

The University of B.C.'s James Taylor research chair in landscape and livable environments has its roots in the 1987 United Nations World Commission on Environment and Development.

The commission argued that the solutions to global environmental problems lay largely at the local level, especially at the point of site development.

Members of UBC's landscape architecture program

THINKING LOCALLY

realized most research in landscape sustainability was being done at "the ecosystem scale," meaning landscapes larger than 3,000 square kilometres, and almost no work was being done at "the site scale," meaning landscapes of less than two square kilometres.

The program proposed a research chair in 1990 and received funding in 1991.

Patrick Condon, who holds the research chair, says its central principle is that "the individual site, and even the individual house and yard, are to the landscape region what the single cell is to the human body."

"Just as the health of the human body is dependent on the health of all of its cells, so the ecological health of a landscape region is dependent on the health of its individual sites."

From CI

*Little boxes on the hillside,
little boxes made of ticky tacky
Little boxes on the hillside,
little boxes all the same
There's a green one and a pink one
and a blue one and a yellow one
And they're all made out of ticky tacky
and they all look just the same.*

— Malvina Reynolds

Levittown, Long Island, N.Y., was the prototype for the post-war suburb. Built beginning in 1947, it was the first of the mass-produced housing developments for Second World War veterans and their brides: the parents of the baby boom.

Levittown, Pa. — built a few years later by the same developer, William Levitt, who more or less invented the post-war suburb — and the thousands of subdivisions that followed were the incubators of 1950s North American suburban culture and lifestyle, against which many boomers would rebel in the 1960s; the 1963 folk song *Little Boxes* was one of the early signs of their discontent.

Some of the boomers are still rebelling. One is Patrick Condon, a New England-born professor of landscape architecture at the University of B.C., who believes that what the post-war suburban model has done to us is frightening.

When you cover 50 per cent or more of the land with paved roads and sidewalks, driveways and houses, Condon explains, you destroy its ability to manage water.

The soil can no longer soak up and hold all the rain and slowly disperse it through natural drainage systems. The overflow rushes downhill, carries off the topsoil, cascades into storm-sewer systems, washes silt, road oil and other pollutants into waterways, wipes out fish-bearing streams and floods the lowlands.

Suburbs also affect the people who live in them. Unlike pre-war, grid-layout neighbourhoods that are criss-crossed by commercial streets with bus or streetcar routes — Vancouver's Kitsilano is a fine example — post-war suburbs were designed with little or no space for shops, restaurants, theatres and offices or access to transit. The people who live in them are rarely within easy walking distance of anything.

"No needs can be satisfied at hand," Condon says, "nor can they be satisfied within a five-minute walk."

"The research clearly shows that if you're more than five minutes away from something, you won't walk — you'll drive."

In the suburbs, everyone drives everywhere. Surrey has 1.8 automobiles per dwelling unit, half as many again as Vancouver's 1.2. The average resident of Vancouver, which has few post-war-style suburbs, travels 40 per cent fewer vehicle-miles per day than the average resident of Surrey, which has many.

Post-war suburbs are usually laid out so you can enter and exit, but you can't drive through them. There are often only one or two ways in and out, and they connect to networks of arterial roads that lead to shopping malls, schools, recreational facilities, and bigger arterial roads.

Planners generally underestimate how much suburbanites will drive, and the arterial roads they design always become congested. The frustration of navigating the crowded arterials makes commuters yearn for the peace of suburbia. More suburbs are built to meet the demand and the arterials become more clogged.

"The more people go to cul-de-sacs, the worse the arterials get," says Condon. "The worse the arterials get, the more people insist on living on a cul-de-sac."

Because of all the driving, suburbanites create more air pollution than city dwellers who can walk, ride a bike or take the bus. Evidence is accumulating that it also makes them less healthy.

"You get fat kids, you get all kinds of problems, diabetes and all kinds of heart diseases and stuff that is emerging as a consequence of this pattern," Condon says. "It's quite scary."

Urban sprawl and suburban design also contribute to respiratory disease and to pedestrian traffic fatalities, according to a U.S. Centres for Disease Control report published last year.

In response, there is a growing movement to design sustainable communities that are kinder to the environment and to the people who live in them. Condon, a landscape architect who has taught at UBC for a decade and holds the UBC agriculture faculty's James Taylor Chair in Landscape and Livable Environments, is one of the movement's leading lights.

In the 1990s, Condon started lobbying Lower Mainland municipalities to host a real-life experiment in sustainable development. Ironically, it was Surrey, seen by many as the epitome of suburban sprawl, that stepped forward.

Old forests, massive stumps

Whether the sustainability experiment works or not, East Clayton is a spectacular example of how thoroughly we can obliterate the past when we etch new patterns onto the landscape.

A century and a half ago, drainage here wasn't a problem; an ancient rainforest of Douglas fir and western red cedar, one of nature's great sponges, absorbed, stored and distributed every drop of rain.

Douglas fir and red cedar can grow large. The biggest of Surrey's trees were giants 18 feet (5.5 metres) or more in diameter, according to local historian Jack Brown.

Before European contact, what is now south Surrey was occupied by the Semiahmoo people, who lived in salt-water-facing villages along Boundary Bay and fished salmon heading for spawning rivers.

They might have seen their first Europeans when a Spanish ship on a mapping expedition, captained by Jose Maria Narvaez, anchored in Semiahmoo Bay in 1791. England's Captain George Vancouver followed a year later, as did Spaniard Dionisio Galiano.

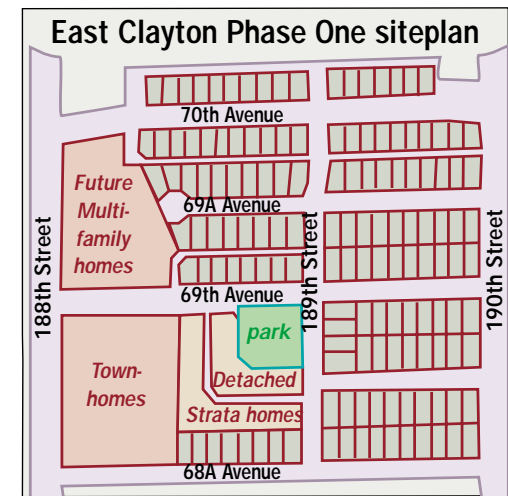
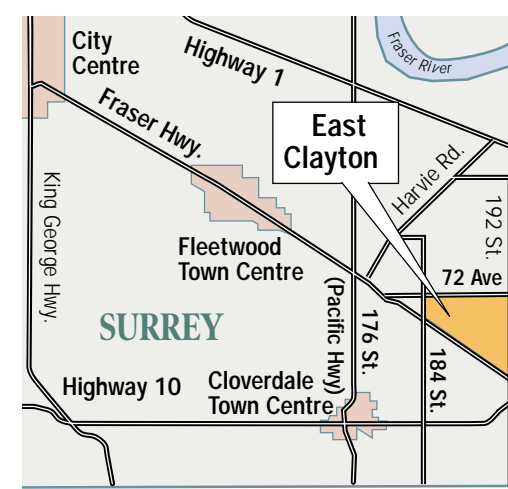
North Surrey was in territory controlled by the Kwakwaka'wakw First Nation, who built most of their



In the beginning, there was Levittown, N.Y. (1947), the first mass-produced housing development for Second World War veterans and their brides. Below, East Clayton, one of Levittown's 21st-century descendants and arguably a product of boomer rebellion against Levittown values.



IAN LINDSAY/VANCOUVER SUN



Source: BFW Developments Ltd.

villages on the north shore of the Fraser River — where New Westminster now stands — and used the more flood-prone Surrey side of the river for hunting and burial grounds.

Nobody lived in the uplands where East Clayton is being built. The area might have been used by aboriginal hunters, Brown says, but it probably saw little concentrated human activity.

The first recorded European contact on the east occurred in 1809, when a Hudson's Bay Company expedition led by Simon Fraser came floating down the Fraser. (They had to paddle for their lives when the local Musqueam people took an instant dislike to them.)

By mid-century there were some working farms in the north and south of Surrey, and pockets of settlement with names like Mud Bay, Kensington Prairie, Clover Valley, Tynehead, Port



CITY OF SURREY ARCHIVES

B.C. loggers, early 1900s: Logging helped create the drainage problem that new technology must solve.

Kells, White Rock. But there was no commercial centre and trade went through older settlements like New Westminster, Hastings Mill (Vancouver) and Victoria. A few trails were hacked through the forest, but transportation was mainly by water.

That all changed in the late 1880s when the railways arrived, first the New Westminster and Southern Railway, then the Victoria Terminal Railway and Ferry Company.

Logging, which had begun in the 1870s to clear land for farms, got a huge boost when logs could be hauled by train rather than a combination of oxen, horses, skid roads and rivers. Spur lines were strung all over the region; sawmills and shingle mills sprang up along the tracks and, by the 1920s, most of the forests were gone.

That didn't mean Surrey was suddenly open

for large-scale farming. The loggers left behind an impossible tangle of logs, wood waste and massive tree stumps. In the uplands, where the soil quality wasn't great for agriculture, there was little reason to clear the land once the loggers were gone.

A few souls were driven to settle in the uplands by the Great Depression, Brown says. Drought gripped the Prairies from 1929 through 1937, "and all through that period, as people gave up on the Prairies, they came out here where they were sure there was going to be some rain."

The Second World War finally opened the uplands. The war pushed the military into developing new explosives and heavy mechanized equipment, which found their way into war surplus. They were just the things for clearing massive tree stumps.