transit-oriented development

The Portland experience

Planning for Urban Growth

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1.0 Introduction

Portland has an international reputation for innovative and successful planning, an approach that address planning at the regional level as well as the neighbourhood scale. The Portland story is a result of almost three decades of hard work by both concerned citizens and local governments, a progression of incremental changes that has impacted the entire Portland Region for the better. One of the methods by which Portland has gone about creating change is through the use of light rail transit (LRT) to shape growth in the region and provide areas of focus around which to development good neighbourhoods. Although this type of development has received mixed fan fare and considerable resistance by many cities and developers, Portland has embraced the concept to successfully develop its region by using well-designed transit neighbourhoods as the basic building block for the entire city. Portland's triumph in this realm has also been the product of effective public (government) and private (developers) partnerships, an approach that utilizes key strategies and policies to achieve a common goal.

The result of all of this work has been the creation of a number of new greenfield Transit Oriented Developments (TOD) as well as improving existing neighbourhoods along the Portland LRT system known as the Metro Area Express or MAX. A number of new communities are award-winning developments including Orenco Station and Hillsboro.

While there has been an overall positive reception to TOD in Portland, it has not been without its challenges. The notion of TOD defies models preferred by conventional developers and the residential and commercial markets. In many new TOD neighbourhoods, absorption rates of commercial space and new housing units has been disappointing. As such, the TOD process has been an evolution of ideas and experiments, attempting to make them more viable and readily accepted by the general public. Gresham Station, in an example of a TOD neighbourhood that has been altered to satisfy market conditions while trying to maintain the core principles of the TOD concept. Gresham Station is looked at in more detail as a case study in this paper as both an example of Portland’s successful urban growth strategies. There are a number of important lessons to be learned, particularly for the Calgary context as it faces unprecedented urban growth.

1.1 A brief history of the region

During the 1970s the Portland government worked towards establishing strategies that would impact the region at two levels; the city itself and the surrounding region of cities and towns. In 1972, Portland began implementing its Downtown Plan as an initiative to preserve the city core as a viable business and commercial (Davis 1997). At the same time, the state adopted statewide land use planning goals known as Senate Bill 101 to assist the metropolitan region's growth management plan that wanted the region to grow "up" rather than "out" into farmland and open space (Tri-Met 1999). A major player in the development of this plan was Tri-Met, the newly formed regional transit agency that saw light rail as the key to the plan. Through the use of a proposed Urban Growth Boundary (UGB), the plan intended to limit expansion and focus growth around transit while protecting farmland and open space around the city (Calthorpe and Fulton 2001).

The Urban Growth Boundary was eventually implemented in 1979 along with the creation of a regional governing body known as 'Metro'. Metro was the agency responsible for establishing and maintaining the urban growth boundary (UGB) for the Portland region. However, the initial UGB endeavour was merely an elastic line that could be legally adjusted to provide for future growth and a recession during the 1980s slowed growth (Calthorpe and Fulton 2001).

Both the UGB and the new LRT did not affect the auto-dominated nature of suburban development that was occurring (Davis 1997). It was clear that any effective regional plan needed to do more than just preserve open space and farmland; but that it also necessary to reconnect communities with an appropriate form of transportation as an important step to creating a healthy environment, just as preserving natural systems and farmland.

In the early 1990s a number of significant achievements were made that helped to guide the regional renaissance that has occurred in Portland (Dueker & Bianco 1999). A new state transportation planning legislation required cities of over 25,000 residents to revise their transportation plans to emphasize alternative modes of travel and pedestrian friendly design adjacent to transit stations. Another one of the key steps in the overall sequence was a momentous study of alternative land-use-transportation strategies. The study was initiated in 1991 by a nonprofit environmental agency called ‘1000 Friends of Oregon’ that had originally focused on preserving rural lands and defending

the merits of the UGB (Metro 1997). The study was completed in 1997 and was known as making the *Land Use, Transportation and Air Quality Connections* or LUTRAQ (Metro 2000). The goal of this study was to provide an alternative in the required environmental analysis of transportation options. The essence of the study was that it recognized the interconnectedness of issues, that something such as urban form affected local vehicle use and that this had an impact at the regional scale (Calthrope and Fulton 2001).

A unique consideration of the LUTRAQ analysis included the consideration of a number of different transportation and land use factors including the modal behavior of pedestrians based on urban form (Dueker & Bianco 1999). The result was a recommendation approved by the Oregon Department of Transportation (ODOT), LUTRAQ has as one of its chief goals the reduction of single-occupancy vehicular (SOV) travel by introducing a strategy to use light rail transit coupled with Transit Oriented Development (Ibid 1999).

What has resulted as a product of the effort from both the government and concerned cities is the Region 2040 Functional Plan, a growth concept that was implemented in 1996 by Metro. The Region 2040 plan was developed within the framework of Oregon's statewide planning program that stresses compact development and urban growth boundaries to stop urban sprawl and protect rural lands. The Region 2040 plan relies on light rail to focus development in mixed-use centres. The plan outlines land-use and transportation policies adopted in 1995 that allows the cities and counties of the metropolitan area to manage growth, protect natural resources and make improvements to facilities and infrastructure while maintaining the region's high standard of living (Metro 2000, Calthorpe & Fulton 2001).

In August of 2000, a Regional Transportation Plan (RTP) was adopted to recognize the diversity of transportation needs throughout the Portland (Metro 2002). The 2000 RTP implements the 2040 Growth Concept to address expected growth while preserving the region's livability. The RTP plan lays out 20-year priorities for roads, transit, freight, bicycle and pedestrian improvements, including stronger policies to further mix land-use and transportation in an integrated fashion (Metro 2002). Figure 1 on the following pages shows the region 2040 concept map that encompasses the regional transportation plan.

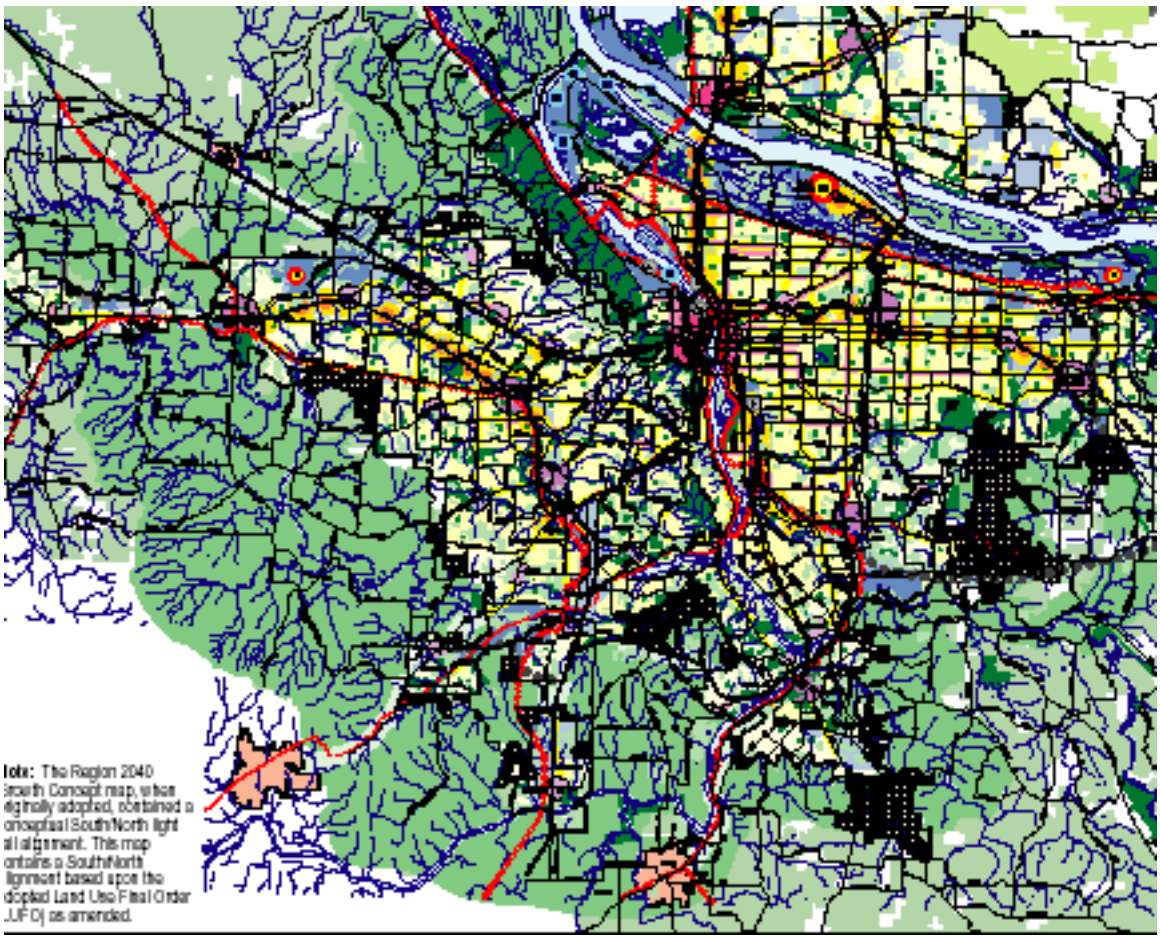

Figure 1 – A highly distorted map of the Region 2040 Growth Concept. (Metro 2002)

2.0 Transit Oriented Development

2.1 Overview

Transit Oriented Development (TOD) as a notion was first developed in Sacramento County in the early 1990s and had been adopted by San Diego County as design guidelines at about the same time. However, as a regional strategy for growth and developing sustainable neighborhoods, it had never been analyzed rigorously (Calthorpe & Fulton 2002). The TOD concept stems from looking at how cities used to organize functions around historic transit villages or 'streetcar suburbs" that were developed in the early part of the 20th in many North American cities including Portland and even in Calgary.

From a transportation perspective, the value of transit-oriented design it is are assumed to generate shorter trips, less traffic, higher transit rates, and a better jobs-

housing balance (Bernick & Cervero 1997). The TOD concept is conducive to walking and transit, as Bernick and Cervero (1997) describe in their formulation of the “transit village: ”The transit village is a compact, mixed-use community, centered around the transit station that, by design, invites residents, workers, and shoppers to drive their cars less and ride mass transit more…. Transit villages also offer alternative living and working environments that combine the suburban values and lifestyle preferences for open space, human-scale buildings, and sense of security with the more traditionally urban values of walking to neighborhood shops, meeting people on the street, and being in a culturally diverse setting (pp. 5,7)."

In *The Next American Metropolis: Ecology, Community, and the American Dream* (1993) Peter Calthorpe provides the fundamental principles to Transit Oriented Development. Both Calthorpe's ideas and design ability have heavily influenced the Portland area from the neighbourhood level to the regional scale. Calthorpe views compact, walkable, human scale communities as a means to achieving a number of complementary goals such as the preservation of rural areas, conservation of energy and resources, affordability, economic savings and in creating a greater sense of community.

The focus of Calthorpe's ideas are essentially a reflection of New Urbanist principles. Transit Oriented Development is informed by traditional city/town structure in which commercial and civic uses are clustered around a village square or common and serviced by a transit stop. The concept provides for two scales of development; the neighbourhood level and a larger more urban scale, emphasizing the same elements but with a higher population and a more diverse mix of commercial and residential uses along with a higher concentration of jobs. In General, the principles of Transit-Oriented Development are outlined as follows:

- Organize growth on a regional level to be compact and transit-supportive.
- Place commercial, housing, jobs, parks, and civic uses within walking distance of transit stops
- Highest intensity of uses should be with a five-minute walk of adjacent residential districts.
- Provide a mix of housing types, densities and mix of incomes.
- Preserve sensitive habitat, riparian zones, and high quality open space.
- Make public spaces the focus building orientation and neighbourhood activity.
- Encourage infill and redevelopment along transit corridors within existing neighbourhoods.

While based on a simple model, Calthorpe maintains that transit oriented development is adaptable to a variety of modern situations. Throughout the book he recognizes the resistance to neighbourhoods designed with TOD guidelines and thus suggests seeking a solution that is responsive to market conditions, economics and even works with the automobile rather than trying to replace it. This of particular note, as later in this paper when a Portland TOD is examined in more detail, specifically for its urban form that was a result of trying to maintain the core principles of Transit Oriented Development and satisfying the circumstances of economic and market forces.

2.2 Portland's Transit Oriented Development

As a result of its history, the Portland region is an area where most local planners have embraced the TOD design concept. Unlike the case in many metropolitan areas, decision-makers in the Portland region achieved a remarkable amount of consensus about the connection between land use and transportation and its implications for future sustainable growth (Tri-Met 1999).

Figure 2 – Portland's TOD Jewel, Orenco Station located on the Eastside MAX.

Portland's innovative approach to integrating transportation and land-use planning earned Westside MAX the First Place award in the "Livable Communities Transit Competition" from the Federal Transit Administration in 1999 (Dueker & Bianco, M 1999). The award recognized Tri-Met's cooperative approach to building a light rail system that would improve transit service for existing cities and become the heart of new communities being built around MAX stations.

The Transit-Oriented Development (TOD) Implementation Plan is a program developed to initiate the creation of "transit villages" and projects that demonstrate the basic principles of TOD at MAX stations throughout the Portland region (Metro 2001). The TOD Program in Portland operates through a series of cooperative agreements between the region's elected regional government (Metro), local jurisdictions such as Tri-Met and private developers (Metro 2001). The primary use of funds from the TOD Program is for site acquisition, concept development and redistribution. Typically

property is acquired, planned and reparceled. It is then sold with conditions to private developers for constructing transit-oriented development and/or dedicated to local governments for streets, plazas, and other public facilities where appropriate (Tri-Met 1999). In many cases the land value is written down to cover the extraordinary development costs required to construct a specific TOD project. In such cases, a "highest and best transit use" appraisal is used to establish the sale price (Tri-Met 1999).

The public-private master planning effort has been successful in developing master plans for some of the larger vacant parcels along the MAX line. The planning effort includes site design and market analysis for actual projects. While planning has been taking place, interim zoning was adopted to prohibit certain auto-oriented uses, require minimum densities, limit parking supplies and orient any development that occurs to the stations (Metro 2001).

Another successful measure has been the use of tax abatements to encourage multi-family housing and mixed-used development within walking distance of transit, and Tri-Met has developed model ordinances (Davis 1997). Partnerships between government and private landowners, businesses, and developers have helped create compact residential and employment areas near light rail. Public support has made it possible to innovate with new designs, smaller lots and more mixed-use projects (Metro 1999).

The impact of MAX since 1986 has been felt from end to end of the line (see History of MAX below). Development activity is greatest in the downtown and Lloyd District. Downtown, MAX has played an important role in revitalizing the city center. Almost every parcel of vacant land adjacent to MAX has changed hands, been developed or has plans for future development. Westside MAX has focused more than $500 million in new development within an easy walk of the stations (Davis 1997). The line has become a catalyst for new transit-oriented communities. Projects range from mixed-use, residential/retail developments to suburban redevelopment projects, to entirely new communities created out of greenfields including the award winning Orenco Station.

Figure 3 - Portland's MAX LRT running through the city center.

The History of MAX

The 15-mile eastside light rail, known locally as MAX, opened in 1986. This line has 11 stations in downtown Portland, four in the Lloyd District -- an office, retail and entertainment area across the Willamette River from downtown - and 15 in Portland and suburban neighborhoods. An 18-mile Westside line from downtown to Hillsboro opened in the fall of 1998, and a third line going south to the Clackamas Town Center regional mall and north into Vancouver, Wash., is currently under construction. About $1.23 billion worth of development has occurred adjacent to the eastside light rail since the decision was made to construct the project. While much of this development would have occurred anyway, light rail has influenced the location of buildings, their design and the amount of parking provided.

3.0 Gresham Station and the Civic Neighbourhood - A TOD Case Study

3.1 Overview of the TOD

The City of Gresham is the fourth largest community in Oregon and second largest city in the Portland metropolitan area. For decades, Gresham experienced rapid population growth; in fact the population has nearly doubled in the last decade to nearly 80,000 people (City of Gresham 2002). Before the MAX light rail came to Gresham, the city was perceived as a suburb of Portland with little to offer. However, light rail has offered Gresham an opportunity to mould its growth and to attract new business, industry and housing development to the area (City of Gresham Website).

Figure 4 - Site Plan and Photo of the Gresham Civic Neighbourhood located in Metropolitan Portland (City of Gresham May 2002)

The Gresham Station development transformed a vacant superblock within the core of a traditional suburban community, and created a vital urban centre. Figure 4 below shows the site plan of the area along with photos of the development. The Civic Neighbourhood has been planned at relatively high densities of mixed residential, commercial and retail uses in a design that features quality of life amenities and maintains the integrity of adjacent neighbourhoods. The street plan, size of blocks, wide, landscaped sidewalks, and bike paths all enhance pedestrian mobility and emphasize many principles of transit-oriented development. The following is a statement describing the vision of the development as set forth by Gresham planners:

> *"The Civic Neighbourhood plan optimizes takes full advantage of light rail transit investment in Portland. The centre and heart of this new neighbourhood is a MAX station and its companion plaza located at the intersection of the line and the new north-south main street -- Civic Drive".*

The first phase of the development is called Gresham Station and is comprised of a large commercial centre including national retailers such as; a QFC grocery store, Borders Books and Music, Gap and Old Navy clothing, Ann Taylor Loft, Cost Plus World Market, Bed, Bath and Beyond, Blockbuster, Starbucks and a variety of other shops and restaurants.

Gresham Station is only the beginning of the Civic Neighbourhood, and its integration with adjacent neighbourhoods and the city's historic downtown. The build out for the current phase and planned phases is planned for 2010. When completed, the Civic Neighbourhood will include 400,000 GSF of office space, more than 1300 residential units, 650,000 GSF of additional retail space, and more than 100,000 GSF of civic buildings, including the Gresham Center for Advanced Learning, a performing arts centre, and a one-acre transit park (City of Gresham 2002).

3.2 Successful Strategies

The Gresham Civic Neighbourhood plan represents the effort and cooperation among key players - private and public - with diverse interests and objectives. The project culminates a decade-long collaborative process, termed the "perfect planning" approach that engaged not only the City and developer, but also included; neighbourhood associations, Tri-Met, neighbouring communities, and civic leaders (City of Gresham 2002). Careful planning allowed for zoning densities that create a fair profit

for the developer, while demanding high standards for architecture, public amenities, mixed use and orientation toward mass transit to fulfill community objectives (Tri-Met 1999)

While the Gresham Station was privately funded, a hallmark feature of the plan is that it coordinates both public and private resources (such as tax abatements for transit-oriented, high density mixed-use projects) to implement smart growth planning and development principles (Tri-Met 1999). Some of the more successful strategies that Gresham used as incentives for development are described below:

System Development Charge (SDC) Financing Plan

A program used to provide funds for expanding or upgrading public infrastructure such as roads, sewers, water lines for future growth needs. The Gresham Civic Council implemented the program to allow for deferred payments of SDCs until occupancy or financing of the fees over a period of 10 years. The fee is calculated based on how many peak hour trips the new development will generate. For TOD's; an automatic 26.9% discount is available as an incentive to locate new development in the pedestrian and transit districts. Developments outside of this zone but attempt to integrate TOD principles into their design are eligible for an automatic 10% discount (Tri-Met 1999).

Transit Oriented Tax Exemption (TOTE)

A development incentive that grants limited 10-year tax exemptions for qualifying new transit-oriented development in certain areas of Gresham. The purpose of the tax is to encourage transit-supportive housing and affordable mixed-used projects on vacant or underutilized sites within the city and within walking distance to transits. Eligibility for the TOTE is based on satisfying strict criteria such as landscaped public space, provisions for ground floor commercial and housing accessible to a broad range of the public (mix of incomes, affordable housing.) The estimated property tax exemption amount is $10.01 per $1,000 assessed value. (Tri-Met 1999).

3.3 Author's Site Assessment

A site visit to the Gresham Civic Neighborhood and discussion with Gresham Civic planners in the spring of 2002 provided a number of significant insights with

regards to Transit Oriented Development and its feasibility for urban growth and in the creation of successful neighbourhoods.

During the site visit, a number of critical observations of the development revealed a departure or modification of some of the core principles of Transit Oriented Development as outline above in Section 2.2. This is not to say that the Gresham Neighbourhood is not a Transit Oriented Development; the entire development (constructed and planned) features a relatively dense mix of uses centred around a transit station with significant emphasis on pedestrian linkages through out the area and into the surrounding area. The current phase of development has built up most of the planned commercial uses, and during the site visit (May 2002) a number of multi-dwelling residential buildings were under construction are as well as office and professional buildings planned in future phases.

The most apparent shortcoming - or perhaps compromise - of the project is in the emphasis given to automobiles for both roads and internal parking within the commercial area. This resulted in the creation of what appeared to be a scaled down version of a big box[1] retail centre; typically a favoured commercial model of characteristic suburban areas. This was evident by the lack of village scale commercial uses versus an abundance of chain stores typically found in suburban strip malls (i.e. Blockbuster Video, Cost Plus World Market, Bed, Bath and Beyond, TGI Friday's, Chilji's, Pizza Schmizza) as well as the abundant parking and circulation space given to cars. Furthermore, two of the major arteries that cut through the neighbourhood, Division Street and Civic Drive are 4 lane arterials. However, the neighbourhood provides provisions to create a walkable area with pedestrian linkages, wide sidewalks, and commerical fronting the streets, bicycle lanes and street furniture. From this perspective, the resulting form of the Gresham Neighbourhood is a somewhat of a *hybrid* development that attempts to create a transit oriented, human scaled and mixed use area while accommodating automobiles and attracting key retailers.

Peter Calthorpe (1993) suggests that there are very specific principles for transit-oriented development. However, Calthorpe also points out that his TOD template is by no means fixed and should be moulded and altered to address the complex circumstances of urban environments. As was the case in Gresham, a number of

[1] Big Box retail refers to a commercial development form of large warehouse stores such as Zellers, Wal Mart or The Home Depot which cluster in decentralized suburban power centres and take advantage of major transportation access and lower tax rates. Typically such developments are auto based, providing ample parking with little or no pedestrian or public infrastructure.

constraints and opportunities as well as the involvement of key players (including the developers) resulted in the existing neighbourhood design. Some of the main issues that may have lead the key players in the direction of the hybrid town centre are listed as follows:

- Gresham initiative to renew the downtown district into a walkable, pedestrian scaled area. Thus, the new civic neighbourhood may have compromised that strategy.
- The suburban nature of Gresham, particularly the surrounding area where the vacant parcel had been
- The edge condition created by Division Street, a high volume traffic artery.
- Learning from the problems and mistakes made by other Transit Oriented Developments, such as Orenco Station located on the Westside MAX line.

The last point is an important consideration to examine further as it has implications for the future of Transit Oriented Development in North American. The Gresham neighbourhood has been successful; it addressed these factors and has proven to be another step in Portland regional renaissance, an evolution that is reinforced by initiatives and experiments at the street and neighbourhood level. Writing policy in documents is an important step in shaping a regional vision, but making it happen is another thing, as is the case in Portland, the result is in actual physical development, the basic building to creating rewarding and unique communities, a structure that will allow for community and sustainability to occur.

A recent article in *New Urban News* (August 2002) addressed the current issues with regards to commerical land development and the resistance to developing human-scaled shopping centres such as TODs. The article compares solutions from both Peter Calthorpe and Michael Beyard, an Urban Land Institute retail expert. Beyard suggests that a shift to more mixed use and pedestrian friendly retail formats is likely to occur throughout the U.S. indicating that developers, governments and citizens are starting to get the message about New Urbanism. This was also a trend recently reported in the Urban Land Institutes 2002 Real Estate Forecast, noting that mixed use town centres are a growing investment opportunity and that the regional mall and power centres are on the way out.

At the same time, Calthrope reacts to the widespread failure of New Urbanist projects to be successful in their commerical programs, stating that "mom and pop shops or stores within a quarter-mile of residents' homes" is wishful thinking. Calthrope suggests a new concept called the "urban network", he proposes that developing areas by laid out with a grid of arterial roads carrying enough consumer traffic to support a

series of "village centres" or "retail cluster that contains 100,000 square feet of retail, including a 50,000 square foot market. Moreover, Calthorpe maintains the importance of designing the major streets so as to still be pedestrian friendly, create a sense of place and become a centre for the community.

This discussion brings forth a better understanding of the Gresham Civic Neighbourhood TOD. The outcome of the development has proven to be a successful venture for both the public and private partnerships. The Gresham hybrid that has evolved is a result of using key planning and design strategies to guide development. The physical form the development took on reflects almost a decade of TOD experiments in the Portland region. It is a balance of core ideas adjusted to suit the market, a precedent that other cities and developers who are hesitant to implement transit oriented development can learn from.

4.0 An Evolving Solution - A Lesson for Calgary?

The examination of Portland's TOD experience and the case study of the Gresham Civic Neighbourhood has tremendous implications for the City of Calgary. Calgary has established itself as an auto-oriented, low-density city relying on a strong economy, an abundance of developable land and a cultural preference for single-detached dwellings. One of Calgary's stronger points is the Light Rail Transit (LRT); a three-line system with a connecting hub along the 7th Avenue transit mall in the downtown core. Calgary's LRT system is similar in age to the MAX system in Portland; however it has not been used as a tool to shape development or contain growth at the cities periphery. Calgary's system, although successful works best to shuttle commuters into the downtown core, many of the stations have been designed with the notion of serving 'Park and Ride' commuters versus creating a network of transit neighbourhoods.

In 1995, the City of Calgary produced *Transit Friendly Design Guidelines.* The document recommends that future expansion of the LRT and the subsequent development of adjacent lands should incorporate principles of transit-oriented design. Currently, the LRT line is being extended south to Shawnessey, a big box retail area located in south Calgary. The current urban form is completely auto oriented with little emphasis given to pedestrians or public space, Figure 5 shows photos from the Shawnessey Towne Centre. Ironically, the city has dubbed the area as the

"Shawnessey Towne Centre" despite the blatant lack of attention given to creating a unique destination for south Calgary. The current development is somewhat unconscious to the C-Train line that will eventually become the end of the line. Unfortunately, a great opportunity to develop a viable TOD was lost, despite it being a key planning initiative of the City of Calgary. Why was the opportunity lost? One can only speculate as to the lack of vision in the Shawnessey Towne Centre and cringe at the horrid result of sprawling big box stores, encircles by congested arterial roads.

No attempt to create a town experience, retailers turn orient stores to face parking.

Looking east from future LRT station, disconnected from adjacent uses.

Characteristic Congestion of the Shawnessey Towne Centre.

The pedestrian experience? dominated by parking lots and disjointed land uses.

Figure 5 – Photos from the Shawnessey Towne Centre (November 2002)

The Portland TOD experience is critical for a city like Calgary experiencing rapid urban growth. Portland's success is a result of engaging citizens, local governments and private developers to establish a regional vision for the metropolitan area. To reinforce the regional initiative, connections at the local level were realized. One of the key steps was in understanding the connections between land use and mobility; including not just automobiles but also alternative forms of transportation. Although the TOD experience was bumpy in the first few years of Portland's experience, hard work and experimentation have produced positive results. Portland's success is due to the effective relationships between public and private players to effectively develop

strategies and policies to achieve a common goal. As was the case in Gresham, the relationship resulted in a hybrid form of transit-oriented development; an outcome that was beneficial not just to the developers, but to the region, the city and its citizens. The Gresham solution is an important model for the future of TOD as a viable and successful means to managing urban growth in North American Cities.

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