Prospects for Planning:
Coming to Grips with New Realities

Les nouvelles forces qui façonnent l'aménagement du territoire

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VANCOUVER ADVANCED LIGHT RAPID TRANSIT
BREAKTHROUGH IN THE REAL ESTATE — TRANSIT CONNECTION

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Abstract. The British Columbia Urban Transit Authority (UTA) has purchased a 22 kilometre, 15
station, Advanced Light Rapid Transit (ALRT) System developed by the ontario Government's
Urban Transportation Development Corporation (UTDC) and its subsidiary Metro Canada Limited.
The quiet, lightweight vehicles and slender elevated guideway permit a degree of urban integration
not possible with conventional systems. The lowest cost system design requires very simple and
spartan stations. The UTA has pursued a strategy of obtaining station upgrading through cost and
benefit sharing with adjacent private developers. The alignment flexibility of the ALRT technology
and the ability of the UTA staff to negotiate creative financing arrangements has resulted in
realization of exciting and innovative integrated developments.

The paper will describe the technical, institutional and financial arrangements which have been
used in the joint development process.

Approach

Main Street Station, to open in May 1983 as a “pre-build” showplace, is presented as a case study
(See Map 1). The technical, economic and political inputs to the design process are explained, and
the negotiations and form of the final deal outlined.

Main Street Station was originally to be elevated over the median of an existing street. Project
staff approached an adjacent property owner who eventually agreed to grant an aerial easement
envelope for the station through his site. The developer, eager for direct access to rapid transit, not
only granted an easement for free, but also agreed to contribute to transit system costs if and when
he builds a planned hotel and shopping concourse. Although there have been joint development
deals before, this is believed to be the first time a private developer has paid a transit authority to use
his land.

The process began with a detailed planning and engineering analysis of several potential station
locations. The ability of the ALRT System to negotiate sharp curves and steep grades with
extremely low noise and vibration levels meant that there were many more feasible alternative
locations than with conventional LRT or subway systems.

Eventually the alternatives were narrowed down to two. One was City-owned and the other was
privately owned. The City-owned land was encumbered with leases and required a longer alignment
with significantly higher capital costs. It was maintained as an option during negotiations with the
developer, who was convinced to offer generous terms to the transit authority. The selected site is
best both for operations and the likelihood of early joint development. The taxpayers also benefit
directly by recapturing a significant portion of the developers’ gains, should they occur.

Background for Joint Development

Economic Environment

It is assumed that there will be an increase in land value around ALRT stations, especially if the
Municipality concerned is willing to re-zone to permit more intensive land use. Consequently, a
public investment in building an ALRT System results in an uneearned increase in land value
accruing to the land owner.

There are a number of mechanisms which a government can use to recover part of this unearned
benefit:

1. The government may rely on existing capital gains taxes;

* The views and ideas expressed in this paper are those of the authors and may not represent the policies of the
Urban Transit Authority
MAP 1  VANCOUVER ALRT SYSTEM

PRIVATELY OWNED SITE

Adopted Site

Expo '86 Site

False Creek

City Park

Station Street

VIA/CN

Main Street

Terminal Ave.

City Owned Site

McDonald's

MAP 2  MAIN STREET STATION AREA

ALRT
Advanced
Light Rapid Transit Project
2. A local improvement tax may be levied;
3. A redevelopment levy may be charged;
4. The government may engage in land banking;
5. The government may engage in joint public/private development. [1,2]

All of the above methods have been proposed and applied. The Federal and Provincial governments already levy capital gain taxes and consequently some of the increase in value will find its way into a public purse, albeit not the authority that pays for the transit system. Provincial or perhaps Municipal governments could charge higher capital gains taxes around stations. This would not prevent an existing owner from realizing gains through higher rentals, without change of ownership (and thus taxable capital gain).

California has legislation which permits levying of a local improvement tax in areas benefitting from a transit system, and British Columbia has draft legislation with a similar effect. The Californian legislation has never been implemented, probably for three reasons. First, economists have had little success measuring the effect on land values of new transit systems. Land values may begin to rise many years in advance, in anticipation of the transit system, and may continue to rise long after the system opens. Secondly, a local improvement levy might be an onerous burden upon existing stable communities around a transit station. Third, a transit improvement levy might be considered unfair and inequitable as most of the benefit of the transit system is city wide. Local property owners are not typically charged for other improvements with city wide benefits, such as parks or expressways. In addition, our society does not usually tax site specific windfalls.

A redevelopment charge or levy could be imposed at the time a property is redeveloped, not unlike a sewer hook-up charge. This is practised in Edmonton and Calgary, and is made site specific in zoning by-laws of an affected area. In effect, this amounts to a sale of development rights by the city. Land values increase little if at all prior to redevelopment, because purchasers/developers anticipate the levy. A possible disadvantage is that the presence of the redevelopment levy reduces private incentive to redevelop, and may delay more intensive and efficient land use around stations.

Government ownership of property around stations (land banking) can enable direct capture of some of the benefits of transit system construction. This requires purchase of the land before values begin to increase, and retention by the government of the land through the period of land value increase. To a limited extent this has been practised in Toronto, where the Transit Commission purchased land along the Yonge subway route, built the system, and retained long term leases on the land as it was redeveloped. The B.C. and local governments do own substantial parcels along the ALRT route, but there would be little point in further land banking as it appears that most of the land value increase attributable to ALRT has already occurred, in anticipation of the system.

The only remaining fiscal tool available to the UTA to recapture increases in land value is to engage in joint development with private land owners. The UTA has, therefor, adopted a policy of attempting to deal with developers in the vicinity of proposed stations to obtain some of the unearned benefit.

While the land may be in private ownership, and the general ALRT alignment already fixed, the UTA does retain some cards to play. The ALRT System is sufficiently flexible that the alignment may be altered and station locations shifted to significantly increase or decrease the effect on the value of a specific property. The ALRT System technology means that it is possible to obtain easements through properties without requiring a full land take. In return for adjusting the alignment and station location to suit a particular developer, the UTA can negotiate a share of the land value increment.

The UTA's preference for joint development ventures is magnified by the policy towards stations, and the "baseline" contract by which the system was purchased from Metro Canada Limited. Sufficient money is available for functional stations, but there is not money for lavish architectural treatment such as is found on the Montreal or even Toronto systems. Joint development is viewed as a means to have the private sector contribute to station embellishment.

In conclusion, there are strong economic reasons for cooperating with the private sector.

**ALRT System Technology**

ALRT operates relatively small, automated trains at high frequency on a grade separated, usually precast elevated guideway. While the peak direction capacity of ALRT is similar to conventional LRT, automated operation makes it economical to provide high frequency service not only in the
peak hours, but in the mid day and late at night.

It is believed that reducing the off peak waiting time from typically 5 or 10 minutes to 1 or 2 minutes, will greatly improve the competitiveness of public transit with the private automobile, especially in low and medium density suburban areas. Since automated operation requires an entirely grade separated guideway, and since underground construction is usually extremely expensive, the ALRT System has been designed to be extremely quiet and vibration free, and a special effort has been directed to developing a relatively slender and economical precast guideway structures.

Design Environment

Although engineering efforts have been directed at reducing the visual impact of the standard precast guideway, it inevitably will still be a highly visible structure in the urban scene. One design approach is that it should march through the city as a single, strong element. Another strategy is to integrate it with other urban elements, attempting where possible to blend it into the urban fabric.

The debate extends from mere esthetics to functional issues relating to integration with adjacent land uses. Transit systems can stand alone, serving as a "transportation facility" strictly moving people between two points, or they can provide a framework for adjacent development to "plug in". The former is based on the concept of transit stations, as public projects and landmarks in the city, should stand alone and not be subsumed within private developments. On a slightly more functional level, there is a consideration that transit stations be distinctive and recognizable, with some system wide commonality in design.

On the other hand, if the objective of providing rapid transit is not merely to move people from A to B, but to develop an efficient and convenient urban structure, then interconnected development should be encouraged. Such development can provide a destination point for a significant portion of the ridership, as well as increasing convenience and amenity to all transit users. Especially attractive for interconnected development are uses with high transit user density, especially in the mid day and evening when the transit system has excess capacity. Shopping centres, movie theatres, and convention hotels are ideal.

The implicitly adopted policy is, not surprisingly, a compromise. For reasons of economy, the guideway beams will be standardized system wide. Localized treatment, ranging from special concrete finishes and planting, through to pseudo-romanescque columns in downtown New Westminster are being considered. Many aspects of elevated stations will be standardized, from the structural system to the signage, but local conditions and consideration of joint and interconnected development will often result in variations from the standard.

Process of Site Selection

The "baseline" contract between UTA and MCL provided for construction of elevated guideway and stations along the least expensive alignment between downtown Vancouver and New Westminster. While the general right-of-way was specified, only engineering costs were considered in determining the "baseline". The intention was to control "gold-plating" by evaluating each deviation from "baseline" on its own merits.

The "baseline" station at Main Street was elevated above the median of Terminal Avenue, with stairs and escalators connecting to the sidewalks. This elevated, "octopus-like" structure had serious problems, with poor pedestrian connection to buses, and obstruction of sight lines for street traffic. Since this station will be built two years in advance of the rest of the system, as a pre-build demonstration, it was particularly important that the station not be aesthetically barren. The UTA hired Thompson Berwick Pratt and Partners to investigate alternative sites.

Four major options were identified, and assessed from a planning perspective. Linkages to major uses in the area (VIA Rail station, Expo 86, potential and probable private and public redevelopment) were examined (See Map 2). The centre blocks northwest and southwest of Main and Terminal offered the best potential to connect with all the different types of development.

Interconnection with buses was a serious consideration, since most of the ALRT ridership will arrive by this mode. There will be very limited parking on the system, and at least until this area is redeveloped there will be very little walk-on traffic. Remoteeness from the heavily used Main Street trolley bus made sites west of Columbia Street undesirable.

Availability of the various sites was a major consideration. Since this "pre-build" section will open in May 1983, there was virtually no lead time between site acquisition and design. Although the city owned three of the four sites, the city-owned land was encumbered with long-term leases and would
require a potentially time consuming political approval process. The private land was vacant and the owner was eager to pursue development. Consequently, the UTA found it easier to obtain the private land.

Engineering needs of the ALRT System were also very important. Although the ALRT System can negotiate extremely tight curves, there are still important advantages to following the shortest and most direct route. The route over private property was the shortest, effectively "cutting the corner", and resulting in substantial cost savings. The routes over city land were typically longer, and required special structures to cross street intersections without obstructing columns.

Based on this quick and fairly simple analysis it was apparent that the site northwest of Main and Terminal was best.

Deal-Making

The UTA approached the owner of the preferred site with the hope of negotiating some form of deal. The UTA was able to show the owner that substantial benefits would accrue to him if the transit station was built on his land. For example, it is estimated that approximately 5,000 people will pass through the site on a typical weekday, transferring from the ALRT System to the Main Street bus route. This provides a substantial market for retail development.

While the privately owned site was best for transit operations, in negotiations this aspect was downplayed by the UTA. An alternative site on city-owned land was maintained as a viable option until a deal was signed, inducing the developer to make valuable concessions.

A number of legal mechanisms were studied. Eventually a master agreement was signed with provision for granting of a right-of-way sufficient for construction of the station, and covenants upon the deed which provide for a sharing of the land value increase between the developer and the UTA.

Specifically, the developer grants a right-of-way envelope sufficient for station construction, which upon completion of construction is collapsed to include only those structures, ancillary spaces, and access routes required for ALRT System operation. Upon completion of both the ALRT System and the proposed private development, the private developer will pay the UTA a set price for each square metre of private development constructed. In return, the UTA pays the developer one dollar now for the right-of-way, and agrees to cooperate with the developer to build a high quality transit station. The master agreement ties together various supplementary rights and responsibilities of each party.

Design for Joint Development

There are many degrees of "Joint Development": from simple interconnecting corridors between stations and nearby buildings, through more complex connections with long interfaces along mezzanines and shared entrances, to fully integrated developments with a shared structure, as at Main Street.

To maximize the benefit of the transit station and thus the land value increase to the developer and indirectly the UTA, station architects take lessons from shopping centre designers. They must attempt to maximize pedestrian traffic past potential commercial areas. While commercial areas adjacent to the transit station can increase rider convenience, if pedestrian routes are made more circuitous to provide additional promotional opportunities, transit efficiency can suffer. A delicate balance must be achieved.

At Main Street the original concept called for a direct connection between the transit platform and grade, where bus loading would occur. To increase commercial development opportunities, it was agreed that an intermediate mezzanine would be provided. The mezzanine has the advantage of creating a convenient location for fare vending equipment. However, it requires a break in escalator climb, and could increase the required grade separation of the ALRT guideway from street level. On the balance, design does not severely hamper the efficiency of the transit system while allowing the commercial developer to maximize pedestrian traffic past potential commercial areas.

Conclusions

Recovering some of the costs of rapid transit investments through value capture, and maximizing the benefit of transit through joint development have been elusive and partially conflicting goals of urban planners for over twenty years. The legal mechanisms used at Main Street Station, possible only because of certain characteristics unique to the ALRT technology, set a new state-of-the-art.
The ability of the flexible ALRT System to both run through a building, and alternatively to avoid it, gave the UTA a valuable bargaining chip. Secondly, the environmental acceptability of the quiet and vibration free ALRT System made the developer eager to permit it to occupy an easement through his proposed development.

We believe the circumstances at Main Street station are prototypical rather than unique, and suspect that there are many more cities where ALRT and Main Street Station-type deals would be feasible.

References