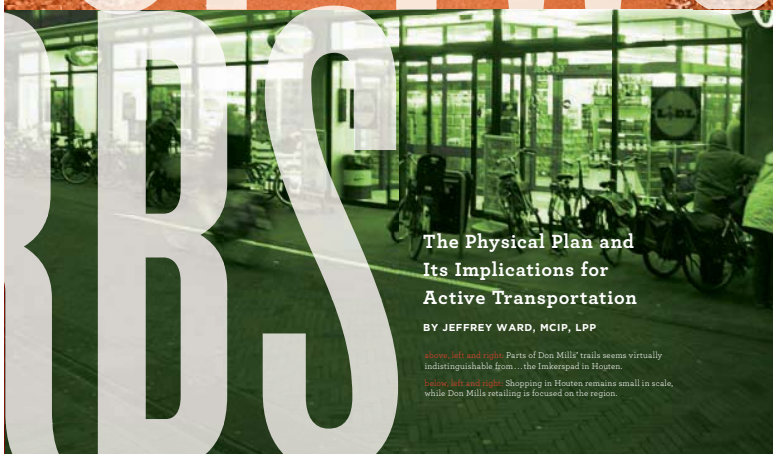
A TALE OF TWO SUBURBS



The Physical Plan and Its Implications for Active Transportation

BY JEFFREY WARD, MCIP, LPP

above, left and right: Parts of Don Mills' trails seems virtually indistinguishable from… the Imkerspad in Houten.

below, left and right: Shopping in Houten remains small in scale, while Don Mills retailing is focused on the region.

SUMMARY *In Canada, we build tens of thousands of new homes—detached, semi-detached and low rise apartments—in subdivisions across the land. At best, in our planning documents we only pay lip service to the concept of human-powered transportation. Few if any examples of suburban land developments show any attempt to address active transportation (AT) as a real and viable alternative transportation mode. We have plenty of trails, but few destinations. We seem to view trails as recreational assets; nothing more. In this article, I'll compare the Dutch new town of Houten with a model suburban Canadian community of about the same mid-20th century vintage—Don Mills, Ontario—Canada's most famous and influential planned community. I'll compare the approach taken towards the physical plan specifically as it relates to AT—highlighting the strong similarities and then focusing on the major differences which make one community an AT paradise while the other remains highly reliant on cars. This article is not intended as a paean to European cycling culture nor a rebuke of past Canadian achievements, but a practical examination of what seems to make AT work.*

RÉSUMÉ *Au Canada, des dizaines de milliers de nouvelles maisons unifamiliales ou jumelées et de bâtiments résidentiels bas sont construits chaque année sur des lotissements à travers le pays. Au mieux, la notion de transport à propulsion humaine n'est considérée que du bout des lèvres dans nos documents de planification, et les exemples d'aménagement du territoire en banlieue permettant d'adopter le transport actif en tant que solution de rechange réelle et viable sont rares. Nous avons beaucoup de sentiers, mais très peu de destinations, et ces sentiers semblent être perçus comme de simples biens récréatifs. Cet article compare la nouvelle ville néerlandaise de Houten avec Don Mills, en Ontario, la communauté organisée la plus célèbre et influente au Canada et une banlieue modèle développée au cours de la même période, soit le milieu du 20e siècle. Il contraste l'approche adoptée en matière d'aménagement du territoire, notamment par rapport au transport actif, et met en relief à la fois les points communs et les principales différences permettant à une communauté de devenir un véritable paradis des transports actifs alors qu'une autre demeure fortement tributaire des voitures. Cet article ne se veut pas un hymne à la culture européenne du vélo ni un reproche des réalisations canadiennes antérieures, mais bien un examen pratique des critères clés du transport actif.*

"If something exists, it must be possible."

—Amory Lovins

INTRODUCTION

In 2008, Statistics Canada reported that four out of five Canadians were living in areas classified as urban. For roughly half of these people, city life offers a wide range of mobility options from walking and cycling, to cars and Skytrains.[1] But for the other half, those living in low density neighbourhoods, Urban Canada is really Suburban Canada, and the range of transportation choices can be much smaller. In most suburbs, the car is still the only practical way of getting around. It doesn't need to be that way.

Some will argue that looking to European examples in Holland and Denmark is impractical, since there are vast cultural differences between North Americans and Europeans and that there are longstanding histories of cycling use in Europe. While it is true that cycling is an old tradition there, it is also true that as recently as the 1970s, bicycling as a travel mode was endangered in many European cities that are now seen as cycling havens: cars had overrun many urban centres. The catalyst for change came by way of the Energy Crisis of 1973, created when OPEC countries decided to limit oil sales to western countries. While US President Carter was urging Americans to burn less fuel oil and put on sweaters, in countries like Holland, oil shortages kept people off the highways on weekends, so people and governments chose another route. Bicycle sales sky-rocketed and people demanded that more attention be given to creating cycling facilities. Changes favouring the bicycle began to be implemented and they continue today.

The Dutch have now had four decades of experience in active transportation and they can offer Canadian planners useful lessons in terms of the design of new communities and retrofitting old ones.[2]

This article focuses mainly on the new town of Houten. Houten was a farming community until the late 1960s when it became slated for urban development as a satellite community for Utrecht. Today it is two towns—Houten North and Houten South—with a combined population approaching 55,000 people and a cycling mode share of better than 50 percent for non-work trips.

Research consisted of back-to-back field reviews and informal intercept interviews in both Houten and Don Mills conducted in November 2011. No officials were contacted in either community.

Figure 1: Comparative Map—Don Mills and Houten

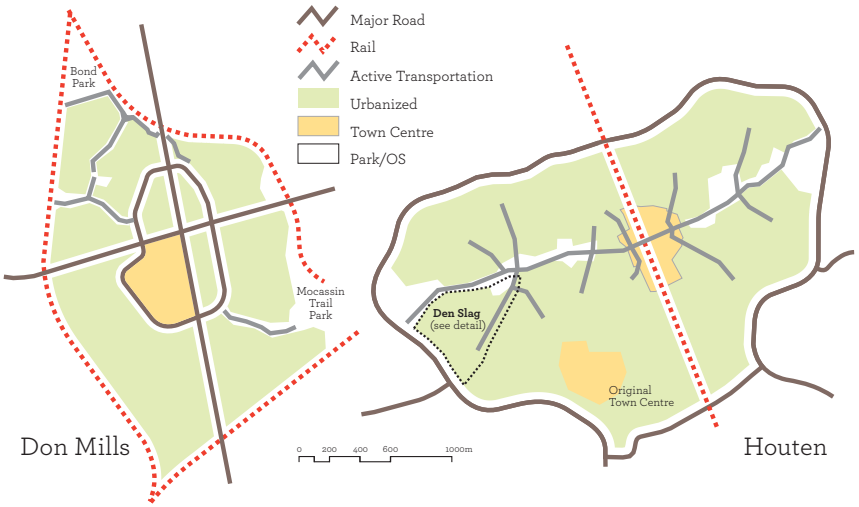


TABLE 1: SIMILARITIES AND CONTRASTS

In many respects Houten and Don Mills seem to share many of the same characteristics, yet there are major differences as revealed in the following table.

SIMILARITIES	DON MILLS	HOUTEN
Transport framework	Ring road with intersecting network at centre	Ring road with intersecting network at centre
Dependency	Self-contained	Self-contained
Neighbourhoods	Neighbourhood quadrants (4)	Neighbourhood quadrants (19)
Pedestrian plan	Separation of pedestrians and vehicles	Separation of pedestrians and vehicles
Environment	Former farming area with greenbelt	Former farming area with greenbelt
Retail	Shopping at centre	Shopping at centre
Employment	Employment (live-work)	Employment (live-work)
Target population	25,000 people	38,000 people
Main road access to larger centre	Don Valley Parkway (municipal expressway)	A27 (national motorway)
Motor vehicles per 1,000 residents	436 to 562 See note 1.	415 See note 2.
Precedents	Virtually unprecedented, though inspired by the work of Clarence Stein and others.	Unique; the culmination of a number of smaller experiments.
DIFFERENCES	**DON MILLS**	**HOUTEN**
Start date	1952	1976 (though envisioned earlier)
Substantial completion	1958	1988
Influence	Highly influential.	Not influential until recently.
Dominant transport	Car-dominated.	Balance of cars and AT.
Commuter transport	Excellent bus transit.	Excellent rail transit; poor bus transit.
Mode share (work/non-work)	Car: 70–71 / 75–84% Transit: 24–27 / 11–16% Other: 3–5 / 5–9% See note 1.	Car: 58 / 35% Transit: 15 / 10 Walk/ Bike: 31 / 55% See note 2.

1. Don Mills straddles two wards in the City of Toronto. The mode share numbers reflect Statistics Canada journey to work data for Wards 25 and 34, as summarized in Ward Profiles published by the City in 2008. This source also contains the data on the number of vehicles per household as obtained from the Transportation Tomorrow Survey. The TTS reports vehicle ownership per household from which the figures shown in the table were calculated.
2. Contained in Nicole Foletta, *Houten Case Study*, ITDP Europe, 2010. The report states that 36 percent of households have more than two cars; only two percent of households do not own at least one bicycle.

OLD WORLD, NEW WORLD: WORLDS APART

One of the most striking similarities between Houten and Don Mills is the transport framework. Both communities feature a ring road with an intersecting network at the centre. The town centres are located near this midpoint. The critical difference is that in Don Mills, the intersecting network consists of two pre-existing roads (Don Mills Road and Lawrence Avenue) and in Houten the intersecting links are a commuter railroad and a pedestrian/cycling path. The ring road in Don Mills (the Donway) is located 200 to 600 metres from the centre while in Houten it varies in distance from 750 to 1800 metres away. Critically, Houten's ring road (the Rondweg) describes the outer edge of the community, whereas the Donway lies more or less halfway between the centre of Don Mills and the outer edge. Both roads have a limited number of access points.

Beyond these surface similarities, there are deeper ones as well. Don Mills and Houten were both designed to be self-sufficient communities, each offering employment opportunities, schools and shopping areas within their overall designs. They both derive their workforces from inside and outside the immediate area, and each was also expected to export workers to other areas (in the case of Don Mills, the GTA, and in the case of Houten, the city of Utrecht). In Houten, most residents appear to rely on the central retail area, compared to other shopping possibilities. In the early years, Don Mills was also well-used by local people, but it was always aimed at a broader market area. Today, in its third generation of development, the shopping area still retains a regional focus, though this time the aim is on a decidedly up-scale market atmosphere. Downtown Don Mills started out with a low-rise indoor-outdoor shopping centre, including a grocery store, banks and a futuristic, circular curling rink. The shopping centre was later redeveloped as a fully-enclosed mall in the 1970s. In Its latest incarnation, it has reverted to an outdoor "lifestyle centre" and there are plans to add some mid-rise residential buildings to the area. Aside from the local Metro grocery store, the downtown now offers little for the local shopper.

Don Mills' impressive new regional shopping centre features walkable streets and monumental art by Douglas Coupland.

DON MILLS

Built between 1954 and 1958, Don Mills was developed on farmland a few miles northeast of downtown Toronto, and was projected to eventually house a population of 25,000.

Don Mills also introduced the 60 by 100 foot lot that became standard across Canada and remained so for at least a quarter century.

John Sewell, one of Toronto's former Mayors wrote about Don Mills in his 1993 book *The Shape of the City*:

"Elbow room and closer contact with the land . . . result in large lots that emphasized the green space already present in the lavish park dedication and pedestrian walkways. The large lot with a single storey house set broadside to the street was what set Don Mills apart from other communities in the city."[3]

But Sewell also notes that Don Mills does not consist entirely of low density detached dwellings—in fact, more than half the dwellings in its housing mix, particularly in its South Hills Village neighbourhood, are multiples—semi-detached, townhouses and low-rise apartments.

As designed by the late Macklin Hancock and financed by E.P. Taylor, Don Mills influenced countless suburban land developments across the country, from Greenbelt Heights Village and Flemington Village in Toronto to Clayton Park in Halifax. It also demonstrated the high level of achievement that was possible with an imaginative design approach and the funds to realize it.

Don Mills is also notable for introducing the idea of "live-work" to the suburbs, and integrating retail into its core. This innovation was possibly the least influential one of those introduced. Most large suburban areas today tend to concentrate retailing at their peripheries near highway interchanges, with a distinct emphasis on regional markets, and less so on local ones. And very few offer substantial opportunities for non-retail employment in the way that Don Mills does.

Don Mills also continued pedestrian and cyclist segregation, a tradition begun in Radburn and encouraged in Canada by the CMHC 1940s superblock experiment used in such places as Winnipeg's Wildwood and Halifax's Westmount.[4] Don Mills featured some 7.5 kilometres of landscaped off road trails, and a handful of special underpasses which allowed riders and pedestrians to cross streets without interference from cars.[5]

More than half a century later, these facilities still function as planned. But if you examine them carefully, you realize the weakness of the trail system: its failure to connect housing to virtually any land use other than schools. This is important because Don Mills was so influential that its imitators seem to have perpetuated the same fault. While the Don Mills trail system made it safer for kids to get to school, it did not help their mothers shop, nor their fathers get to work. Today, as a result, the Don Mills trail system functions primarily as a recreational walking trail and cycling path. There are very few routes that would facilitate travel between neighbouring areas. To borrow from Jarrett Walker's definition

of personal mobility, which he linked to public transit, the Don Mills trail system failed to provide people with "the freedom to move beyond their walking range."[6]

HOUTEN

Planning the Dutch new town of Houten was initiated less than a decade after Don Mills in 1966, but the major work was not started until about 1976 when construction of the ring road began.[7] In the intervening years, the mayor and council of Houten agreed to allow the village of about 3,000 residents to evolve into a national growth centre, with the proviso that the quiet nature of the village would be retained.[8] This resulted in a tremendous design challenge, one met by a young planner named Rob Denks. His approach was to separate pedestrian and cycling activities from road traffic by creating virtually independent networks, (human-powered transportation) at the centre, and vehicular traffic around the periphery.

Within the new development, he created more than a dozen distinct but adjacent neighbourhoods, highly connected for AT but only indirectly connected for cars, thus making it more attractive to move from one area to another by walking or cycling using a concept known as "filtered permeability".

As was the case in Don Mills, the designer placed the commercial core at the crossing of two transportation links and made the entire development compact enough that the most distant resident had to travel less than 2 kilometres to reach the core. Every dwelling had AT connectivity to the town centre, so that access to schools and other services was virtually free of vehicular interaction.

Around the periphery of the town, cars on the ring road travelled at 70 kilometres per hour, free of pedestrian or cyclist conflicts, while speeds inside the ring were limited to 30 kilometres per hour. The tendency to speed was reduced by the design of the internal street system and there are few long, straight "speedways" in Houten. Interior streets are typically short and featuring frequent jogs to help quiet the traffic.

The town authority was the property developer, with the support of regional and national governments, and it exercised full control over design, contracting and property sales functions. Houten offered a radical departure from traditional land development designs, and its development approach actually gave pedestrian and cycle traffic the room it needed to flourish. This resulted in a safer, quieter environment that still exists more than three decades after its initiation.

Figure 2: De Slag neighbourhood of Houten (showing road network and single entry point from the ring road).

LESSONS AND OBSERVATIONS

The following observations may offer guidance for planners as they strive to improve personal mobility through planning policy . . . especially in the suburban context.

Plan for user safety and comfort: Research published in 2010 by my collaborators at MRC indicates that users of separate cycle paths feel safer and are more comfortable than when they ride on the street. And when riders feel comfortable, it follows that they will also be more inclined to use a bike.[9] Many communities have trail systems. Seek to upgrade key corridors by making them wider for pedestrians and cyclists alike. Make them straighter and more open for the safety of users.

As observed in Houten, parents seem to be more confident in allowing their children to use the open bike path system.

Adopt the concept of filtered permeability: Planners, especially in rural areas, often face the problem of convincing the builders of subdivisions to maintain road allowances for future connections to abutting land. I would hope readers understand that it is not always the road connection that is important, but the AT linkages. And certainly, if you create the AT link it can be made wide enough to accommodate emergency vehicles.

Consider the non-work trip: Many suburban areas are often thought of as "bedroom communities". Thus, transportation planning tends to ignore transportation needs outside of rush hours. Yet the work trip comparisons in Table 1 indicate that Houten has succeeded most effectively in satisfying the non-work trip like going to school, grocery shopping, getting to restaurants and general business destinations. Houten's success seems to support the non-regional approach to retailing (the grocery stores are small in Houten).

Strive for varied destinations: Today, many walking and cycling facilities seem to be useful mainly for recreation, because they really don't go anywhere. Changing this can be difficult in established neighbourhoods where land uses are already determined. The aim should be to shorten trips. One way to look at AT routes is to compare them to vehicular transportation links. Considering use and purposes, they

Left: Distinctive pairs of buildings mark the entry to each neighbourhood in Houten South. These buildings form the gateway to the De Slag neighbourhood.

Right: Newly-opened bicycle parking lot, known as the Fietstransferium, was constructed beneath the train station at Houten North. The facility holds 4,000 bicycles.

should have intersections and varying path widths as needs dictate. Look for opportunities to introduce new uses along key corridors and nodes that respond to the requirements of the population. For example, at the intersection of a road and trail, is there an opportunity for a coffee shop or a day care? Can a new trail be directed towards an existing shopping plaza with safe and secure access directly to the doors? Could the owners of a commercial fitness centre abutting a trail be convinced to create an entrance from the trail as well as from the front of the building?

PRACTICAL APPLICATIONS

Following are some specific examples of how the lessons of Houten may be applied in the Canadian context.

The *Places to Grow* initiative for the Golden Horseshoe offers a logical opportunity for a Houten-like approach to development, as it places a greenbelt between the GTA and future growth areas. The greenbelt essentially espouses the satellite community concept. The difference between the Dutch and Canadian example is the greater distance that would have to be travelled to reach the core. One could easily envision a satellite development located significantly beyond the green zone and connected to the core by rail.

Houten lies just seven kilometres from central Utrecht; in the GTA we may be looking at places around Guelph or Brantford, that are much farther away than Don Mills but which offer the benefit of being reasonably flat and therefore more conducive to cycling.

In Calgary, the serious potential and opportunity for AT lies in the southeast part of the city which is currently being developed into several neighbourhoods collectively named Seton. The C-Train light rail service is now under development running parallel to 52nd Street SE, and there is a road grid surrounding the development. The Houten model might suggest the possibility of eliminating the central road and to serve the community using roads that would provide entrance from the periphery with a light rail terminus at the core. The planning and development of Seton are well under way, but the project is still several years from completion.

In the largely undeveloped area south of Marquis of Lorne Trail, it would seem possible to consider a higher density of development, and issuing zoning permits that allow for an expanded employment zone (i.e., similar mix to downtown). The area is already planned to accommodate a new hospital, which opens this year. By increasing the allowable density at the centre (as per the New Urbanist model) and using the freed-up central road right-of-way as a new employment zone, a pedestrian and cycling-centred community might be in Calgary's near future.

For less rapidly expanding centres, the potential may lie in using abandoned rail corridors, which could provide space for infill development. The key benefit of old rail lines is the virtual lack of gradient. Rail lines are typically built

using gradients no greater than one or two percent. This rate of increase is barely perceptible to the pedestrian or the cyclist, which would make these routes into excellent car-free travel corridors. By using abandoned rail rights-of-way, even relatively hilly communities like Halifax and St. John's could offer cycle friendly zones.

In the United States the "US Rail to Trails Conservancy" notes the economic benefit that these corridors offer to municipalities.[10] Property values have been shown to increase when they abut these improved rights-of-way, and when businesses are located along the line, business profits have been shown to improve. Examples cited in the Conservancy report include the Cape Cod Rail Trail and the Lachine Canal Trail in Montreal. What is opportune about rail trails is the fact that in many urban centres, the lands bordering the lines are often undervalued and underdeveloped because of the historic, long-term presence of rail traffic. Removal of the rail activity makes it possible to attract new investment and transform previously undesirable areas for investors to consider. The ultimate goal should be to transform abandoned rail corridors into human-powered transport links, and to create business as well as recreational assets. Consider the opportunities that might arise for a new residential development which is built with a trail running through its center.

A MODEST PROPOSAL

A recent article in *Bicycling* magazine pointed out that in the US, more and more schools are being built at the outer edges of suburbia where the land is cheap and plentiful, but AT routes for pedestrians and cyclists are not created, so everyone must take the bus.[11] Many Canadian school boards follow a similar wasteful development model, often requiring large tracts of land be made available for the school, sports fields and parking areas, giving little thought to AT. In Canada, we continue to build tens of thousands of new suburban housing units each year, meaning we are a long way from abandoning suburbia. My modest proposal, addressed to elected officials and front-line planning staff is this: do not approve a subdivision, school or retail development again without first asking this fundamental question: Have pedestrians and cyclists been considered before the car, can pedestrians and cyclists get to their destinations safely and comfortably without being exposed to the possibility of a dangerous encounter with an automobile? If the answer isn't yes to both questions, AT should be requisite for the granting of these approvals from this day forward. ■

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