly are more consistent than others.

#### The State of Research Itself

The original, simple question this paper set out to answer was whether high-rise dwellings are better or worse than low-rise dwellings for residents, apart from other factors. As noted earlier, research into this question has suffered from the difficulties of fulfilling many of the requirements of the scientific method. In part, this is understandable; for example, random assignment to housing form is often impossible, and experimenter control of independent variables can also be very difficult. Still, there are a number of issues, some correctable, with the research that has been conducted so far.

First, despite earlier admonitions, one might question whether random assignment truly is the best approach to research design in this area. When residents are assigned randomly to high rises and low rises (or single-family dwellings), they do not have control over the type of dwelling they will live in. This causes two problems. First, it differs from the usual case in everyday life when people are able to select from a range of housing. Such groups usually are in the military, university dormitories, or on social assistance. Thus, immediately, there is danger that conclusions drawn from such a study may not generalize to most residential situations in which housing form was not imposed from outside. The quality of housing one selects naturally is restricted to budgetary constraints, and that is to be expected and usually is accepted. However, housing of various forms may be found within most budgets, from fairly poor to quite rich.

Second, when residents select housing, they usually can at least feel a sense of control over housing type. To lose that control in a context where the resident is compelled to live in a housing form chosen by lot, by bureaucrats, or by researchers, must create a sense of loss in some residents, particularly if (a) they wanted another form of housing and (b) were aware they *might* have been assigned another form of housing. Whether this is felt equally by those assigned to high rises or other housing forms is not known, but it seems safe to speculate that this sense of loss defeats part of the purpose of random assignment. Thus, random assignment may be scientifically pure, but may cause unwanted side effects that have their own influence on resident satisfaction and behavior. Where this is the case, researchers may prefer to let residents choose their housing form, and to deal with demographic or other differences in the makeup of the populations in each housing type by partial correlation or another statistical procedure for controlling variables that are not part of the researchers' hypotheses.

A third important problem is the relative scarcity of research that focuses on residential high rises in the last 15 or so years. One is forced to rely for the most part on fairly old studies. Both the best and the worst studies are older; there seems to be no trend toward markedly improved research methods among the relatively few recent studies that can be found. It goes without saying that progress cannot be made toward understanding the effects of living in tall buildings unless research is undertaken.

Fourth, so far there have been no meta-analyses of research in this area. Meta-analysis is a way of quantitatively combining the results of numerous completed studies (Rosenthal, 1991) that has become a popular and useful tool and has recently entered the environment and behavior literature (e.g., Gifford, Hine & Veitch, 1997). Of course, as long as the complaint above holds, meta-analyses are useless.

Fifth, researchers (as in many other areas) appear to have paid little attention to the possibility of significant curvilinear relations between variables. Building height is linear, but the psychological and behavioral effects of that most linear variable may not themselves be linear. For example, residents of the highest floors may feel somehow superior, or have the best views; they often pay the most for their residence. Those at ground level may value the easy access to streets. Those in the middle may feel they have neither advantage, but are merely squeezed between two more advantaged groups. Perhaps an analysis of unit prices by floor, done across numerous buildings, would confirm or disconfirm these speculations.

Sixth, although some researchers have conducted model studies in which moderator variables have been considered, many still have not. As some studies surveyed in this paper demonstrate, examination of potential moderating variables may reveal a relation that had been hidden in analyses that failed to include moderator variables. Some researchers have oversimplified distinctions, such as ignoring floor level by merely comparing residents on the ground level versus all those above ground level (Homel & Burns, 1989).

Finally, little effort has been made to construct causal models of outcomes in high rises. One presumes that outcomes are multi-determined and that variables influence one another in causal chains. In this literature, no study even examined a three-variable (A-B-C) chain of hypothesized causality, with factor B mediating an A-C relation (cf. Evans & Lepore, 1997). Without research that is aimed at constructing and refining models, the literature must

Architectural Science Review Volume 50, Number 1, March 2007

remain a shapeless morass of almost random bivariate relations. Few authors have tried to construct theories or models in this area, although a few models of housing in general have been proposed (e.g., Rohe, 1985-86). Without theories, models, moderators or even many studies, meta-analyses are impossible, progress is impossible, and therefore understanding is impossible. Nevertheless, this review has attempted to round up what is known, and its tentative conclusions follow.

#### Experiencing the Dwelling

Very few studies have examined high-rise residents' experience of their dwellings. Some evidence suggests higher interiors seem larger, but perhaps this is only true for women. However, many other questions might be asked about how residents experience high-rise dwelling interiors. Do they fear fires, earthquakes or falling? Do people on lower floors experience the many floors above them as a sort of crushing burden? Do those on top feel, psychologically, as if they are "on top of the heap" or "on top of the world"? What sort of imagery, symbolism or meaning do high rises hold for residents and citizens who experience high rises as part of their daily street life?

#### Satisfaction

Satisfaction or the lack of it is only one outcome of living in a tall building, but it is a crucial one, and it depends on many factors. The evidence as a whole leans to the general conclusion that high rises are less satisfactory than other forms of housing. In particular, it suggests that residents will be happier in a high rise if they are not parents of small children, do not plan to stay long and are socially competent. Of course, the resident's lifestyle should match that provided by a high rise; avid gardeners will not be happy in a high rise unless perhaps they can fashion a rooftop or balcony garden. Money helps: it provides the means to choose, to live in a better quality building in a better-quality neighborhood, and monied folk have greater opportunity to have a second home (perhaps a cottage in the woods) and to escape the high rise for holidays. Although some evidence suggests that socially oriented seniors and young singles prefer high rises to low rises, the generally sociofugal nature of high rises may mean that other categories of residents will be happier in a high rise if they are relatively asocial.

#### Strain, Distress and Mental Health

Strain certainly may result from dissatisfaction, the mismatch between needs and preferences and one's high-rise domicile. Apart from those causes, the evidence suggests that strain often results from high building or dwelling density, which can (but does not always) lead to crowding, and that these effects may vary for men and women. Men may experience more difficulties in high rises than women, but may be better off if they happen to live in the upper reaches of the building. Crowding may be less (even in the same-size unit) in the upper floors, perhaps because views are more expansive. However, if towers are clustered, this advantage may be lost.

#### Suicide

Suicide may be greater in high rises than in low rises; the issue is whether tall building leapers would have used some other method if they did not happen to have a high window available. That is, do

high rises cause an overall *increase* in suicides? The evidence is not univocal, but suggests on balance that high rises are associated with higher suicide rates, and may be the cause of some suicides.

#### Behavior Problems

Every study surveyed indicated that children who live in high rises exhibit more behavioral problems than children who do not. This includes studies that tried to control for some obvious potential alternative explanations, such as socioeconomic status. One presumes that this results from an odd combination of activity restriction within the residence and too little supervision of activity outside it.

#### Crime and Fear of Crime

Fear of crime often outstrips actual crime rates. A prime reason for some to seek high-rise living is fear of crime on the street. However, if the building provides no adequate gate-keeping device or person, it becomes a greater liability than would a low-rise or single-family dwelling. This is because an unguarded high rise has poor defensible space properties: ease of strangers roaming, low visibility, more hiding places. Thus, fear of crime in high rises, which the evidence suggests varies, may heavily depend on whether and how well building entry is controlled.

Actual crime appears to be associated more with high rises than low rises, based on the studies reviewed. Poverty would appear to be a major moderator of this finding, but at least one study found more crime, albeit petty crime, in a site where high-and low-rise residents were of equal socioeconomic status.

#### Pro-Social Behavior

Research is unanimous in find that rates of helping others are lower in high-rise buildings. The sociofugal nature of most high rises supports anonymity and depersonalization of one's neighbours, so that living in a high rise tends to have both the advantages (such as greater privacy and freedom from unwanted social interaction) and disadvantages (less intimate social interaction and less caring about anonymous others) as large cities.

#### Social Relations

The gist of the evidence about social relations is that residents of high rises encounter many more other residents, know of or about more others, but have fewer friendships in the building, per capita, than residents of low rises. Social interaction is more difficult for residents to regulate. This can lead to withdrawal, which can lead to loss of community and social support.

The structure of high rises usually (but not always; see Wilner *et al.*, 1962; Ginsberg & Churchman, 1985) is such that one is not likely to meet residents of other floors except in elevators and lobbies, which are barely more personal than the street. Thus, one lives physically close to many others, but in practice is limited to those on one's floor for the sort of encounters that might lead to friendship, such as borrowing food or talking while children play. Male-female differences may moderate friendship formation in high versus low rises.

#### Children in High Rises

No evidence we could find shows that high rises are good for children. The literature includes several studies that suggest high percentages of dissatisfaction among parents about the suitability of high rises for their children. Every study of behavioral problems finds more among children in high rises. There is some evidence that children in lower floors of high rises, where traffic noise is prominent, learn more slowly. Children in high rises may develop certain practical skills more slowly, according to Japanese studies. Long ago, Jephcott (1971) said, "Practically no one disputes that this form of home [the high rise] is unsatisfactory for the family with small children" (p. 130). Some have suggested that this need not be the case (e.g., van Vliet, 1983) but, more than 35 years later, no available evidence contradicts her conclusion.

#### **General Conclusions**

The consequences of living in high-rise buildings are many. A few may be caused by the building form itself, but many are moderated by non-architectural factors. Chief among these moderating factors are socioeconomic status, building location, parenting young children or not, gender, and stage of life. Although they have not been studied empirically in high-rises, whether one has a choice about housing form and indoor population density probably are also important.

Irrefutable conclusions about the consequences of living in high rises cannot be drawn, because true experiments are virtually impossible in housing research and because outcomes are determined by multiple factors. Nevertheless, progress nevertheless can be made through careful studies that use good research methods, and by aggregating studies either qualitatively, as in this review, or quantitatively through meta-analyses, and by more and better theory construction and testing. Unfortunately, research on this topic appears to have slowed considerably.

Given these caveats, the best conclusions that one may hazard are the following. Many, but by no means all, residents are more satisfied by low-rise than by high-rise housing. High rises are more satisfactory for residents when they are more expensive, located in better neighbourhoods, and residents chose to live in them. Children are better off in low-rise housing; high rises either restrict their outdoor activity or leave them relatively unsupervised outdoors, which may be why children who live in high rises have, on average, more behavior problems. Residents of high-rises probably have fewer friendships in the buildings, and certainly help each other less. Crime and fear of crime probably are greater in high-rise buildings. A small proportion of suicides may be attributable to living in high rises.

These are tentative conclusions that require more and better research on almost every issue raised in this paper. Given the global growth in the number of tall residential buildings, the issue's importance speaks for itself.

#### Acknowledgements

I wish to thank Gary Evans and Arza Churchman for their valuable comments on an earlier draft, to D'Arcy Reynolds for his bibliographic assistance, and to Gary Moore for inviting this paper.

#### References

- Angrist, S. S. (1974). Dimensions of well-being in public housing families. *Environment and Behavior*, 6, 495-516.
- Bagley, C. (1974). The built environment as an influence on personality and social behavior: A spatial study. In D. Canter & T. Lee (Eds.), *Psychology and the built environment* (pp. 156-162). London: Wiley.
- Bickman, L., Teger, A., Gabriele, T., McLaughlin, C., Berger, M., & Sunaday, E. (1973). Dormitory density and helping behavior. *Environment and Behavior*, *5*, 465-490.
- Bochner, S., Duncan, R., Kennedy, E., & Orr, F. (1976). Acquaintance links between residents of a high rise building: An application of the "small world" method. *Journal of Social Psychology, 100*, 277-284.
- Bordas-Astudillo, F., Moch, A., & Hermand, D. (2003). The predictors of the feeling of crowding and crampedness in large residential buildings. In Moser, G., Pol, E., Bernard, Y., Bonnes, M., & Corraliza, J. A., et al. (Eds.), *People, places, and sustainability* (pp. 220-228). Ashland, OH: Hogrefe & Huber.
- Boyd, D., Morris, D., & Peel, T. S. (1965). Selected social characteristics and multifamily living environment: A pilot study. *Milieu*, 1(5), 42-48.
- Brantingham, P. J., & Brantingham, P. L. (1975). The spatial patterning of burglary. *Howard Journal of Penology and Crime Prevention*, 14, 11-24.
- Brill, W. H. (1972, May 1-3). Security in public housing: A synergistic approach. Paper presented at the 4<sup>th</sup> National Symposium on Law Enforcement, Science, and Technology, University of Maryland.
- Broyer, G. (2002). *The appropriateness of buildings over 20 storeys high for middle-class residents*. Research thesis, Technion, the Israeli Institute of Technology.
- Bynum, T. S., & Purri, D. M. (1984). Crime and architectural style: An examination of the environmental design hypothesis. *Criminal Justice and Behavior*, 11, 179-196.
- Campelman, G. (1951). Some sociological aspects of mixed-class neighborhood planning. *Sociological Review*, 43, 191-200.
- Canada Mortgage and Housing Commission (1979). *Public priorities in urban Canada: A survey of community concerns.* Ottawa: CMHC
- Cappon, D. (1972). Mental health in the hi-rise. Ekistics, 33, 192-196.
- Chang, C-T. (1975). A sociological study of neighborhoods. In S. H. K. Yeh (Ed.), *Public housing in Singapore: A multi-disciplinary study*. Singapore: Singapore University Press. (pp. 281-301).
- Chapin, F. S. (1938). The effects of slum clearance and rehousing on family and community relationships in Minneapolis. *American Journal of Sociology, 43*, 744-763.
- Chapin, F. S. (1951). Some housing factors related to mental hygiene. *Journal of Social Issues*, 8(1, 2).
- Chein, I. (1954). The environment as a determinant of behavior. *Journal of Social Psychology, 39*, 115-127.
- Churchman, A. (1999). Disentangling the concept of density. *Journal of Planning Literature*, 13, 389-411.
- Churchman, A., & Ginsberg, Y. (1984). The image and experience of high rise housing in Israel. *Journal of Environmental Psychology, 4*, 27-41.
- Clarke, R. V., & Lester, D. (1989). *Suicide: Closing the exits*. New York: Springer-Verlag.
- Cohen, S., Glass, D. C., & Singer, J. E. (1973). Apartment noise, auditory discrimination, and reading ability in children. *Journal of Experimental Social Psychology*, 9, 407-422.

Coley, R. L., Kuo, F. E., & Sullivan, W. C. (1997). Where does community grow? The social context created by nature in urban public housing. *Environment and Behavior*, 29, 468-494.

- Conway, J., & Adams, B. (1977). The social effects of living off the ground. *Habitat International*, 2, 595-614.
- Cooper Marcus, C., & Hogue, L. (1976). Design guidelines for high-rise housing. *Journal of Architectural Research*, *5*, 34-49.
- Dasgupta, S. K., Bhattacharyya, S., & Asaduzzaman, M. (1992). The impact of tall buildings on elderly residents. *Bangladesh Journal of Psychology*, 13, 7-15.
- Devlin, A. (1980). Housing for the elderly: Cognitive considerations. *Environment and Behavior, 12*, 451-466.
- Dubrow, N. F., & Garbarino, J. (1989). Living in the war zone: Mothers and young children in a public housing development. *Child Welfare*, 68(1), 3-20.
- Duffy, M., & Willson, V. L. (1984). The role of design factors of the residential environment in the physical and mental health of the elderly. *Journal of Housing for the Elderly, 2*(3), 37-45.
- Edwards, J. N., Booth, A., & Edwards, P. K. (1982). Housing type, stress, and family relations. *Social Forces*, 61, 241-267.
- Evans, G. W., & Lepore, S. J. (1997). Moderating and mediating processes in environment-behavior research. In G. T. Moore & R. W. Marans (Eds.), *Advances in environment, behavior, and design* (vol. 4, pp. 255-285). New York: Plenum, now Dordrecht: Springer.
- Evans, G. W., Wells, N. M., & Moch, A. (1998). *Housing and mental health*. Bronfenbrenner Life Course Center Working Paper 98-11, Cornell University.
- Fanning, D. M. (1967). Families in flats. *British Medical Journal*, 18, 382-386.
- Festinger, L. (1957). A theory of cognitive dissonance. Evanston, IL: Row, Peterson.
- Festinger, L., Schachter, S. M., & Back, K. (1950). *Social pressures in informal groups*. Palo Alto, CA: Stanford University Press.
- Forrest, R., La Grange, A., & Ngai-Ming, Y. (2002). Neighbourhood in a high rise, high density city: Some observations on contemporary Hong Kong. *Sociological Review*, *50*, 215-240.
- Franck, K. (1983). Community by design. Sociological Inquiry, 53, 289-311.
- Gifford, R. (1999). *The adjustment of the elderly to congregate care housing*. Ottawa: Canada Mortgage and Housing Corporation.
- Gifford, R. (2002). *Environmental psychology: Principles and practice*. Colville, WA: Optimal Books.
- Gifford, R., Hine, D. W., & Veitch, J. A. (1997). Meta-analysis for environment-behavior research, illuminated with a study of lighting level effects on office task performance. In G. T. Moore & R. W. Marans (Eds.), *Advances in environment, behavior, and design* (vol. 4, pp. 223-253).
- Gifford, R, & Lacombe, C. (2006). Housing quality and children's socioemotional health. *Journal of Housing and the Built Environment*, 21, 177-189.
- Gillis, A. R. (1974). Population density and social pathology: The case of building type, social allowance, and juvenile delinquency. *Disease and Pathology*, 53, 306-314.
- Gillis, A. R. (1977). High-rise housing and psychological strain. *Journal of Health and Social Behavior, 18*, 418-431.
- Ginsberg, Y., & Churchman, A. (1984). Housing satisfaction and intention to move: Their explanatory variables. Socio-economic Planning Sciences, 18, 425-431.
- Ginsberg, Y., & Churchman, A. (1985). The pattern and meaning of

neighbor relations in high-rise housing in Israel. *Human Ecology*, 13, 467-484.

Volume 50, Number 1, March 2007

- Gittus, E. (1976). *Flats, families, and the under-fives*. London: Routledge & Kegan Paul.
- Goodman, M. (1974). The enclosed environment. *Royal Society Health Journal*, 4, 165-175.
- Greenberg, M., (1997). High-rise public housing, optimism, and personal and environmental health behaviors. *American Journal of Health Behavior*, 21, 388-398.
- Hannay, D. R. (1979). *The symptom iceberg: A study of community health*. London: Routledge & Kegan Paul.
- Hannay, D. R. (1981). Mental health and high flats. *Journal of Chronic Diseases*, 34, 431-432.
- Heath, T., Smith, S. G., & Lim, B. (2000). Tall buildings and the urban skyline: The effect of visual complexity on preferences. *Environment and Behavior*, 32, 541-556.
- Holahan, C. J. (1976). Environmental effects on outdoor social behavior in a low-income urban neighborhood: A naturalistic investigation. *Journal of Applied Social Psychology*, 6, 48-63.
- Holahan, C. J., & Wilcox, B. L. (1979). Environmental satisfaction in high-rise and low-rise residential settings: A Lewinian perspective. In J. R. Aiello & A. Baum (Eds.), *Residential crowding and design* (pp. 127-140). New York: Plenum.
- Homel, R., & Burns, A. (1989). Environmental quality and the well-being of children. *Social Indicators Research*, *21*, 133-158.
- Husaini, B. A., Castor, R. S., Whitten-Stovall, R., Moore, S. T. et al. (1990). An evaluation of a therapeutic health program for the elderly. *Journal of Health and Social Policy*, 2, 67-85.
- Husaini, B. A., Moore, S. T., & Castor, R. S. (1991). Social and psychological well-being of Black elderly living in high-rises for the elderly. *Journal of Gerontological Social Work, 16*, 57-78.
- Ineichen, B. (1979). High rise living and mental stress. *Biology and Human Affairs*, 44, 81-85.
- Ineichen, B., & Hooper, D. (1974). Wives' mental health and children's behavior problems in contrasting residential areas. *Social Science and Medicine*, *8*, 369-374.
- Isaacs, R. R. (1948). The neighborhood theory: An analysis of its adequacy. *Journal of the American Institute of Planners, 14*, 15-32.
- Izumi, K. (1970). Psychosocial phenomena and building design. In H. M. Proshansky & L. Rivlin (Eds.), Environmental psychology. New York: Holt, Rinehart, and Winston.
- Jacobs, J. (1961). *The death and life of great American cities*. New York: Random House.
- Jephcott, P. (1971). Homes in high flats: Some of the human problems involved in multi-storey housing. Edinburgh: Oliver and Boyd.
- Kennedy, R. (1950). Sociopsychological problems of housing design. In Festinger, L., Schachter, S. M., & Back, K. (Eds.). Social pressures in informal groups (pp. 202-220). Palo Alto, CA: Stanford University Press.
- Kim, W. (1997). Effects of dwelling floor level on factors related to residential satisfaction and home environment in high-rise apartment buildings. Unpublished doctoral dissertation, Texas A&M University.
- Korte, C., & Huismans, S. (1983). Sources of assistance among residents of a Dutch high-rise development. *American Journal of Community Psychology*, 11, 751-755.
- Landau, G. (1999). *Living patterns in high-rise buildings in Israel*. Unpublished research thesis, Technion, Israeli Institute of Technology.
- Laurens, H. (1954). Urbanisme et architecture. Paris. Quoted in J. Tyrwhitt, High rise apartments and urban form. Athens Center of Ekistics, 1968, p. 1.

- Lawton, M. P., Nahemow, L., & Teaff, J. (1975). Environmental characteristics and the well-being of elderly tenants in federally assisted housing. *Journal of Gerontology*, 29, 601-607.
- Lester, D. (1994). Suicide by jumping in Singapore as a function of highrise apartment availability. *Perceptual and Motor Skills*, 79, 74.
- Littlewood, J., & Tinker, A. (1981). Families in flats. London: HMSO.
- Luedtke and Associates (1970). *Crime and the physical city*. Detroit: Unpublished report.
- Mackintosh, E. (1982). *High in the city*. EDRA: Environmental Design Research Association, No. 13, 424-434.
- Mandel, D. R., Baron, R. M., & Fisher, J. D. (1980). Room utilization and dimensions of density: Effects of height and view. *Environment and Behavior*, 12, 308-319.
- Marzuk, P. M., Leon, A. C., Tardiff, K., Morgan, E. B., Stajic, M., & Mann, J. J. M. (1992). The effect of access to lethal methods of injury on suicide rates. *Archives of General Psychiatry*, 49, 451-458.
- McCarthy, D., & Saegert, S. (1978). Residential density, social overload, and social withdrawal. *Human Ecology, 6*, 253-272.
- McCarthy, P., Byrne, D., Harrison, S., & Keithley, J. (1985). Housing type, housing location, and mental health. *Social Psychiatry*, 20, 125-130.
- McClenahan, G. A. (1945). The communality: The urban substitute for the traditional community. *Sociology and Social Research*, 30, 264-274.
- Michelson, W. (1970). *Man and his urban environment.* Reading, MA: Addison Wesley.
- Michelson, W. (1977). Environmental choice, human behavior, and residential satisfaction. New York: Oxford.
- Mitchell, R. E. (1971). Some social implications of high density housing. *American Sociological Review, 36*, 18-29.
- Molumby, T. (1976). Patterns of crime in a university housing project. *American Behavioral Scientist*, 20, 247-20.
- Moore, G.T. (1984). New directions for environment-behavior research in architecture. In J.C. Snyder (Ed.), *Architectural Research* (pp 95-112). New York: Van Nostrand Reinhold, 1984.
- Moore, G. T. (1987). Environment and behavior research in North America: History, developments and unresolved issues. In D. Stokols & I. Altman (Eds.), *Handbook of Environmental Psychology*, Vol. 2 (pp. 1359-1410). New York: Wiley, 1987.
- Moore, N. C. (1974). Psychiatric illness and living in flats. *British Journal of Psychiatry*, 125, 500-507.
- Moore, N. C. (1975). Social aspects of flat dwelling. *Public Health London*, 89, 109-115.
- Moore, N. C. (1976). The personality and mental health of flat dwellers. *British Journal of Psychiatry, 128*, 256-261.
- Moore, W. (1969).\_The vertical ghetto. New York: Random House.
- Murphy, G., & Kovacs, J. K. (1972). *Historical introduction to modern psychology* (3rd ed.). New York: Harcourt, Brace, Jovanovich. (see p. 9).
- Nadler, A., Bar-Tal, D., & Drukman, O. (1982). Density does not help: Help-giving, help-seeking and help-reciprocating of residents of high and low student dormitories. *Population and Environment*, 5, 26-42.
- Nahemow, L., Lawton, M. P., & Howell, S. C. (1977). Elderly people in tall buildings: A nationwide study. In D. J. Conway (Ed.), *Human response to tall buildings* (pp. 175-181). Stroudsburg, PA: Dowden, Hutchison, & Ross.
- Newman, O. (1975). Reactions to the "defensible space" study and

- some further findings. *International Journal of Mental Health*, 4(3), 48-70.
- Newman, O., & Franck, K. A. (1982). The effects of building size on personal crime and fear of crime. *Population and Environment: Behavioral and Social Issues*, 5, 203-220.
- Normoyle, J. B., & Foley, J. M. (1988). The defensible space model of fear and elderly public housing residents. *Environment and Behavior*, 20, 50-74.
- Oda, M., Taniguchi, K., Wen, M.-L., & Higurashi, M. (1989). Effects of high-rise living on physical and mental development of children. *Journal of Human Ergology, 18*, 231-235.
- Oke, M., Khattar, A., Pant, P., & Saraswathi, T. S.(1999). A profile of children's play in urban India. *Childhood: A Global Journal of Child Research*, 6, 207-219.
- Osmond, H. (1957). Function as the basis of psychiatric ward design. *Mental Hospitals*, 8, 23-30.
- Park, R. (1925). The city. Chicago: University of Chicago Press.
- Reppetto, T. (1974). Residential crime. Cambridge, MA: Ballinger.
- Rich, C. L., Young, J. G., Fowler, R. C., Wagner, J., and Black, N. A. (1990). Guns and suicide: Possible effects of some specific legislation. *American Journal of Psychiatry*, 147, 342-346.
- Richman, N. (1974). The effects of housing on pre-school children and their mothers. *Developmental Medicine and Child Neurology*, 16, 53-58.
- Richman, N. (1977). Behavior problems in pre-school children: Family and social factors. *British Journal of Psychiatry*, 131, 523-527.
- Rohe, W. (1985-86). Urban planning and mental health. *Prevention in Human Sciences*, 4, 79-110.
- Rosenthal, R. (1991). *Meta-analytic procedures for social research*. Newbury Park, CA: Sage.
- Saegert, S. (1979). A systematic approach to high density settings: Social and physical environmental factors. In M. R. Gurkaynak & W. A. LeCompte (1979). *Human consequences of crowding* (pp. 67-82). New York: Plenum Press.
- Saegert, S. (1982). Environments and children's mental health: Residential density and low income children. In A. Baum & J. E. Singer (Eds.), *Handbook of psychology and health* (pp. 247-271). Hillsdale, NJ: Erlbaum.
- Schiffenbauer, A. I. (1979). Designing for high-density living. In J. R. Aiello & A. Baum (Eds.), *Residential crowding and design* (pp. 229-240). New York: Plenum.
- Schiffenbauer, A. I., Brown, J. E., Perry, P. L., Shulak, L. K., & Zanzola, A. M. (1977). The relationship between density and crowding: Some architectural modifiers. *Environment and Behavior*, *9*, 3-14.
- Sinnett, E. R., Sachson, A. D., Eddy, G. (1972). The influence of living units on the behavior of college students. Journal of College Student Personnel, 13, 209-214.
- Sloan, J. H., Rivara, F. P., Reay, D. T., Ferris, J. A. J., & Kellermann, A. L. (1990). Firearm regulations and rates of suicide. New England Journal of Medicine, 322, 369-373).
- Slum surgery in St. Louis. (1951). Architectural Forum, 94, 128-136.
- Sommer, R. (1967). *Personal space: The behavioral basis of design*. Englewood Cliffs, NJ: Prentice-Hall.
- Sommer, R. (1987). Crime and vandalism in university residence halls: A confirmation of defensible space theory. *Journal of Environmental Psychology*, 7, 1-12.
- Stamps, A. E. (1991). Public preferences for high rise buildings: Stylistic and demographic effects. *Perceptual and Motor Skills*, 72(3, Pt 1), 839-844.

- Stevenson, A., Martin, E., & O'Neill, J. (1967). High living: A study of family living in flats. Melbourne, Australia: University of Melbourne Press
- Sundstrom, E. (1986). Work places: The psychology of the physical environment in offices and factories. New York: Cambridge University Press.
- Sweatt, L., Harding, C. G., Knight-Lynn, L., Rasheed, S., & Carter, P. (2002). Talking about the silent fear: Adolescents' experiences of violence in an urban high-rise community. *Adolescence*, 37, 109-120.
- Taylor, A. F., Kuo, F. E., & Sullivan, W. C. (2002). Views of nature and self-discipline: Evidence from inner city children. *Journal of Environmental Psychology*, 22, 49-63.
- Van Vliet, W. (1983). Families in apartment buildings: Sad storeys for children? *Environment and Behavior*, 15, 211-234.
- Wallace, A. (1956). Planned privacy: What's its importance for the neighborhood? *Journal of Housing*, 13, 13-14.
- Wekerle, G., & Hall, E. (1972). High rise living: Can the same design serve young and old? *Ekistics*, *33*, 186-191.
- Wilcox, B. L., & Holahan, C. J. (1976). Social ecology of the megadorm in university student housing. *Journal of Educational Psychology*, 68, 453-458
- Williamson, R. C. (1978). Socialization in the high-rise: A cross-national comparison. *Ekistics*, 45, 122-130.

- Williamson, R. C. (1981). Adjustment to the high rise: Variables in a German sample. *Environment and Behavior, 13*, 289-310.
- Wilner, D. M., Walkley, R. P., Pinkerton, D. C., & Tayback, M. (1962). The housing environment and family life. Baltimore, MD: The Johns Hopkins University Press.
- Wilner, D. M., Walkley, R. P., & Tayback, M. (1956). How does the quality of housing affect health and family adjustment? *American Journal of Public Health*, 46, 736-744.
- Yancey, W. (1972). Architecture, interaction, and social control: The case of a large-scale housing project. In J. F. Wohlwill & D. H. Carson (Eds.), *Environment and the social sciences*. Washington, DC: American Psychological Association.
- Yeh, S. H. K., & Tan, S. L. (1975). Satisfaction with living conditions. In S. H. K. Yeh (Ed.), Public housing in Singapore: A multi-disciplinary study. Singapore: Singapore University Press. (pp. 214-239)
- Yeung, Y. (1977). High-rise, high-density housing: Myths and reality. *Habitat International*, 2, 587-594.
- Zaff, J., & Devlin, A. S. (1998). Sense of community in housing for the elderly. *Journal of Community Psychology, 26*, 381-397.
- Zalot, G., & Adams-Webber, J. (1977). Cognitive complexity in the perception of neighbors. *Social Behavior and Personality*, *5*, 281-283.



#### The Emphasis on Ecological Design for High-rise Buildings

Feng Xu Associate Professor

Guoqiang Zhang Professor Hunan University Changsha, China, 410082

xufeng@188.com

Mingjing Xie Ph.D Candidate

Abstract: Along with the rapid development of urbanization, there are more and more high-rise buildings in cities. Meanwhile, the negative impacts of high-rise buildings on the urban environment have become more and more serious. The ecological design of high-rise buildings should be paid more attention because high-rise buildings consume a large amount of natural resources and energy. An ecological design method of high-rise buildings was introduced based on four points: adaptation of climate, ecological accounting, passive design and energy saving and integrated design.

Key words: high-rise buildings; ecological design; climate; ecological accounting; passive design;

1. INTRODUCTION

integrated design.

#### I. INTRODUCTION

Along with the development of industry, commerce and finance and rapid increase of city population, land resources became scarce. High-rise buildings (HRBs) quickly developed because of its gigantic economic value. HRBs can decrease the waste of land resource and return more land to nature. Le Corbusier considered skyscraper as a "perfect means to solve the population concentration, avoid land scarcity and increase internal efficiency of the city." In 1952, the Lever House, designed by Gordon Bunshaft who worked in SOM design business office, created a template of standard skyscraper with an authorized form and became the original form of thousands copies all over the world. The skyscrapers even acted as a symbol of economic ability and scientific ability of a country or a city.

But HRBs cause a series of problems during the development. For example, consume large amount of energy, affect the sunlight and air flow in the city environment and destroy the ecological environment. Along with the serious problems of energy resources,

people paid more attention to the ecological impact cause by the HRBs <sup>[1]</sup>. In 1982, the National Commercial Bank Headquarters at Jeddah, which was also designed by Gordon Bunshaft, represented huge change of the HRBs towards ecological way <sup>[2]</sup>. Therefore, more efforts deserve to be paid in the ecological design of HRBs. So far as the reasonable urban planning and the environmental design in accordance with the design and construction of HRBs, we can reduce the energy consumption and the impact on environment, and achieve the ecological objective with the economic objective to realize the ecological and sustainable development of HRBs.

#### 2. CLIMATIC ADAPTATION

#### 2.1 Relationship between Climate and HRBs

Le Corbusier dissertated the purpose of building as: "A house: A shelter from the heat, the cold, the rain, thieves, indiscreet people. A light and sun receiver" [3]. In 1963, Victor Olgyay put forward a design theory of integration of architectural design, region and climate in his book — Design With Climate: Bio-climate Approach to Architectural Regionalism. It emphasized the concordance between artificial climate and natural climate; this symbolized the foundation of bio-climate theory.

In 1982, the National Commercial Bank HQ at Jeddah designed by Gordon Bunshaft represented the ecological turning of practice of HRBs. It emphasized the adaptation of desert zone: very deep hole on huge mass, all glasses dropped back, insulated stone used in exterior surface — consideration of the sun effect on building surface; pure form — smaller form coefficient; skycourt constituted by the vertically overlaying V shape planes — microclimate improvement and native air cooling for glass curtain. Among all environmental factors that HRBs may face,

climate is a dominant factor. All buildings must finish this objective — make accordance between human needs and specific climate and geography <sup>[4]</sup>. In nature, the relationship between climate and HRBs is to resist the disadvantage of climate and utilize the natural climatic resources. Thus the design solutions of HRBs should grow from climate. The design procedure of HRBs should follow: climate — biology (comfort) — technology — design. Designers should adapt the characters of different climate zones and achieve the purpose of energy saving and environmental protection by means of utilizing heat preservation, heat insulation, natural ventilation and sunlight shading actively and reasonably.

#### 2.2 Architectural Composition

Architectural composition of HRBs is related to path of sunlight through the base and local wind direction. The decision of composition will affect every subsequent design strategy. The sunlight routeway decides the main orientation of HRBs that ensure the utilization of natural sunlight resources to process daylighting, passive solar energy heating and solar electric power generation. The local wind direction and air flow distribution are also prerequisites for composition that avoid intercepting cold and moist air in winter and preventing cool breeze in summer. Through carefully study on basic micro climatic condition, we can ensure the most suitable orientation and composition that furthest utilize the potential of natural climate in the site.

#### 2.3 Plane and Form Coefficient

In HRBs, small form coefficient can reduce the exposure interface under external climate. This is of advantage to either heat loss in winter or heat gain in summer. It means that smaller form coefficient can decrease average cost of comfort space. But the relationship between form coefficient and heat performance in HRBs is very complicated, it is not a simple ratio. Thus we must consider it synthetically form three aspects, which are building height, plane form and function disposal.

#### (1) Building Height

HRBs (especially skyscraper) are much higher

than ordinary buildings. The form coefficient of HRBs is much bigger than that of ordinary buildings with the same volume (or usable floor area). So, the height of HRBs is not the taller the better but need to be properly controlled. It should be as low as possible on condition that satisfy the prerequisites of architectural aesthetics and building density.

#### (2) Plane Form

In constant plane forms of HRBs, round plane has the smallest external surface area, and the square plane is in the next place. If possible, use flattening plane because unevenness plane results in bigger form coefficient <sup>[5]</sup>. But the purpose of using unevenness plane is to form courtyard or atrium for daylighting and natural ventilation. There are two kinds of methods to solve this problem. One method is to increase the chance of daylighting and natural ventilation by using minor depth of floor while avoids using courtyard. Another possible method is to use adjustable glass interface system outside the building and close courtyard or atrium while under extreme climate (Fig. 1).

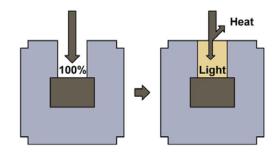


Fig. 1 Adjustable Glass Interface System Closes Courtyard or Atrium under Extreme Climate (e.g. Winter)

Climatic characteristics vary from different regions, so the best plane form of HRBs is not with the smallest external surface area. According to the investigation, the suitable plan ratio (X/Y) of HRBs in different climate zone is shown in Fig. 2.

#### (3) Function Disposal

No matter in what kind of climatic condition, people's request for heat comfort varies from different function and space. This demands better consideration for the relationship between internal function needs and external climatic conditions while designing function disposal of the HRBs. For

example, in HRBs, those rooms with no specific environmental requirement (such as ordinary offices) should be arranged to proper orientation that can use daylighting and natural ventilation. Those rooms that emit large amount of heat (such as kitchen) should be arranged to the north orientation. Some rooms with specific requirement (such as cleaning rooms) could be arranged to central region of the building <sup>[6]</sup>.

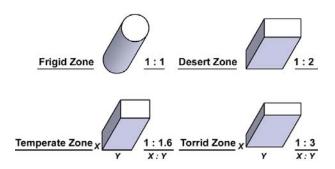


Fig. 2 Suitable Plane Ratio of HRBs in Different Climate Zone

#### 3. ECOLOGICAL ACCOUNTING

The problems of energy utilization and energy supply in HRBs were put forward and considered in the 70's and 80's of 20 century after the energy crisis. After the 90's of 20 century, the ecological and environmental factors in HRBs became the focus of study and argument.

#### 3.1 Concept of Ecological Accounting

On October 19<sup>th</sup>, 1994, the EDI institute, which was found by Sim Van der Ryn, published The BIG SUR declaration. This declaration advanced that the ecological design must "erect the whole concept of ecological accounting and evaluate design with environmental impact on the life cycle of the building" <sup>[7]</sup>. Ecological accounting is a kind of standard for assessing the design based on three kernel concepts, which are energy, environment and ecology, and for predicting the ecological efficiency of different design selection. So, it should be used at the beginning of the concept design but not after construction.

#### 3.2 Factors of Ecological Accounting

HRBs consume and occupy much more energy

and resources than ordinary buildings, so the ecological accounting must be considered as an important factor. We should think better of a serious impact on energy, environment and ecology during the HRBs design procedure. Meanwhile, we should do quantity analysis with multidisciplinary knowledge to ensure the beneficial cycle of ecology. Some issues about ecologic accounting factors that need to be considered are list as follow:

#### (1) Energy

- •Take full advantage of solar energy and light energy;
- •Heat regeneration / cycle utilization;
- •Renewable energy source / wind energy;
- •District heating / built-up heating and power supply;
- •Decrease energy demand and load;
- •Position, building lot selection and orientation;
- •High efficient composition;
- •Thermal insulation;
- •Use low energy consumption equipment as possible.

#### (2) Environment

- •Site selection / orientation / composition can utilize sunlight / fresh air / scene;
- •Reduce garbage and offer space for garbage classification / collection;
- •Pollution restriction;
- •Do not use poisonous / environmental disruption chemicals;
- •Plant trees for carbon dioxide absorption;
- Provide convenience public traffic and reduce private car using;
- •Provide field for bicycle riding / depositing.
- (3) Ecology (Nature Protection / Biology Diversity)
  - •Preserve / improve current environment of vegetation and animal;
  - •Choose indigenous species;
  - •Utilize natural site and micro-climate condition;
  - •Choose plants that need less water;
  - •Provide opportunity for feeding / nidification;
  - •Build / reserve autarkic green belt.

#### 4. PASSIVE DESIGN

#### 4.1 Significance of Passive Design in HRBs

Maximum utilization of natural resources such as solar energy, wind and daylighting is the most efficient way for energy saving. The so-called passive design is directly generate power through utilization of climatic characteristics but not in virtue of mechanical system. Properly designed and constructed passive buildings offer many benefits: [8]

- (1) Energy Performance: Low energy bills year-round;
- (2) Investment: High economic return on the incremental investment on a life cycle cost basis and greater financial independence from future rises in energy costs;
- (3) Comfort: Greater thermal comfort, less reliance on noisy mechanical systems;
- (4) Productivity: Increased daylighting / higher quality lighting systems can increase worker productivity;
- (5) Low Maintenance: Reduced building maintenance costs resulting from less reliance on mechanical systems;
- (6) Environmental: Reduced energy usage and reliance on fossil fuels.

The significance of passive design is very important for HRBs as it consumes more energy. This means that architects should comprehend situation of environment, geography and climate during the design procedure. So, the design could adapt climatic characteristics by means of thermal insulation, natural ventilation and sunlight shading.

#### 4.2 Building Envelope

Compared with ordinary buildings, the building envelope of HRBs has its particularity. On the one hand, wind speed and wind pressure grows quickly with the escalation of height that leads to quick heat exchange between building envelope and outside. This situation is not of benefit to energy conservation. On the other hand, HRBs receives more sunshine than ordinary buildings (including direct radiation, diffused radiation and radiation reflected from roof of the nearby multistory buildings). So, materials with high thermal mass and enough thickness should be chosen for the building envelope of HRBs to reduce

and delay the impact on internal space cause by external wall temperature fluctuation.

#### 4.3 Natural Ventilation

Reasonable organization of natural ventilation leads to energy saving and cost cutting. The energy consumption of the natural ventilation is only half of using air-conditioning. Meanwhile, it decreases dependency of those equipments used by mechanical ventilation and air-conditioning to ensure healthy building environment (reduce occur of the Synthetic Building Syndrome). Furthermore, it reduces the emission of carbon dioxide. But HRBs has much longer vertical distance and much bigger volume than that of the ordinary buildings, thus the organization of natural ventilation in HRBs is more difficult.

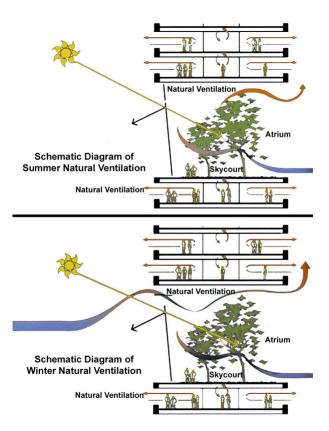


Fig. 3 Natural Ventilation Strategy in Summer and Winter in Commerz Bank Headquarters

Conventional types of natural ventilation include wind pressure ventilation and thermal pressure ventilation. But simply using these two types in HRBs are not suitable because of the instability of natural wind and heat loss in upper air. Mixed ventilation combined with atrium is a better way —

establish ventilation strategies in different seasons and use mechanical ventilation under extreme climate. Fig. 3 describes natural ventilation strategies in different seasons used in Commerz Bank Headquarters, Frankfurt, Germany that designed by Norman Foster [9].

#### 4.4 Daylighting

Daylighting provides more desirable and better quality illumination than artificial light sources. This reduces the need for electrical light sources, thus cutting down on electricity use and its associated costs and pollution. Because of the characteristics of height, HRBs prefer to use sidelighting rather than to use toplighting. So, it is important to avoid direct sunlight and control thermal gain near the window. Some usable principles are list as follow:

- (1) Establish the location, shape, and orientation of the building on the site based on daylighting performance objectives;
- (2) Avoid excessive thermal gains and excessive brightness resulting from direct sunlight, which can impair vision and cause discomfort. Use indirect lighting through reflecting ceiling and equip with additional elements such as shades, blinds, and light shelves.
- (3) Integrate daylighting systems with the artificial lighting system to maintain required task or ambient illumination while maximizing the amount of lighting energy saved.

#### 4.5 Passive Heating, Cooling and Thermal Storage

Integration of passive heating, cooling, and thermal storage features into HRBs can yield considerable energy benefits and added occupant comfort. Incorporation of these items into the HRBs design can lead to substantial reduction in the load requirements for building heating and cooling mechanical systems.

(1) Passive heating works particularly well in climates where many sunny days occur during the cold season. One thing should be attention is to match the time when the sun can provide daylighting and heat to a building with those when the building needs heat. Meanwhile, design the building's floor plan to

optimize passive solar heating (e.g. appropriate glazings in windows within 15 degrees of true south); (2) Passive cooling strategies include cooling load avoidance, shading, natural ventilation, radiative cooling, evaporative cooling, dehumidification, and ground coupling. Passive design strategies can minimize the need for cooling through proper selection of glazings, window placement, shading techniques.

(3) Thermal mass storage can handle excess warmth, therefore reduce the cooling load, while storing heat that can be slowly released back to the building when needed. The thermal mass can also be cooled during the evening hours by venting the building, reducing the need for cooling in the morning.

#### 5. INTEGRATED DESIGN

#### 5.1 Concept of Integrated Design

Integrated Design Process (IDP) is a kind of method with multidisciplinary cooperation. The final purpose of IDP is to gain high performance and extensive benefits with lower cost. Generally, this method tightly combines ecological design strategies with conventional design standards from the aspects of form, function, performance and cost.

The IDP has been developed on the basis of experience gained from a Canadian demonstration program for high-performance buildings, the C2000 program. The goal of the program is to construct ecological buildings with high level by visualized design measures and current building technologies. The development of IDP depends on the Task 23 — Optimization of Solar Energy Use in Large Buildings, which supported by the International Energy Agency (IEA). The subtask B of Task 23 studied the characteristics of IDP and involved 12 countries in 5 years. After arranging the opinions from specialist including architects, researchers and consultants, a set of practical method of the IDP was introduced.

#### 5.2 Necessity of Using the IDP in HRBs

The design procedure and technical problems of HRBs is more complicated than that of the ordinary buildings, thus multidisciplinary cooperation must be emphasized in order to realize the ecological design of HRBs. The cost and energy performance of HRBs is related to the cooperation of design team; only the earliest intervention of the design team composed of different specialty can achieve the optimization of the efficiency of energy and cost (Fig. 4) [10]. The necessity of using the IDP in HRBs demands architects, engineers, urban planners, economists, socialists, technical specialists and other consultants to plunge together. In this multilateral cooperation, all people must make an effect to act with the background of new technologies, scientific researches and revolution thoughts of HRBs.

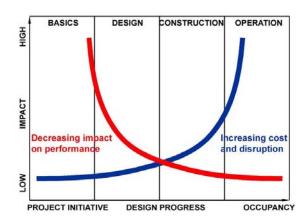


Fig. 4 Effectiveness of Decisions Made in Different Stages of a Building's Lifetime

#### 5.3 Basic Procedure Used in HRBs

Successful IDP of HRBs comes from tight cooperation of designers from different specialty: the architect becomes a team leader rather than the sole form-giver; and the structural, mechanical and electrical engineers take on active roles at early design stages. The team always includes an energy specialist and, in some cases, an independent Design Facilitator. The IDP of HRBs should follow those steps list below [11].

- (1) Establish performance targets for a broad range of parameters, and develop preliminary strategies to achieve these targets;
- (2) Minimize heating and cooling loads and maximize daylighting potential through orientation, building configuration, efficient building envelope and careful consideration of the amount, type and location of fenestration;

- (3) Meet heating and cooling loads through the maximum use of solar and other renewable technologies and the use of efficient HVAC systems, while maintaining performance targets for indoor air quality, thermal comfort, illumination levels and quality, and noise control;
- (4) Iterate the process to produce two or three concept design alternatives, using energy simulations as a test of progress, and then select the most promising one for further development.

The IDP process contains no elements that are radically new, but integrates well-proven approaches into a systematic total process. The skills and experience of mechanical and electrical engineers, and those of more specialized consultants, can be integrated at the concept design level from the very beginning of the design process. When carried out in a spirit of cooperation among key actors, this results in a design that is highly efficient with minimal, and sometimes zero incremental capital costs, along with reduced long-term operating and maintenance costs. Furthermore, open inter-disciplinary discussion and synergistic approach will often improve the function and performance of HRBs.

#### 6. CONCLUSION

The design, construction and operation management of HRBs cause huge impact on environment and resources. But it has huge potential on land resources saving, material saving and energy saving. HRBs are not an anti-ecological building form though it may cause unconvertible destruction to civil environment. Through reasonable design, it may bring enormous contribution. Thus the ecological design of HRBs is significant.

Indeed, few HRBs can comprehensively response to all ecological aspects. The design of most HRBs emphasizes on different aspects according to the economic conditions, climatic characteristics and cultural traditions. Four points must be considered during the design process: adaptation of climate, ecological accounting, passive design and integrated design. We should ascertain corresponding design objects and design principles, adjust and apply them to the design practice. This will ensure the HRBs

integrate organically with the civil environment and develop towards ecological and sustainable way.

#### **ACKNOWLEDEMENTS**

This paper is financially supported by the European Union Asia-Link Programme: "A Multidisciplinary Approach to Curriculum Development in Sustainable Built Environment".

#### REFERENCE

- [1]America Council on Tall Buildings and Urban Habitat. Architecture of Tall Buildings[M] . Beijing: China Architecture & Building Press. 1997, Preface.(In Chinese)
- [2]Chris Abel. Architecture and Identity[M]. Beijing: China Architecture & Building Press. 2003, 201.(In Chinese)
- [3]Wang Shouzhi. World Modern Architectural History[M]. Beijing: China Architecture & Building Press. 1999, 95.(In Chinese)
- [4]Geoffrey Broadbent. Architectural Design and Literae Humaniores[M]. Beijing: China Architecture & Building Press. 1990, 28.(In Chinese)
- [5]Lv Aimin. Climate-responsive Building[M].

- Shanghai: Tongji University Press, 2003, 117.(In Chinese)
- [6]Brian Edwards. Sustainable Architecture, 2nd Edition[M]. Beijing: China Architecture & Building Press. 2003, 82.(In Chinese)
- [7]Research Center of Green Architecture of Xi'an University of Architecture and Technology. Green Architecture[M]. Beijing: China Planning Press. 1999, 147. (In Chinese)
- [8]Public Technology Inc. US Green Building Council.

  Sustainable Building Technical Manual Green
  Building Design, construction, and operations[M].

  Beijing: China Architecture & Building Press. 1999,
  71-92.(In Chinese)
- [9]Li Huadong. Hi-tech Ecological Building[M]. Tianjin: Tianjin University Press, 2002, 128.(In Chinese)
- [10]IEA Task 23. Integrated Design Process a Guideline for Sustainable and Solar-optimised Building Design.
  - http://www.iea-shc.org/task23/outcomes.htm
- [11] Hanne Tine Ring Hansen. The Integrated Design Process (IDP) - A More Holistic Approach to Sustainable Architecture. Proceedings of the SB05 Tokyo[C]. Tokyo, 2005



# RESIDENTS ASSOCIATION GUIDE





#### Contents

		Page no.
Why start a	residents association?	3
Getting sta	rted	
-	Getting everyone's views	4
-	What do you want from people?	4
Involving m	nore people	6
-	Where to meet	6
-	Who to invite	6
-	Letting people know	7 7
_	Reasons for the meeting  Date and time of meeting	7
- -	Place of meeting	8
-	Step-by-step planning list for arranging a public meeting	8
-	Running your first public meeting	9
-	The agenda	9
-	After the public meeting	10
Getting mo	re people involved	11
-	Success creates interest	11
-	Publicity needs to be eye catching	11
-	Barriers that may prevent people getting involved	11
-	Personal contact is crucial	12
-	Existing groups may help you  There's more than one way for people to get involved.	12 12
-	There's more than one way for people to get involved	12
Support fro	om the Council	13
-	Developing a constitution	14
-	Ongoing support	15
-	Wear Valley Customer Panel	15

### Appendix 1

### Appendix 2

#### Why start a residents association?

There are many reasons why people living in an area may decide to form a residents association. For example:

- to campaign <u>for</u> something (for example, a better street-cleaning service, play facilities, or somewhere to meet)
- to campaign <u>against</u> something (such as the closure of local facilities or the effect of any changes to services)
- to have a louder voice than an individual would have, when talking to the council or landlord about things you would like to see changed
- to arrange outings and social events (such as a coach trip, a street party, bingo, keep fit)
- to increase the sense of belonging in a community, and to meet and help other people
- to keep people in the area informed of all the issues that affect them
- to get involved with what other groups may be doing
- to have a representative voice when meeting your landlord or council on consultative committees etc, and to use the group to discuss ideas and plans with your landlord or council.

#### **Getting started**

Below is a series of points that you may like to consider.

**First**, you need to listen to the ideas and views of people around you. Ask your neighbours if they are interested in starting a group. Then, once a few people are interested, get together and talk:

- about the area you will cover are there obvious boundaries?
- about the problems in your area what would you like to do about them?

#### **Getting everyone's views**

The first step is to discover whether there is enough interest among residents in your area to make a residents association work. So you need to talk to as many people as you can before doing anything else. You can do this in various ways:

- Knock on doors, chat over the fence etc.
- Go to the shops that your community uses (for example, post offices, launderettes, local precinct).
- Go to other places where people meet socially, such as pubs, community centres and clubs. Your local Council for Voluntary Service (CVS) will be able to give you names of the various voluntary organisations working in your community.
- Go to religious centres in the area churches, mosques etc.
- Go to where children and young people go, such as schools, nurseries, playgroups or youth clubs.
- If you meet and talk to people in lots of different places, you will get an idea of how much support there is for starting a group.

#### What do you want from people?

Don't be put off by people's reactions or comments. Although some people will be enthusiastic, many won't be interested and some may be hostile. But if you set up an association and keep giving everyone in the area information and opportunities to get involved, more people will normally take part.

All you need is for a few people to say they're keen to set up a group.

What you are asking first is:

- Are the issues affecting the rest of the community the same as your own concerns?
- Do people agree it would be a good idea to set up a group?
- Will people come to an initial meeting or would they like to know the outcome of an initial meeting? You only need around six people to attend the first meeting to have enough to set up a group.

Don't be too pushy. Reassure people that attending a meeting does not commit them to doing anything specific!

Gathering opinions can take time and may need confidence and a thick skin. If there are already a few of you who know each other and have the same aim, you could be the ideal group to start things off. If possible, go out canvassing with someone else.

#### Involving more people

To launch the group, it's **best to hold a public meeting**. You may find the following guidelines will help you organise it.

#### Where to meet

Try to make it easy for people to attend – use the local church hall, school, community centre, youth club, pub with function room, library, or council meeting room, if available. Ask a few people in the group to find out about meeting places. You need to know:

- dates and times when it is available
- how much it will cost to hire
- if there are facilities for refreshments.
- if there is space for a crèche or for children to play important so that people with children can attend meetings
- arrangements for getting in and locking up
- whether you need to arrange transport or escorts for elderly people to get to meetings.

Remember – the meeting place should be as convenient as possible for local people.

#### Who to invite

Your first public meeting is very important. It helps if you have councillors or staff from the Community Involvement Team there to talk about the advantages of starting a residents association. If there is a particular local problem (such as rubbish) you could organise your meeting just around that topic and invite someone from the relevant council department. But it's up to you to decide who you want at your meeting.

#### Remember...

- If you want them to come, give councillors and council staff as much notice as possible and ask them to confirm in writing that they can.
- Let them know what you want to discuss so that they can bring relevant information with them.

#### Letting people know

Leafleting is the most common way of informing people about meetings. Points to remember...

- Don't post the leaflet too soon people will forget or throw the leaflet away. Four or five days before the meeting is usually about right.
- Keep your leaflet simple, short and to the point.
- Try to follow up your leaflet with a door-knocking tour to remind people of the meeting closer to the date.
- You could have your leaflet enlarged and put up as a poster in local shops, the library etc.
- It may help to include a map showing where the meeting will take place.

#### Reasons for the meeting

At your initial planning meeting, you need to sort out what you want to achieve in the public meeting and how you can achieve it. This could include:

- getting agreement to form the group
- naming the group
- · electing the committee
- deciding what the group wants to do.

Once you know the reason for the meeting, be sure to make this clear in your adverts for the meeting. Tell people what the meeting is for, but don't overload them with too much information – you mainly want to tell people where and when the meeting will be held. Try to get people curious and interested, not bored with too much detail!

You will also need to make sure people know how to contact you if they want more information.

#### Date and time of meeting

You will need to think about who you want to get to the meeting. Do you just want local residents or do you also want to attract people from other community groups, local councillors or others? If you want to enable everyone from the area to come (including young people, elderly people and single parents with young children) then you will need to think carefully about where and when to hold the meeting. Arranging a date and time to suit everyone may be difficult – some people will be working or have children to look after or don't like coming out at night – but it's worth trying to get the best place and time to suit the most people.

#### Place of meeting

The meeting could take place in someone's home, a room in a local community centre, a school or a church hall. You need to make sure the room is easy for people who have difficulty walking or who use wheelchairs.

It's not a good idea to hold a meeting in a place where alcohol is served as this means people from certain religions won't want to attend.

By the end of the first planning meeting you may already have decided to form the group and agreed what issues to tackle first. However, the next step must be a public meeting to give people the opportunity to come and say what they think. If you decide to miss out a public meeting because you think you have got everything agreed at this initial stage, you're assuming that the few people present really represent everyone's views in the area. This may not be the case.

#### Step-by-step planning list for arranging a public meeting

- 1. Arrange your initial planning meeting this can be in someone's home.
- 2. Sort out reasons for holding a public meeting, and the date and place where the meeting will be held.
- 3. If you have decided to invite representatives from other bodies, such as the council, contact them and check they can come.
- 4. Book the room you have decided on.
- 5. Confirm arrangements with invited representatives.
- 6. Decide how to publicise the meeting prepare a leaflet and get it printed. Prepare posters to advertise the meeting.
- 7. Arrange to distribute the leaflet and posters the Community Involvement Team can help you with this. (Try to give people at least one week's notice of the meeting.)
- 8. Contact local newspapers or local radio stations to publicise the meeting if you think this is necessary.
- 9. Organise the meeting:
  - Sort out an agenda and check it with the person chairing the meeting.
  - Check any motions to be proposed at the meeting.
  - Make sure you have decided who is going to take notes at the meeting.
  - Decide who will record the names and addresses of everyone who attends the meeting.

On the day – get there early and make sure the room is open and the furniture is laid out as you want it.

## Running your first public meeting

This is the occasion when you will launch the residents association publicly, so you will want to run it properly.

The public meeting should be seen as the start of the residents association. Don't be disappointed if attendance at the meeting is poor. Although you may be enthusiastic and have worked hard to organise the meeting, people may be uncertain whether or not to join in. It may take some time for people to become confident enough to take part, but this should happen eventually.

## The agenda

By this stage you should have already agreed who will be chairing the meeting and taking notes, but you will also need to set an agenda. An example agenda is given below.

# Anywhere Estate Public Meeting Date Time Venue

## **Agenda**

- 1. Welcome and introduction
- 2. Why we need a residents association
- 3. Choice of name
- 4. Membership requirements and any other regulations
- 5. Election of a committee
  - Chairman
  - Vice Chairman
  - Secretary
  - Treasurer
- 6. Plan of action
- 7. Date of first committee meeting
- 8. Date of the next general meeting of members
- 9. Any other business

## The important thing is to:

- see if there is enough support for the idea of setting up an association
- know why you are getting together, and
- decide what you are going to do.

## After the public meeting

If the public meeting has agreed to set up a residents association in your area, your next step is to get yourself properly organised.

Always make sure the issues you take up or the projects you start work on reflect the interests of the people in the area and views expressed by those who attended the public meeting.

Don't forget to tell our Community Involvement Team the name of the group and the name of someone they can contact.

## Getting more people involved

If groups are to grow strong, dynamic and forward thinking, they need continually to recruit new members. But what's the best way to get more people actively involved?

There's no magic answer. If there was, someone would have bottled it and made a fortune by now. However, when you are building up your group and trying to recruit new members, it may be helpful to bear in mind the following points.

## **Success creates interest**

If your group is seen to be active and achieving things, this in itself will create interest. So, prioritise tasks that are:

- the easiest to achieve
- the most likely to win support and involvement
- the ones that residents think are most important.

Then advertise any successes you have as widely as possible.

## Publicity needs to be eye catching

Newsletters, leaflets and posters need to make people want to read them. Don't overwhelm people with too much information at once.

You'll need eye-catching designs and colours, and a logo may help to make any publicity from your group more easily identifiable. The Community Involvement Team can help you with this.

## Barriers that may prevent people getting involved

Some people may have practical reasons for not getting involved. They may have childcare responsibilities, be worried about going out alone, find it difficult to get in or out of the venue, not have English as their first language, etc. Your group needs to do everything it can to remove these barriers. You can do this by, for example:

- providing a crèche
- offering to accompany people to and from meetings
- using a venue that is accessible to people with disabilities
- getting written material translated
- providing interpreters at meetings.

Then, to make your efforts worthwhile, you need to let everyone know that these barriers do not exist.

## Personal contact is crucial

We all know how easy it is to throw a newsletter or leaflet in the rubbish bin without even reading it. Someone on your doorstep is much harder to ignore.

Face-to-face contact also means:

- you can explain the issues in an easier and more accessible way
- people can ask questions and get answers
- people will feel that your group really wants their views
- people will feel that your group really wants them to get involved.

The most common ways of contacting people in person are by door-knocking and face-to-face surveys.

## Existing groups may help you

Many areas will have other groups already active, such as playgroups and lunch clubs. Building contacts and visiting these groups will give you the opportunity to talk to their members, explain what your group is trying to achieve and encourage them to join or support you.

# There is more than one way for people to get involved and show they care about the place they live

Different people have different things to offer. By recognising and valuing this, you can get the best out of everyone. Ask people how your group can help them do something that will benefit the estate or area.

## **Support from the Council**

If a group of residents express an interest in forming a residents association, our Community Involvement Team will work with them to achieve this. We run training programmes each year for new and existing residents associations. This localised training gives residents the basic skills for running an association.

A residents association offers an excellent opportunity for customers to have a major role in consultation and decision-making. To do so effectively and efficiently, residents associations need to have the following systems in place for grants and other payments:

## **Financial support**

New residents groups

• We offer a start-up grant of £75 for new groups to enable them to advertise meetings and see if there is enough interest to make a new group work.

Existing residents groups that are formally registered\*

- We can make an annual grant of £250 on receiving written proof of the group's requirements, as set out in the section 'Formally registering groups' on page 14.
- Support towards room-hire costs please negotiate this with the Community Involvement Team.
- Photocopying services are available at local offices for up to 50 copies and at the central print room in the Civic Centre, Crook for over 50 copies. Photocopying will be available at the local office once a month.

\*We only offer this help to existing groups that we recognise. Please read the section 'Formally registering groups' on page 14.

#### Individual customers

- Payment to cover travelling expenses, in line with councillors' rates, to all Council-led meetings
- Payments to cover the hiring of community buses for events around the district and nationally
- Reimbursement for lunch expenses, in line with councillors' rates, payable for a full-day event if lunch is not provided

## Advice and help

We are committed to involving you, our customers, in all issues, so our Community Involvement Section offers the following services:

## New residents groups

- Information on how to get started
- An individual training strategy for each new residents group
- Working with and training staff to improve standards in community consultation and involvement

Existing residents groups that are formally recognised \*

- Ongoing advice and help to existing residents groups
- Advice and support from the Customer Panel if requested
- An individually tailored training strategy for each existing residents group and Citizens' Panel member

## Individual customers

- Advice, support and encouragement to customers who want to become more involved in the services provided by the Community Department
- Publicity for all the options for involvement
- Opportunities for future involvement for customers who are under-represented and not involved in existing groups
- Individual training for staff to improve standards of community consultation and improvement

## **Support from Community Services staff**

Existing and new groups that are formally recognised\*

- Key staff from Wear Valley District Council will attend residents group meetings by invitation.
- We will arrange for other council departments to address groups on specific issues.
- We will work with groups on their estate to ensure that we deal with neighbourhood and community issues at a local level.
- We will tell new and existing groups where they can hold meetings.

## Formally registering groups

Resident or community groups who wish to formally register with us must have:

- a written constitution based on a model constitution that we can provide (see Appendix 1)
- regular elections of officers of the committee at an annual general meeting\*\*
- open financial records\*\*
- regular meetings that are minuted (notes of decisions are written down) and quorate (attended by a minimum number required), including an annual general meeting\*\*
- membership open to all residents in a clearly defined geographical area
- an equal-opportunities policy that complies fully with the law and is kept to
- regular newsletters or other written communication with members
- ways of showing how they have met their objectives
- representation on the Customer Panel (recommended by the Community Involvement Team).

## **Developing a constitution**

We can help you set up a properly constituted residents group. The Community Involvement Team gives advice and guidance on how to go about writing a constitution correctly. We use a model constitution for comparison and give you feedback to ensure your constitution is in line with this model. In brief, a constitution should include:

- name of the organisation
- aims of the organisation

<sup>\*\*</sup>You must give copies of financial details, minutes of meetings and details of committee members to the Community Involvement Team.

- area boundaries and membership criteria
- details of the committee
- equal-opportunities policy
- financial clauses
- · conduct of annual general meetings
- conduct of general meetings
- quorums
- amendments to the constitution
- voting rights
- procedures for dissolving the association.

Appendix 1 shows the model constitution used by other residents associations across the district.

## **Ongoing support**

When a group is properly constituted, we provide an annual grant of £250 to cover photocopying costs, room hire etc. Also, officers of the Community Involvement Team will attend meetings of groups and arrange for other council departments to address the group on specific issues such as community safety and environmental services.

We also provide training for groups to develop knowledge and skills in running a residents association. If external agencies carry out the training, we cover expenses.

## **Wear Valley Customer Panel**

As members of a constituted residents association, two representatives of your group can join the Wear Valley Customer Panel. The Community Involvement Team recommends this. The Customer Panel meets every two months and discusses a range of policy and service issues with the Council. Appendix 2 outlines Wear Valley Customer Panel.

## **APPENDIX 1**

## NAME OF ASSOCIATION

#### CONSTITUTION

## 1. NAME

The name of the group will be **NAME OF ASSOCIATION** and the group will represent the following streets:

## 2. AIMS

The Association will be non-party in politics and non-sectarian in religion. Its aims are as follows:

- a) To unite residents, and ensure everyone has equal opportunities to take part, remove all barriers to participation arising from ethnicity, religion, geographical location, special needs, language differences, learning difficulties, sexual orientation, gender, age or disability, in a common effort to improve conditions of life in the area and to foster a community spirit.
- b) To encourage the community of **AREA COVERED** to improve their wellbeing and make them more effective.
- c) To build up and extend good relationships with Wear Valley District Council and other organisations in the area and contribute to local decisions and to monitoring and measuring local performance.
- d) To raise money as necessary to achieve these aims.

## 3. MEMBERSHIP

- a) Membership will be automatic for all recognised residents of the area covered by **NAME OF ASSOCIATION** and defined on the map contained in this constitution.
- b) All members have an equal vote.
- c) All members should act in the interests of and according to the values of **NAME OF ASSOCIATION** and must not discriminate unlawfully on the grounds of ethnicity,
  religion, geographical location, special needs, language differences, learning difficulties,
  sexual orientation, gender, age or disability.
- d) At all times, members must behave in a reasonable way when attending meetings or any other functions in connection with the Association. Any member may be suspended from the Association for failure to observe this, or for any other conduct not in line with the aims of the Association. Any member so suspended has the right of appeal to the

following general meeting. If the appeal fails, he or she may be expelled from membership.

e) Members may nominate two representatives from the Committee to attend Wear Valley Customer Panel to further promote the needs and expectations of their area.

## 4. COMMITTEE

- a) Except where stated otherwise, the committee will direct the policy and general management of the affairs of the Association formed by this document.
- b) The committee will consist of a chairperson, vice-chair, treasurer, vice-treasurer, secretary, vice-secretary and three or more other members.
- c) In addition to these officers, the committee may co-opt as advisers other interested individuals or representatives of statutory or voluntary agencies active in the area or of such other organisations as the committee may decide. However, no such coopted member may vote.
- d) The committee may appoint sub-committees to carry out the activities of the residents association. Such sub-committees will be directly accountable to the committee.
- e) Committee meetings will be open to any member of the association wishing to attend, who may speak but not vote.
- f) The committee will keep minutes and the secretary will record in them all proceedings and resolutions of the committee.
- g) Officers of the committee must carry out the duties given to them at general meetings.
- h) The election or removal of officers or committee members may only be carried out by a general meeting of the association
- i) The committee may fill any vacancies arising among officers until the next general meeting.

## 5. OFFICERS

- a) The association annual general meeting (AGM) will elect the following officers of the association:
  - Chairperson
  - ♦ Secretary
  - ◆ Treasurer
  - At least three other committee members.
- b) These officers will meet before general meetings to set and clarify agenda items.
- c) All officers of the association have a duty to further all its aims.
- d) Any member or officer delegated to represent the association in consulting any other body will act on the instructions of the association and must report back to the next committee or general meeting, whichever is the sooner.

## 6. ROLE OF THE OFFICERS

## a) The chair will:

- be responsible for the smooth running of the meetings
- help set agendas
- help with the smooth running of the association.

## b) The secretary will:

- keep a record of attendance at association meetings
- ♦ deal with correspondence
- be responsible for preparing all agendas of meetings of the association
- help with the smooth running of the association
- be responsible for making sure proper minutes of all meetings are kept in a minute book, which will be available for any member of the association
- be responsible for making sure that a proper register of delegates/co-opted members/guests is kept, which will be available for any member of the association to see at all reasonable times.

## c) The treasurer will:

- set up a bank account
- meet the committee as required to check accounts and sign cheques
- report the finances of the association at each general meeting
- send copies of audit accounts each year to the Community Involvement Officer to be checked
- chair all fundraising sub-group meetings
- help set the agenda and help with the smooth running of the meetings.

## 7. COMMITTEE MEETINGS

a) The committee will meet at least six times a year.

- b) Committee meetings will be open to any member of the association wishing to attend, who may speak but not vote.
- c) The quorum for committee meetings will be four committee members.

## 8. GENERAL MEETING

- a) The quorum for the general meeting will be ten ordinary members (including committee members).
- b) All questions arising at the general meeting will be decided by a simple majority of those present and voting. A member of the group will be entitled to appoint a proxy, who will be a representative of the residents, to attend any general meetings that the usual member is unable to attend. The proxy will exercise the vote of the member in whose place they are attending, in addition to his or her own vote.
- c) No person will exercise more than one vote but if the votes are equally divided the Chair, or in their absence the member elected to chair the meeting, will have a second or casting vote.
- d) Representatives of Wear Valley District Council and other non-committee members may be invited to attend meetings to help the group achieve its aims.

## 9. EXTRAORDINARY GENERAL MEETINGS

- a) The committee may at any time call an extraordinary general meeting of the association.
- b) The secretary must notify all members of an extraordinary general meeting in writing at least 21 days before the meeting.

#### 10. ANNUAL GENERAL MEETINGS

The first AGM of the association will be held within 12 months after the constitution has been established and once in each year (not more than 15 months after the previous AGM) at a place chosen by the committee. At this AGM the business will include the following:

- a) The annual report and the accounts for the previous year will be presented to the meeting.
- b) Officers and members (except co-opted members) will be elected to serve on the committee.
- c) The meeting will deal with whatever other matters are from time to time necessary.
- d) Officers of the committee will be re-elected annually.
- e) Nominations for officers of the committee will be invited 21 days before the AGM.
- f) Subscriptions (if any) will be set at the AGM, and will be kept as low as possible. Subscriptions may be reduced or waived completely in times of hardship.

Subscriptions or other money raised by or on behalf of the association may only be used to further its aims.

#### 11. NOTICE OF MEETINGS

- a) The membership will be notified of all meetings by the distribution of leaflets, posters or both advertising the date, time, and place of the meeting.
- b) The leaflets and posters will be distributed in the community at least seven days before a meeting.

## 12. FINANCE

- a) All money raised by and on behalf of the association must be used to further the aims of the group and for no other purpose. Members will be paid only for the services actually provided or reasonable and out-of-pocket expenses.
- b) The accounts will be audited at least once a year.
- c) The treasurer will present an audited statement of accounts for the last year to the AGM.
- d) The group will exercise effective financial control over any money provided to it by the Council or any other statutory/voluntary/charitable organisation to promote the association's aims.
- e) A copy of audited accounts must be sent to the Community Involvement Officer for checking at the end of each financial year.

## 13. ALTERATIONS TO THE CONSTITUTION

- a) This constitution may be altered or added to only at an **annual** or **extraordinary** general meeting called for such a purpose. No alteration or addition may be made to clause **13** or clause **14**.
- b) Alterations or additions to the constitution must have the consent of at least two-thirds of all members present and voting at the general meeting.

## 14. DISSOLVING THE ASSOCIATION

- a) The association may be dissolved by a resolution passed by a two-thirds majority of those present and voting at a special general meeting held for the purpose. Twentyone days' notice of this meeting must be given (to the members). Such a resolution may give instructions for the disposal of any assets held by or in the name of the association if any property remains after paying off all debts and liabilities.
- b) Such property (except for grants issued by Wear Valley District Council or a central government office, which should be returned to the distributor) must not be paid to or distributed among members of the association but must be given or transferred to a charitable institution or institutions whose aims or objectives are similar to some or all of the aims of the association. If not all the money can be used in this way, then it may be given to some other charitable purpose.

Signed:		
	CHAIRPERSON	 DATE
	SECRETARY	 DATE

## **Conduct of business or standing orders**

- a) Committee members may speak only through the chair.
- b) A simple majority, voted on through a show of hands, will make decisions. If the vote is tied the chairperson will have a second and casting vote.
- c) Meetings will end at a time agreed by the chairperson.
- d) Members may only interrupt a speaker with a point of order or a point of information.
- e) Any offensive behaviour including racist, sexist or inflammatory remarks will not be permitted.
- f) Any committee member found to have brought the association into disrepute by their actions will be expelled from the committee by a two-thirds majority vote of committee members present.
- g) Any member of the group who consistently infringes the constitution will be expelled on a two-thirds majority vote of the committee members present.
- h) Any expelled member of the association will not be eligible to rejoin the committee for at least six months.
- i) Any such member will have the right to appeal within 21 days of the expulsion. The appeal will be heard by the membership of the association at a general meeting called for that purpose. The member concerned will be told the result of the appeal at least 14 days after the meeting.
- j) The secretary will deal with all correspondence, and must sign all letters sent on the association's behalf.
- k) The committee will delegate members to represent the association.
- I) Agendas will be sent to every member 14 days before the meeting. Items should be forwarded to the secretary or chair seven days before the meeting.
- m) Minutes will be distributed at the general meeting.
- n) Committee members who do not attend three consecutive meetings, without good reason, will be asked in writing if they wish to be a committee member. If they do not respond to the letter within 14 days then it will be understood that they no longer wish to be on the committee.

## Appendix 2

## **Wear Valley Customer Panel**

## **Background to Wear Valley Customer Panel**

Wear Valley Customer Panel originally came together in 1999 to work on the Tenant Compact 2001 for Wear Valley. The group comprised representatives of the residents associations operating in the district at that time.

The group now comprises two representatives from each of the ten residents associations in the district, and individual customer representatives who do not have a group in their area.

#### WHAT ARE THE CUSTOMER PANEL INVOLVED IN?

The Customer Panel works in partnership with Wear Valley District Council and Dale and Valley homes, focusing on a wide range of services. The Customer Panel has worked with the Council Services Department on:

- restructuring the Housing Services Department
- customer care contract
- lettable standards
- service standards
- customer-satisfaction cards
- housing revenue account budget
- office opening hours
- rent restructuring
- customer repairs handbook
- developing web pages
- tenant handbook
- customer compact 2003/2006
- developing the Wear Valley Citizens Panel.

Members of the Customer Panel are on various working groups and sub-committees and report back to the group at every meeting.

Customer Panel members attend various conferences, courses and exhibitions locally and nationally, which focus on community involvement.

## **HOW OFTEN DOES THE GROUP MEET?**

The first Tuesday of every month, 5–7pm, at Park Avenue Close Community Centre, Crook.

## MEMBERSHIP OF THE CUSTOMER PANEL

We recommend that every affiliated residents association appoints two representatives from their committee to attend Customer Panel meetings, as set out on page 13 under 'Support from the Council'.

## Removing barriers to communication

We believe everyone should have equal opportunities to play a full part in their community, regardless of their ethnicity, religion, geographic location, special needs, language differences, learning difficulties, sexual orientation, gender, age or disability.

We can produce this document in other formats, such as **Braille**; large print; on audiotape; on CD-Rom; and in other languages. You can get a copy by calling our Marketing and Communications Manager on (01388) 761 958.

This booklet can be produced in the following languages: Bengali, Cantonese, Hindi, Mandarin, Punjabi, Urdu, Polish and Welsh.

এই ডকুমেনটটি নিচের ভাষাগুলোতে অনুবাদ করা যাবে ঃ বাংলা, কেনটনীজ, হিনদী, মানডারিন, পানজাবী, উরদু, উয়েলস। আপনি এর কপি পেতে ফোন করুন (01388) 761 958

"這份文件能複製成下列語言: 孟加拉語,廣東話,北印度語,普通話,旁遮普語,烏爾都語,威爾斯語。您可以致電 761 958 索取副本。"

"यह लेख्य पत्र अगले भाषाओं में पेश किया जा सकता है: बंगाली, कान्टोनीस, हिन्दी, म्यानडरीन, पंजाबी, कर्दू, वेब्श । आप एक प्रतिलिपि के लिए (01388) 761 958 में सम्पर्क कर सकते हैं।"

"这份文件能复制成下列语言:孟加拉语,广东话,北印度语,普通话,旁遮普语,乌尔都语,威尔斯语。您可致电(01388)761958 索取副本。"

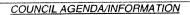
ਇਹੁ ਦਸਤਾਵੇਜ਼ ਅਗਲੇ ਭਾਖਿਆ ਵਿਚ ਪੇਸ਼ ਕਿਆ ਜਾ ਸਕਦਾ ਹੈ: ਬੰਗਾਲੀ, ਕਾਨਟੋਨੀਸ, ਹਿੰਦੀ, ਮਾਨਡਰੀਨ, ਪੰਜਾਬੀ, ਉਰਦੂ, ਵੇਲੱਸ਼ । ਤੂਸੀ ਇਕ ਉਤਾਰਾ ਲਈ <sub>(01388) 761 958</sub> ਨੂੰ ਸੰਪਰਕ ਕਰ ਸਕਦੇ ਹੋ ।

اس دستاویز کو مندرجه زیل زبانو ن میں بھی حاصل کیا جا سکتا ہے: - بنگالی کنطونیز ہندی منڈارن پنجابی اردو ویلش اپنی کاپی حاصل کرنے کے لیے اس نمبر پر ڈائل کریں 358 761 (01388)

Gellir atgynhyrchu'r ddogfen hon yn yr ieithoedd canlynol: Bengaleg, Cantoneg, Hindi, Mandarin, Pwnjabeg, Wrdw, Cymraeg. Fe gewch chi gopi trwy ffonio (01388) 761 958.

'Poniższy dokument może zostać przedstawiony w następujących językach: Bengalskim, języku Canton, Hindi, języku Mandarin, Polskim, Punjabi, Urdu i Walijskim. Kopie dokumentów możesz uzyskać dzwoniąc pod (01388) 761 958'

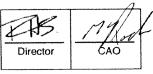




Closed
Reg. Council
Supplemental

Date: Feb 7,11
Date:

Item # Item #



W

## DISTRICT OF WEST VANCOUVER

750 - 17<sup>TH</sup> STREET, WEST VANCOUVER, BC V7V 3T3

## **COUNCIL REPORT**

Date:

January 24, 2011

File: 1605-20/1610-20-4672-4673

From:

Bob Sokol, Director of Planning, Lands and Permits

Subject:

Non-Owner Occupied Secondary Suites – Zoning Bylaw No. 4662, 2010,

Amendment Bylaw No. 4672, 2011 and Fees and Charges Bylaw No. 4414,

2005, Amendment Bylaw No. 4673, 2011

## **RECOMMENDED THAT:**

- 1. Zoning Bylaw No. 4662, 2010, Amendment Bylaw No. 4672, 2011 as attached to the report from the Director of Planning Lands and Permits dated January 24, 2011 be read a first time;
- Zoning Bylaw No. 4662, 2010, Amendment Bylaw No. 4672, 2011 be presented at a Public Hearing on Monday, February 21, 2011 at 7:00 pm in the Council Chamber:
- 3. The Municipal Clerk be directed to give Statutory Notice that a Public Hearing regarding Zoning Bylaw No. 4662, 2010, Amendment Bylaw No. 4672, 2011 is scheduled for Monday February 21, 2011 at 7:00 pm in the Municipal Hall Council Chamber;
- 4. Fees and Charges Bylaw No. 4414, 2005, Amendment Bylaw No. 4673, 2011 as attached to the report from the Director of Planning Lands and Permits dated January 24, 2011 be read a first time; and
- 5. Further consideration of Fees and Charges Bylaw No. 4414, 2005, Amendment Bylaw No. 4673, 2011 take place concurrent with Zoning Bylaw No. 4662, 2010, Amendment Bylaw No. 4672, 2011.

## **Purpose**

The purpose of this report is to give first reading to a zoning bylaw amendment to allow for secondary suites in non-owner occupied homes and to establish a fee for the annual licence for such suites.

## 1.0 Background

1.1 Prior Resolutions

On October 4, 2010, Council passed the following resolutions:

Document # 442959v1

Date:

January 24, 2011

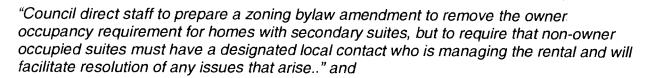
From: Bob Sokol, Director

Subject:

Bob Sokol, Director of Planning Lands and Permits

Non-Owner Occupied Secondary Suites – Zoning Bylaw No. 4662, 2010, Amendment, Bylaw No. 4672, 2011 and Fees and Charges

Bylaw No 4414, 2005, Amendment Bylaw No. 4673, 2011



"Council direct staff to not enforce the owner occupancy requirement for secondary suites-as per Zoning Bylaw No. 2200, Section 31-109.1(4) until a final Council decision is made regarding the zoning bylaw amendment pertaining to the owner occupancy requirement for homes with secondary suites."

## 1.2 History

In the secondary suite status reports dated July 19, 2010 and October 1, 2010, staff identified the owner occupancy requirement as an issue potentially needing further discussion. Council has also received some letters raising this as an issue.

## 1.3 Balanced Scorecard

Corporate Objective: Land Use and Infrastructure: encourage diversity in housing, land use and innovative infrastructure within district neighbourhoods to meet changing needs

2011 Milestone- Implement Secondary Suites program.

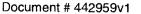
## 2.0 Analysis

#### 2.1 Discussion

## Zoning Bylaw Owner Occupancy Requirement

The owner occupancy requirement was placed on dwellings containing a secondary suite so that the owner of the property was present in order to ensure that the property continued to be maintained and that the property did not become a "nuisance" to the neighbourhood. This is a common requirement that municipalities place upon homes with secondary suites and a survey of a cross-section of communities within the lower Mainland showed that 6 out of 11 (including both the District and City of North Vancouver) maintain such a requirement.

As mentioned in previous reports, it is unclear how many suites currently exist in West Vancouver, and further, how many of those meet the owner occupancy requirement. Many of these suites, however, have been in existence for many years and have not been identified as problematic within their neighbourhoods. Had they been problematic, complaints would have been made and bylaws staff would have investigated. Had a suite been found, either owner occupied or not, the owner would have been required to decommission the suite.



Page 2

Date: January 24, 2011

From: Bob Sokol, Director of Planning Lands and Permits

Subject: Non-Owner Occupied Secondary Suites - Zoning Bylaw No. 4662,

2010, Amendment, Bylaw No. 4672, 2011 and Fees and Charges

Bylaw No 4414, 2005, Amendment Bylaw No. 4673, 2011

If the zoning bylaw was amended to allow for such suites, the District could get a much better handle on the number of these suites currently existing in the community. Such an approach would allow the continued use of these existing suites, which are an important source of relatively affordable housing and through the years have not been identified by their neighbours as problematic. In addition, the health and safety of the residents of these suites and the associated principal dwelling would be enhanced via the recognition of these units.

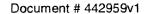
Once the number of suites in the community is established, staff will continue to monitor the number of non-owner occupied suites and report back to Council during its quarterly reporting process on secondary suites and make recommendations regarding the continuation of allowing for non-owner occupied suites. Should a decision be made at some point in the future to discontinue the allowance of non-owner occupied suites, those that were made legal during this period would be permitted to remain as legal non-conforming uses. New non-owner occupied suites would not be allowed at that time.

The current program of allowing secondary suites but requiring a business licence enables bylaw staff to closely monitor the suites. Should a particular suite (whether owner occupied or not) be problematic and repeatedly violate municipal bylaws, the annual business licence can be denied, and the suite would have to be decommissioned. By requiring the identification of a local contact who manages the rental suite, we can be assured that should a problem arise, the matter can be dealt with in a timely manner. Again, if the local contact cannot rectify the problems in a timely manner, the business licence for the suite can be denied.

Staff therefore recommends that Council amend the zoning bylaw to allow secondary suites in non-owner occupied situations, provided that upon registering the owner provides the name and contact information of a local contact. This will recognize the existing suites in the community which to date have not shown to be problematic. By continuously monitoring the number of these suites, the District can ensure that they do not develop into a problem or change the character of West Vancouver neighbourhoods.

## Fees and Charges Bylaw amendment

The annual fee for a secondary suite in an owner occupied home is \$350. Staff recommends that the fee for a secondary suite in a non-owner occupied home be set at \$450 to cover the additional administrative costs of monitoring such suites, which include tracking the name and contact information for the local contact and regularly verifying whether such contact information is current. Fees and Charges Bylaw Amendment 4673, 2011 will establish the new category of Licence and establish the \$450 fee.



Page 3

Date:

January 24, 2011

Bob Sokol, Director of Planning Lands and Permits

From: Subject:

Non-Owner Occupied Secondary Suites - Zoning Bylaw No. 4662,

2010, Amendment, Bylaw No. 4672, 2011 and Fees and Charges

Bylaw No 4414, 2005, Amendment Bylaw No. 4673, 2011

## 2.2 Sustainability

The provision of alternative forms of housing at relatively affordable levels is a key component of a community's level of sustainability. Allowing for secondary suites in non-owner occupied buildings will allow these suites, and the residents who live in them, to remain in the community.

#### 2.3 Consultation

District staff in the Permits and Bylaw Departments has been consulted in the drafting of these Bylaw Amendments. The topic of secondary suites has been discussed in the community for many years. The public hearing on these bylaws will allow an additional opportunity for the public to address this issue.

## 3.0 Options

- 3.1 To receive the report and direct staff as recommended; or
- 3.2 To receive the report and provide staff with further/different direction on next steps.

## Appendices:

A: - Zoning Bylaw No. 4662, 2010, Amendment, Bylaw No. 4672, 2011

B: - Fees and Charges Bylaw No. 4414, 2005, Amendment Bylaw No. 4673, 2011

Page 4



District of West Vancouver

Zoning Bylaw No. 4662, 2010 Amendment Bylaw No. 4672, 2011 District of West Vancouver

# Zoning Bylaw No. 4662, 2010 Amendment Bylaw No. 4672, 2011

A bylaw to amend the Zoning Bylaw to provide for Secondary Suites in nonowner occupied dwellings in West Vancouver.

WHEREAS the Council of The Corporation of the District of West Vancouver deems it expedient to amend Zoning Bylaw No. 4662, 2010;

NOW THEREFORE, the Council of the District of West Vancouver enacts as follows:

## Part 1 Citation

1.1 This bylaw may be cited as Zoning Bylaw No. 4662, 2010, Amendment Bylaw No. 4672, 2011.

## Part 2 Severability

2.1 If a portion of this bylaw is held invalid by a Court of competent jurisdiction, then the invalid portion must be severed and the remainder of this bylaw is deemed to have been adopted without the severed section, subsequent, paragraph, subparagraph, clause or phrase.

## Part 3 Amendment

- 3.1 Zoning Bylaw No. 4662, 2010 is amended by replacing section 130.05 (1)(d) with the following:
  - (d) the registered owner of the lot must occupy, as his/her principal place of residence, either the Principal Dwelling Unit or the Secondary Suite, or alternatively must:
    - identify a property manager with an address within the District of West Vancouver or within the City or District of North Vancouver to manage tenancies of the Principal Dwelling Unit and the Secondary Suite;

- (ii) authorize the property manager to deal with complaints of neighbors or the District arising from the occupancy of the Principal Dwelling Unit or the Secondary Suite including the parking of motor vehicles by the occupants; and
- (iii) provide to the District the name, address, telephone number and e-mail address of the property manager, and provide written authorization to the District to contact the property manager in the event of such complaints.

READ A FIRST TIME on
PUBLIC HEARING held on
READ A SECOND TIME on
READ A THIRD TIME on

ADOPTED by the Council on

Mayor
Municipal Clerk

This page intentionally left blank

This page intentionally left blank

APPENDIX B

District of West Vancouver



Fees and Charges Bylaw No. 4414, 2005, Amendment Bylaw No. 4673, 2011 District of West Vancouver

# Fees and Charges Bylaw No. 4414, 2005 Amendment Bylaw No. 4673, 2011

A bylaw to amend fees and charges for licences for secondary suites.

WHEREAS the Council of The Corporation of the District of West Vancouver deems it expedient to amend "Fees and Charges Bylaw No. 4414, 2005".

NOW THEREFORE, the Council of the District of West Vancouver enacts as follows:

## Part 1 Citation

1.1 This bylaw may be cited as Fees and Charges Bylaw No. 4414, 2005 Amendment Bylaw No. 4673, 2011.

## Part 2 Severability

2.1 If a portion of this bylaw is held invalid by a Court of competent jurisdiction, then the invalid portion must be severed and the remainder of this bylaw is deemed to have been adopted without the severed section, subsequent, paragraph, subparagraph, clause or phrase.

## Part 3 Amendment

3.1 Fees and Charges Bylaw No. 4414, 2005 is amended in Schedule 4A regarding Business Classification/Licence Fees by adding an additional type of Licence Fee under the Category of "Secondary Suites" as follows:

Secondary Suite	
Annual Renewal Licence for a secondary suite when the owner does not live in either the principal dwelling unit or the suite	\$450.00

Fees and Charges Bylaw No. 4414, 2005, A	Amendment Bylaw No. 4673, 2011	3
READ A FIRST TIME on		
READ A SECOND TIME		
READ A THIRD TIME on		
ADOPTED by the Council on		
	Mayo	_ or
and relative	Municipal Cler	·k

This page intentionally left blank

This page intentionally left blank

# Suites may be legalized for West Vancouver absentee owners

BY TESSA HOLLOWAY, NORTH SHORE NEWS FEBRUARY 17, 2011

Secondary suites may soon be allowed in West Vancouver in homes where the owner doesn't live on the property.

The proposed bylaw amendment passed first reading at a Feb. 7 council meeting and is set for public hearing.

Under current rules, the owner of any secondary suite in the municipality must live on the property, a restriction initially put in place to ensure the property was well maintained, according to staff. The same rules apply in both the city and the district of North Vancouver.

"Initially, when we started with the secondary suites, we wanted to go slowly and see where we were," said Bob Sokol, director of planning, lands and permits for the district.

So far, 230 secondary suites have gone through the municipality's recently introduced process and become legal, but he estimates that there are about 700 to 800 suites throughout the district, which he cautions is a rough estimate.

While the suites are not compliant with current bylaws, they haven't been a nuisance, and they provide some of the only relatively affordable housing in the district, he said.

"Secondary suites are a significant form of less expensive housing in West Vancouver, and these suites, the ones we're talking about now, have been in these neighbourhoods for sometimes five, 10 and 15 years, and nobody's complained about them, so why should we suddenly tell people: 'No, you can't have them?' " he said.

By allowing non-owner occupied suites, staff would get a better picture of the number of houses involved and ensure they meet an acceptable standard, according to the report. Under the amended bylaw, operators of suites will also require a business license and pay an annual fee of \$450, which is \$100 more than for suites where the homeowner also lives on site.

"I know that council will have much to say about it when we get to public hearing," said Mayor Pam Goldsmith-Jones, but she said they wanted to hear from residents before making any decisions.

The public hearing is set for Feb. 21 at 7 p.m. at the municipal council chambers.

© Copyright (c) North Shore News

1 of 1 18/02/2011 12:28 PM





## Abbotsford considers break from region

Abbotsford is considering breaking away from the Fraser Valley Regional District, arguing the city is subsidizing rural communities and not getting equitable services for what it spends.

BY VANCOUVER SUN JANUARY 31, 2011

Abbotsford is considering breaking away from the Fraser Valley Regional District, arguing the city is subsidizing rural communities and not getting equitable services for what it spends.

City staff have recommended that Abbotsford lobby the province to allow it to separate and form its own single-tier governance system in which it would be responsible for services such as solid waste and air quality. The move could save \$1.4 million a year.

"We're looking for good value for taxpayers," Mayor George Peary said. "We get very little service out of the Fraser Valley Regional District and yet it controls a large amount of [our] money.

"Because we're the largest player in the Fraser Valley Regional District, we've become the cash cow the rural areas milk and enjoy the benefits of."

The Fraser Valley Regional District was formed in 1996, pulling together six municipalities and seven electoral districts, from Abbotsford to Boston Bar. At the time Peary, then a Matsqui councillor, said he hoped the regional district would give the Fraser Valley more clout with Metro Vancouver. But he now argues his city is paying too high a price for services that tend to benefit the rural areas.

Abbotsford last year contributed about \$2.5 million -- or nearly half the total funding -- to the regional district for general governance and services, including emergency 911 calls, air quality management and solid waste management. At the same time, the city has agreements with Mission for sewage, transportation and recycling, while it is a member of Metro Vancouver's park system.

"What value do we get from that general governance? Precious little," Peary said.

Patricia Ross, chairwoman of the Fraser Valley Regional District, said it is in the midst of reviewing its structure to improve services, reduce costs and provide more fair and equitable services.

The new structure is expected to be rolled out shortly, said Ross, an Abbotsford councillor. She noted the city report indicates that Abbotsford is largely satisfied with the value it receives from the district.

Speaking as a councillor, Ross said she was worried Abbotsford was making a mistake in considering a separation, saying it could end up paying more for services. Municipalities have more clout for funding when they're part of a regional district, she added. "It's always stronger to be part of a larger united voice than standing alone."

Patrick Smith, a Simon Fraser University professor and director of the Institute of Governance Studies, said it sounds like Abbotsford is pressuring the FVRD to change its structure. It would be a big sell, he said, to convince the province to support the plan because it could be inundated with similar requests from other cities.

"It seems to me entirely unlikely the province, no matter what leader emerges, will support the idea of a municipality being a stand-alone entity," he said. "That seems to be a big stretch."

Peary acknowledged his council may stick with the FVRD if it can accommodate the city's concerns. "We certainly have their attention now and they're scrambling to accommodate some of the issues we've raised," he said.

The city's proposal comes on the heels of a report by the Abbotsford Chamber of Commerce, which is urging the city to separate from the FVRD. Chamber executive director David Hull said, "The urban centres of the Fraser Valley are paying for the governance of the wild outback of B.C."

ksinoski@vancouversun.com

© (c) CanWest MediaWorks Publications Inc.

1 of 1 31/01/2011 12:05 PM



# MEDIA RELEASE

## Council Approves Seeking Alternate to FVRD

**ABBOTSFORD January 24, 2011** – This afternoon, Abbotsford City Council approved a recommendation from City staff to seek Provincial approval to operate outside of the Fraser Valley Regional District (FVRD) - saving the City up to \$1.4 million annually, announced Mayor George W. Peary.

The City of Abbotsford is the largest member of the FVRD, which currently consists of six municipalities and seven electoral areas in the Fraser Valley. The FVRD's primary purpose is to provide services to its member municipalities and electoral areas, including regional services to the whole region, sub-regional services across jurisdictional boundaries and local government services to electoral areas.

"Regional district arrangements are intended to be equitable for all participants, with the costs of services being paid for by those that benefit from them," said Mayor George W. Peary. "The City of Abbotsford contributes approximately half of the requisitioned funding for several of the FVRD's key services, but these services do not significantly benefit Abbotsford residents."

According to the Ministry of Community and Rural Development, "...regional districts are required to match the benefits and costs of its services to the people that benefit from the services. In other words, residents pay for what they get." A study by the City of Abbotsford conducted last year indicates that, while some of the services provided by the FVRD are of value, the City does not receive the intended benefits from the FVRD in the key areas of general government, regional development planning, transportation planning, and solid waste management. In addition, the management of Abbotsford's regional water supply and wastewater treatment was transferred to the City of Abbotsford and the District of Mission in 2005.

As an alternate to the service arrangement with the FVRD, the City is proposing the single tier model of governance which would allow the City to be the sole governing body for all services provided to Abbotsford residents.

"Council has a responsibility to review all of its arrangements and programs to ensure taxpayers are receiving full value for their money," said Peary. "Our evaluation indicates that a single tier arrangement would save the City between \$800,000 and \$1.4 million annually."

The single tier model of governance would allow for the consolidation and simplification of governance structures and financial operations into one entity, reducing local government costs. It would also provide the City with greater control of regional spending, and ensure a direct benefit for residents from funds spent on regional initiatives. The single tier governance arrangement requires the City of Abbotsford to seek Provincial approval, as well as some legislative amendments. The Province has approved changes to other regional arrangements in the past to ensure that the unique challenges facing various areas of the province are met.

#### BACKGROUNDER ATTACHED

-30-

For more information contact:

Katherine Jeffcoatt, Manager, Corporate Communications and Marketing

E: kjeffcoatt@abbotsford.ca Tel: 604-864-5564

city in the country



# **BACKGROUNDER**

## Abbotsford's Alternatives to the Fraser Valley Regional District

## What was the reason that Abbotsford decided to look at alternates to the FVRD?

The FVRD was formed in 1995 based on the recommendations of a Regional District Restructure Study completed in June 1994. The study states that 'Regional districts operate on the principles of consent, equitable allocation of costs and flexible response to the requirement of individual communities. Services are provided only where residents want them and are willing to pay.'

"Council has a responsibility to review all of its arrangements and programs to ensure taxpayers are receiving full value for their money," said Peary. "It has been 15 years since the FVRD was formed, providing the City with an opportunity to carry out an in-depth evaluation of the outcomes of our arrangement. The City contributes a significant amount of funding to the FVRD annually and is accountable to taxpayers to ensure full value is received in participating in the arrangement with the FVRD. Our evaluations have led to serious concerns about Abbotsford carrying an unfair share of the costs."

## When did the City of Abbotsford start to look at this issue?

In July 2010, City staff submitted a closed report to Council assessing the value to the City as a member of the FVRD. The report reviewed the perceived benefit of the services provided by the FVRD, and briefly discussed some of the City's regional arrangement options.

"At the direction of Council, City staff sent the report to the FVRD, who reviewed its contents in August last year in a closed session of the Executive Committee," said Peary. "City staff also met with the FVRD in early September 2010 to discuss the report. The report that Council considered this afternoon, is a follow-up to that process."

## How will the single tier model of governance benefit taxpayers?

The City's analysis estimates that a single tier arrangement would save the City between \$800,000 and \$1.4 million annually. The majority of the savings would come in the areas of general government, regional development and solid waste management. Actual savings will be dependent on the details of the interjurisdictional agreements established within the single tier arrangement

"Abbotsford already has several successful inter-jurisdictional partnerships outside of the regional district framework for services that are typically provided by regional districts," said Peary. "For example, the City partners with the District of Mission for regional water, wastewater, transit, recycling and composting services, and with Metro Vancouver for regional parks service."

city in the country

## Abbotsford's Alternatives to the Fraser Valley Regional District Backgrounder Cont.

## Will the Province of BC consider Abbotsford's proposal to move to a single tier model of governance?

The Province of BC has made revisions to regional arrangements in the past, both within and outside of current legislation. The recently restructured Comox Strathcona Regional District serves as an example of the Province dividing an existing regional district into two separate regional districts to address the distinctly different needs of the two parts of the region.

A second example is the recently formed Northern Rockies Regional Municipality, which serves as an example of how the Province is open to new alternatives to the traditional two tier system. The single tier system is the first of its kind in British Columbia, and is a unique arrangement that most efficiently addresses the particular challenges facing that area of the province.

The regional municipality is an example of how smaller municipalities and rural areas can continue to receive services under a single tier system. Alternately, the Community Charter permits a municipality to provide services outside of its municipal boundaries. In a single tier system, smaller communities could establish agreements with larger municipalities for the provision of services currently received from the regional district. This would provide an alternative means for these communities to receive services such as community planning, land use regulation and building regulation.

-30-

## For more information contact:

Katherine Jeffcoatt, Manager, Corporate Communications and Marketing

E: kjeffcoatt@abbotsford.ca

**Tel:** 604-864-5564





# THE GLOBE AND MAIL \*\*

**Digital Home** 

# What is a fair price for Internet service?

## Hugh Thompson | Columnist profile | E-mail

Globe and Mail Update Published Tuesday, Feb. 01, 2011 3:52PM EST Last updated Thursday, Feb. 10, 2011 1:52PM EST

For the last month Digital Home has been lit up with readers from across Canada who are venting their anger over the ever increasing cost of Internet service and new charges for usage-based billing (commonly called UBB).

Clearly, no one wants to pay more for internet service, but at some point the price of just about everything goes up. So recently I decided to investigate whether the spate of price increases were justified and fair.

I began by contacting two of Canada's major Internet providers -- Bell and Rogers -- and asked them why bandwidth caps and usage-based billing are necessary. A representative from Bell justified the caps by saying: "Flat-rated pricing structures are simply no longer viable given the massive acceleration in Internet traffic and the load it puts on carrier networks."

My research into Internet traffic certainly seems to support the assertion by Bell and other providers. Research papers from the University of <u>Minnesota Internet Traffic Studies</u> and <u>Cisco Systems</u> estimate that monthly Internet traffic in North America has grown by an astounding 40 to 50 per cent per year in the last decade. In a report released last year, Cisco predicted Internet traffic would quadruple between 2009 and 2014, a compound annual growth rate of 34 per cent.

Although the average Canadian is still subscribing to the same Internet packages they were four years ago, the reality is they are, on average, downloading twice as much data as they were two years ago and four times as much data as they were four years ago.

The argument that the exponential growth in Internet usage as the primary reason for higher prices is a seductive one. However, it ignores the fact that the technology that drives the Internet has become more powerful and much cheaper in the past decade.

While Internet traffic grew at a rate of around 50 per cent per year in the last decade, The University of Minnesota and other researchers have found that processing power, hard disk densities and transmission rates grew at rates closer to 60 per cent per year over the same period. In addition, the servers and routers and other electrical equipment that are the backbone of the Internet are much more energy efficient than they were ten years ago, which has dramatically reduced the cost of operations.

In simple terms, the bandwidth explosion is real, but it's been more than offset by more powerful and more energy-efficient machines. So, we can reject the notion that increased usage is the a significant rationale for huge Internet price increases and usage-based billing.

But perhaps there is a simpler reason for trying to justify why UBB and data caps are a more fair than flat-rate pricing?

If you went into a restaurant with a friend and they had an appetizer, main dish and a dessert while you had

1 of 2 20/02/2011 4:50 PM

coffee and a salad, would you want to split the bill? The notion that if you consume more Internet traffic, you should pay more seems like a fair argument. The question then becomes, what is a fair price for those extra gigabytes of data?

To find out what is a fair price, I contacted several industry insiders. They informed me that approximately four years ago, the cost for a certain large Telco to transmit one gigabyte of data was around 12 cents. That's after all of its operational and fixed costs were accounted for. Thanks to improved technology and more powerful machines, that number dropped to around 6 cents two years ago and is about 3 cents per gigabyte today.

Are these valid numbers? After the recent CRTC decision regarding UBB, it was announced that effective March 1st, Bell will be charging Third Party Internet Access (TPIA) providers \$4.25 for a 40 GB block of additional data transfer.

The fact that Bell is able to sell 40 GB of data to wholesalers for \$4.25 and still make a profit demonstrates that the true cost of data transfer is well below the 10.5 cents per gigabyte they are charging wholesalers. One TPIA provider agreed the 3 cents per gigabyte figure is probably close to the true cost.

So why are Internet service providers charging consumers \$1 or more per gigabyte of data used beyond their respective data caps? That's a good question.

Bell <u>will charge you</u> an additional \$2 per gigabyte to a maximum of \$60 a month up to 300GB. After 300 GB, you'll pay a \$1 a gigabyte. <u>Shaw is charging</u> \$2.00 per GB on its popular high-speed package while <u>Rogers is charging</u> a whopping \$5 per gigabyte on its Ultra Lite plan and \$2 per GB on its popular 10 Megabits per second service.

Assuming an inflated cost of 10 cents per gigabyte, it means that Bell, Shaw and Rogers are charging consumers between 10 and 50 times what it costs them to deliver data. This on top of their regular monthly Internet pricing! While I agree that heavy users should be prepared to pay more once they have reached their bandwidth caps, a fair price would be much closer to 10 cents per GB than the inflated \$1-to-\$5-per-gigabyte charge sanctioned by the CRTC.

The vast mark-up granted to cable and telecommunications under UBB by the CRTC demonstrates that the federal regulator has failed to deliver a competitive Internet services business in Canada. Rather than ensuring consumers receive fair Internet pricing, the CRTC seems content to line the pockets of Cable and telecommunications companies by forcing Canadian consumers to pay Internet data rates that have no basis in reality.

Hugh Thompson is the owner and publisher of <u>Digital Home</u>, a consumer electronics news and information website. As a voice for the Canadian consumer, Hugh is a frequent guest on radio and television programs across the country discussing the latest in consumer electronics and the business of convergence in the Digital Home.

Hugh's column will appear on the first Wednesday of the month.

© 2011 The Globe and Mail Inc. All Rights Reserved.

2 of 2 20/02/2011 4:50 PM

## Opinion on EMAIL Ethics and Blind Copying - by Corrie Kost

Consider: How would you feel when a particular message addressed to you might also have reached a number of other people, but you did not know who?

- A) I think we all agree that BCC is fine when it is to preserve the requested privacy of people's email addresses.
- B) When replying as a BBC recipient one should not use reply-all, or reply or forward to other than the sender, unless C) was used for you (i.e all parties of the original message were aware that you had received the message)
- C) You could mention the other BCC recipients at the end of the email by name only.
- D) Adhere to privacy requests in the original message (say from X). If X requested that you not forward the email to anyone then don't. There are always exceptions but let your brain deal with those.
- E) If you need to BBC to all the recipients (ie. do not want to see even the To: address then simply use To: your-email-address for those mailers that insist you provide an To: )
- F) For clarity (and hopefully honesty), if you are communicating to one or a select group of people in confidence and privacy then say so in the body of the message. Then all recipients will know that no one else is getting the email (if you are honest!). "Confidential for your eyes only" can help.
- G) If you received an email via BCC and REALLY want to know who else received it ask the sender he/she likely has a record in their "sent folder" (which of course you cannot access).

A good rule for readers/senders of email is to assume that anything you received, or anything you sent, MIGHT be read by someone/anyone else!

Another good rule - If in doubt don't! Most times you know what to do (and hopefully know how to do it).

Be honest with yourself. Honesty is a useful life policy.

## Reference:

http://www.putergeek.com/email/

Subject: District Print Shop and Healthy Neighbourhood Funding Guidelines - and update

From: Jeanine Bratina < BratinaJ@dnv.org> Date: Mon, 24 Jan 2011 17:29:07 -0800

**To:** Blueridge <blueridgeca@shaw.ca>, Deep Cove <deepcoveca@stargate.ca>, Edgemont <jwalsh11@shaw.ca>, FONVCA <corrie@kost.ca>, Lions Gate <cathyadams@shaw.ca>, Lower Capilano <jamie.leigh@shaw.ca>, Lower Capilano <info@lccra.org>, Lynn Valley <gilmour@magusta.com>, Lynnmour and Inter River <br/>barb.maclellan@nscr.bc.ca>, Maplewood <maplewoodca@shaw.ca>, "Mt. Fromme" <info@frommeresidents.ca>, Norgate <pairofknees@gmail.com>, Norgate <kshille@yahoo.com>, Pemberton <cejm@shaw.ca>, Save our Shores <sonbel@shaw.ca>, Seymour <clairty2001@shaw.ca>, Seymour Valley <br/>billm@millsoft.ca>, Strathcona <csallis@vcc.ca>

**CC:** Sarah DalSanto <DalSantoS@dnv.org>, Penny Chester <ChesterP@dnv.org>, Jeanine Bratina <BratinaJ@dnv.org>

## Good afternoon:

I am writing to advise you of a few changes here at District Hall. As of January 28, the District's internal print shop will be closing. Some of our Community Associations have used the print shop in the past for printing of your community newsletters, charges for which have come out of the District's Healthy Neighbourhood Fund.

The Healthy Neighbourhood Funding Guidelines itself will be undergoing an update and review this year and the Sustainable Community Development Department will be connecting with Community Associations as the review gets underway. In the interim, inquiries regarding the Funding Guidelines and requests for printing of community newsletters should go through the Sustainable Community Development Department (by contacting Penny Chester at 604-990-2421).

## Sincerely

Jeanine Bratina
Communications and Community Relations
District of North Vancouver
355 West Queens Road
North Vancouver, BC V7N 4N5

Telephone: 604-990-2459

E-mail: bratinaj@dnv.org<mailto:bratinaj@dnv.org>

Web: www.dnv.org<a href="http://www.dnv.org">www.dnv.org</a>

[cid:image001.gif@01CBBBEC.35C9E190]<a href="http://www.facebook.com/NVanDistrict?v=box\_3">http://www.facebook.com/NVanDistrict?v=box\_3</a>

[cid:image002.gif@01CBBBEC.35C9E190] <a href="http://twitter.com/nvandistrict">http://twitter.com/nvandistrict</a>

[cid:image003.gif@01CBBBEC.35C9E190] <a href="http://www.youtube.com/user/nvandistrict">http://www.youtube.com/user/nvandistrict</a>

1 of 1 24/01/2011 11:37 PM



## The Corporation of the District of North Vancouver

#### **CORPORATE POLICY MANUAL**

Section:	Social & Community Services Planning	10
Sub-Section: Community Liaison – Non Governmental Organizations		4790
Title:	Healthy Neighbourhood Funding Guidelines	2

#### **POLICY**

The District of North Vancouver will provide funding to support Healthy Neighbourhoods in accordance with the Healthy Neighbourhoods Funding Guidelines as indicated in the attachment to this policy.

## **REASON FOR POLICY**

- To assist existing community/neighbourhood associations, who meet the District's Criteria for Official Recognition, develop their memberships and increase involvement of residents in improving the quality of life in North Vancouver District neighbourhoods; and
- 2. To support the development of new neighbourhood associations in areas where none currently exist.

#### **AUTHORITY TO ACT**

Delegated to Staff

#### **PROCEDURE**

Application Forms will be submitted to the Social Planning Department.

Approval Date:	July 8, 1996	Approved by:	Executive Committee
1. Amendment Date:		Approved by:	
2. Amendment Date:		Approved by:	
3. Amendment Date:		Approved by:	

Document No: 261800

# HEALTHY NEIGHBOURHOODS FUNDING GUIDELINES

# DISTRICT OF NORTH VANCOUVER May 1997

## **PURPOSE OF THE FUND**

- 1. Assist existing community/neighbourhood associations, who meet the District's Criteria for Official Recognition, develop their memberships and increase involvement of residents in improving the quality of life in North Vancouver District neighbourhoods; and
- Support the development of new neighbourhood associations in areas where none currently exist

#### **ELIGIBLE EXPENSES**

Healthy Neighbourhood Funding will contribute funds towards:

- a) Meeting space if no free meeting space exists;
- b) Activities which increase communication with all residents of Neighbourhoods served by Community Associations, such as newsletters, community forums, and signage;
- c) Due to the limited nature of the fund (\$10,000), a maximum of .13 per capita would be available for each community association for one year and associations with overlapping populations would be expected to jointly apply for Healthy Neighbourhood funding; and
- d) Community associations may jointly apply for funds to support communication activities which serve more than one neighbourhood or community.

#### **EXPECTED OUTCOMES**

As more residents become aware of their local association and how to become involved, it is expected that (1) the membership of community associations will increase and (2) more residents will become involved in various activities of their association.

Based on these two expected outcomes, the Healthy Neighbourhood Fund will be evaluated during its first year of operation. Organizations using the Fund will be asked to keep track of their memberships and levels of involvement.

## ADMINISTRATION OF HEALTHY NEIGHBOURHOOD FUND

Once the application for Healthy Neighbourhood Funds is approved, the community association will be asked to submit invoices for eligible expenses to the Social Planning Department. Once invoices are approved, they will be paid directly by the District.

## **ELIGIBILITY CRITERIA**

Community Associations will have to meet the District's "Criteria for Official Recognition of Community Associations" as outlined on the Application Form. New associations will be given one year to meet the "Criteria for Official Recognition."

Document No: 261800

# APPLICATION FORM HEALTHY NEIGHBOURHOODS FUND

1.	Community Association(s)			<del></del>	
2.	2. Neighbourhood Boundaries Served & Population Estimate				
3.	Number of Current Members Date of Application				
4.	1. President/Chair				
	Address			<del></del>	
	Postal Code	Phone	Fax		
ado	Please describe items/activition  dress one or both of the follow neighbourhood(s) with all res	ving: (a) meeting sidents.		nunication within	
	What are the costs of the itemathry Neighbourhood Fund ar		•		
ITE	MS/ACTIVITIES				
TO <sup>.</sup>	TAL COST		LESS COMMUNITY AS	SOCIATION	
СО	NTRIBUTION (Describe if in-	kind, e.g. distrik	oution of newsletter)		
ΛΝЛ	IOLINT REQUESTED FROM		CHBOIIBHOOD EIIND		