

Planning Sustainable Communities: Implementing Calgary's Vision

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Increasing recognition of the importance of sustainability in an urbanizing world has directed the attention of planners, developers and policy makers to sustainable urbanism. The ideas behind these new approaches relate to more efficient growth management to improve the physical, economic, and social environment as well as to strategies to plan and create vibrant, livable communities. This article illustrates the impact of such approaches on the planning of new communities in Calgary.

Approaches to Sustainable Community Planning

Smart Growth has been adopted by cities and municipalities across North America with a fair degree of flexibility and adjustment of the original ten principles. Smart Growth advocates the development of plans and programs designed to influence the rate, type, location, and the cost of growth. It focuses on balancing competing land use objectives, on integrating transportation and land use planning as well as on measures designed to control and to stimulate growth (Tsenkova 2006). Within that context, the challenge of its practical implementation is often associated with the effectiveness of smart growth planning and design in the suburban environment. The new communities guided by these principles provide places for people to live, work, and shop and engage residents in more sustainable community practices—energy saving and composting, community gardening, green initiatives, etc. Recent examples of such communities that are more balanced in function, create inclusive housing supportive of home-based businesses, facilitate walkability and promote access by public transit have strong implications for sustainable urban planning and design.

The popularity and acceptance of the Smart Growth movement in North America, as well as the wide adoption of its principles, have shown that a systemic approach to growth management sensitive to geographic

and cultural contexts is needed to reinvent cities as ecologically, socially and spatially attractive places. Notwithstanding such evidence of its success, criticism advanced in literature is related to the effectiveness of implementation of Smart Growth principles and the consistency of implementation tools (Bourne 2001; Downs 2005).

New Urbanism adopts many of the principles of smart growth but emphasizes the importance of urban form and structure. *The Charter of New Urbanism* (1996) advocates high quality urban design, pedestrian friendly environments, attractive streets, parks, and squares. It promotes the mix of uses, fine grain design, connectivity, order, coherence and visual understanding and sense of place. New Urbanism reverts auto-dependency with transit-oriented development on urban infill, suburban greenfield and gray-field sites. McKenzie Towne, planned by Duany Plater-Zyberk & Co, is a well know example of such a community in Calgary. The 'transect' has been more recently developed to order the cross-section of a city through a gradient of six zones with gradually increasing density from the natural hinterland to the urban core. While New Urbanism has been a success in some suburban communities, particularly its aesthetic of front porches and heritage styles, it is not usually accompanied by higher density, transit-oriented developments, it fails to establish viable commercial districts and to integrate a reasonable share of affordable housing (Grant and Bohdanov, 2006).

A new system of **Leadership in Energy and Environmental Design (LEED) for Neighbourhood Development (ND)** takes the approaches of Smart Growth and New Urbanism further. Administered by the U.S. Green Building Council, the system evaluates both the design and the construction procedures of new development on infill and greenfield sites. The purpose of LEED-ND is to encourage developers to create new development that will "revitalize existing urban areas, reduce land consumption, reduce automobile dependence, promote pedestrian activity, improve air quality, decrease polluted stormwater runoff, and build more livable, sustainable, communities for people of all income levels." (USGBC, 2007: 1). There are currently 238 pilot projects, 21 of which are in Canada. Currie Barracks development in Calgary received a Stage 2 LEED ND Gold certification for an approved plan in October 2008.

Implementation in Calgary: Planning Mahogany

Calgary has been one of the fastest growing cities in North America. The pace of that growth has created significant challenges associated with land

development pressures, demand for higher investment in infrastructure and essential city services and suburban expansion. The City of Calgary is committed to efficient growth management guided by sustainability principles adopted in 2007. A number of higher level policy reviews and strategic plans place an explicit emphasis on new approaches to the planning of sustainable communities such as the *Sustainable Suburbs Review*, *Smart Growth Rating System and Environmental Footprint Project*. *‘Imagine Calgary’* followed by the *‘Plan-It’* document, have set a 70 year vision for Calgary. Inner city intensification and smart suburban communities are fundamental aspects of implementing the vision.

The plan for Mahogany, a new community located in southeast Calgary, is a result of an innovative and integrated process between the developer, Hopewell Residential Communities, the planning consultants, Brown and Associates, and city planners to create a community based on smart growth and sustainable planning principles. 1300 acres in size, the community of Mahogany is anticipated to accommodate 12,800 dwelling units, housing over 25,000 residents. Mahogany is envisioned as a series of residential neighborhoods anchored by a strong mixed-use urban core of commercial, institutional and higher density residential. An east-west axis that runs through the entire community creates visual permeability through the plan area. The 90-acre urban core is located adjacent to the future Light Rail Transit station and will be developed in compliance with the Transit-oriented Development guidelines adopted by the City of Calgary. Mahogany’s three part freshwater lake envelops the urban core and acts as a connecting element between the urban core and the residential neighborhoods. The hard edged lake shoreline will be open for public viewing and recreation. Five distinct neighborhoods surround the lake—each with their own identity and distinctive features. The road network in Mahogany connects the 9-acre green space in the urban core, the neighbourhood nodes, the existing wetland complex in the northeast and the historic Ollerenshaw Ranch in the southeast part of the community.

The key smart growth principles as well as sustainable and innovative elements integral to the Mahogany plan presented in Figure 1 are as follows.

Figure 1 Smart Growth Principles in Mahogany

Compact development and an inclusive community. With an overall density of 10 units per acre, Mahogany sets the stage for intensification of suburban communities in Calgary. The higher density comes with 47%

multifamily residential— condominiums and townhouses—offering housing at various levels of affordability for a range of demographic groups.

Alternative travel choices: Transit, walking and bicycling. The Mahogany plan consists of a strong mixed-use high density Transit-Oriented Development adjacent to the future LRT station. The mixed-use core will promote transit usage by accommodating higher density residential developments and local commercial and institutional services. The community design integrates a radial system of direct street connections to key destination areas such as schools and recreation amenities throughout the community. A comprehensive open space system further promotes walking and bicycling.

Environmental sustainability and low impact development. Preservation of natural features and integration of low impact development principles for storm water management has become a key element of new community design. The Mahogany plan integrates a large wetland complex into the storm water system to create a bio-diverse eco-system. The wetland complex is located adjacent to a school site thereby enhancing the educational benefits of the interpretive trail and nodes proposed in the complex.

Mixed-use complete community. The intent of this principle is to plan and build communities which cater to the daily needs of its residents, minimizing the need to travel outside of the community. The urban core in Mahogany is envisaged as a vibrant mixed-use area which will include recreational, shopping, institutional and educational facilities in addition to higher density residential. The goal is to maximize the opportunity to house people close to where they work to the extent possible.

Legibility/Sense of place. Through the proposal of distinct neighbourhood nodes and landmarks at key focal points, the Mahogany plan strives to create a legible community, which provides a sense of orientation to its residents. The urban core, enveloped by a three-part lake with public jogging paths at the interface, will serve as 'Downtown Mahogany' with a central green as its focal point. The integration of the existing Ollerenshaw farm as an educational center further enhances a sense of place and belonging to the community.

Figure 2 Mahogany Community Plan

Conclusion

Mahogany has been upheld as a model for smart growth and sustainability in community planning. The first phase of its development commenced in 2009 and the projected timeframe for build-out is 15-20 years. The success of implementing sustainable planning principles will be subject to the dynamics of many external factors and market forces. Flexibility of the plan to respond to these forces without compromising the overall vision will be the true test of our readiness for change. Although community plans in Calgary create a bold vision for new sustainable communities that are compact, transit oriented, and diverse in terms of housing choices and neighbourhood amenities, the implementation process tends to be challenging. The significant attention that urban growth management receives today highlights an ongoing debate, which questions the legitimacy of sustainable community planning to produce livable and sustainable cities (Talen 2003, Porter 2002). The challenge in the future is to accommodate growth through development that is marketable and economically feasible; development that is guided by the principles of Smart Growth; development that creates a sense of community and identity through effective planning and design solutions (Tsenkova, 2009).

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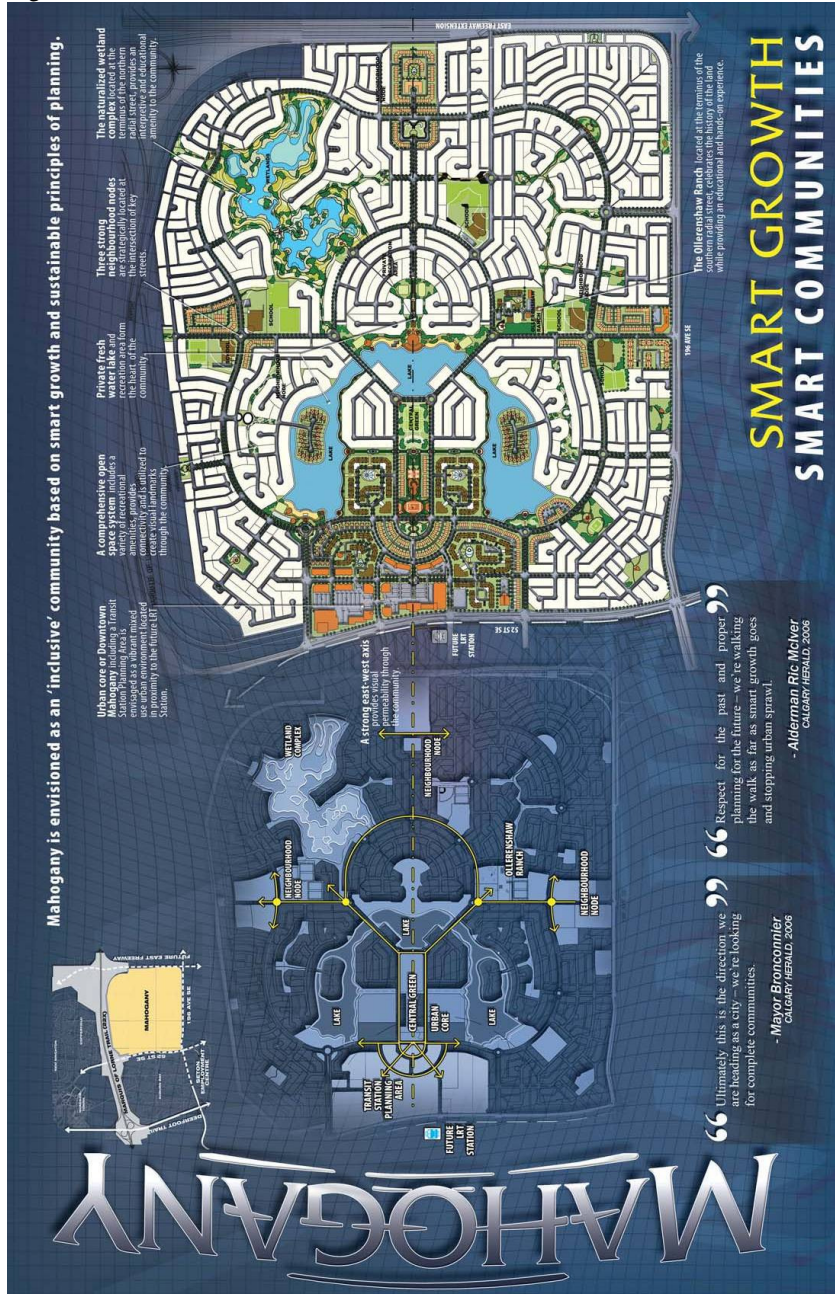
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Figure 1



Figure 2



Mahogany is envisioned as an 'inclusive' community based on smart growth and sustainable principles of planning.

Urban core or Downtown Mahogany including a Transit Station, use urban environment located centrally to the future Light Rail Station.

A comprehensive open space system includes a network of parks, trails, and amenities, providing connectivity and is unified through the community.

Private fresh water lake and water lake and water lake form the heart of the community.

Three strong neighbourhood nodes are located at the intersection of key streets.

The naturalized wetland complex located at the eastern end of the site provides an interpretive and educational amenity to the community.

“Ultimately this is the direction we are heading as a city - we're looking for complete communities.”
- Mayor Broncopter
CALGARY HERALD, 2006

“Respect for the past and proper planning for the future - we're walking the walk as far as smart growth goes and stopping urban sprawl.”
- Alderman Rick McIver
CALGARY HERALD, 2005

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