Subject: FW: Metro Madness - The RAV Big Dig Begins. by the Light Rail Committee
Date: Mon, 11 Jul 2005 09:37:16 -0700
From: "Ernie Crist" <ernie_crist@dnv.org>
To: "Mayor and Council - DNV" <Council@dnv.org>, "Senior Management Committee" <managecomm@dnv.org>, "James Ridge" <James_Ridge@dnv.org>
CC: <fonvca@fonvca.org>

From: Donald Malcolm Johnston [mailto:dmjohnston@imag.net]
Sent: Monday, July 11, 2005 9:31 AM
To: City of Abbotsford; Township of Langley; City of Port Coquitlam; City of New Westminster; City of Burnaby; City of Vancouver; City of Richmond; Corp. of Delta; DNVCouncil; District of West Vancouver; City of Langley; City of Coquitlam; City of White Rock; Bowen Island; Village of Belcarra; City of North Vancouver; City of Port Moody; District of Pitt Meadows; City of Surrey
Subject: Metro Madness - The RAV Big Dig Begins. by the Light Rail Committee

Please deliver to: Mayor and Council

Sent by: Malcolm Johnston & the Light Rail Committee

The following comment is from the Light Rail Committee.

Malcolm Johnston
Light Rail Committee
Box 105, Delta, BC
V4K 3N5
604-889-4484

uMetro Madnessu
*The RAV Big Dig Begins!

The RAV lobby, including TransLink, the Cities of Vancouver and Richmond, the board of Trade, and the Federal and Provincial Liberal parties, are readying for the big dig. Subway construction, especially cut-and-cover subway construction is new for Vancouver. True, the Expo Line has a subway under the downtown core, but that tunnel was previously built by the CPR to shunt stock from the Station on Burrard Inlet to the yards on False Creek. Lowering the floor one metre, enabled two SkyTrain guideways to be built one on top of the other. The newer Millennium Line has a small cut and cover tunnel on its route, built along parkland, which inconvenienced very few people during its construction. The proposed big dig in the downtown core and along Cambie Street is a different matter. This inconveniences hundreds of businesses and thousands of residents to such a degree, one wonders if subway construction was really necessary, especially so disruptive cut and cover method.

IS SUBWAY CONSTRUCTION NECESSARY?

Due to the huge construction costs, subways are avoided where possible and only considered if there is an insurmountable barrier, such as a steep hill; a river; congested city centres; or where ridership, in exceeds about 15,000 persons per hour per direction on a transit route, which would demand long trains and close continual headway's. An example of per km. construction costs of recently built subway projects, from the UK House of Commons Select Committee on light rail certainly shows why this is so:

Toulouse Metro Line B - $150.7 million per km.

Turin metro extension - $183.6 million per km.

Paris, Meteor Metro - $274 million per km.

Singapore Metro - $395 million per km.

London, Jubilee Line Extension - $524 million per km.

When compared to recently built at-grade or on-street LRT built in the UK, from $11 million per km. to $16 million per km., it easy to see why subway construction is a last resort. Cut and cover construction is avoided where possible because of its disruptive nature to businesses and residents and is not cheaper to build than a bored tunnel when compensation payments to businesses and residents are factored in. To date, TransLink and RAVCO refuse to consider compensation.

There has been no compelling evidence given by RAVCO, TransLink, and the City of Vancouver for subway construction under Cambie Street, nor in the downtown core. Arguments or studies for subway are based more on emotion than fact. Modern LRT can climb grades as steep as 10%; can carry ridership as high as 20,000 pphpd; can integrate well with traffic; can operate safely; and more. Modern LRT could be built on Cambie St. - at a fraction of the cost of a subway and benefit local businesses far more than a subway.

One important item, not mentioned by TransLink or RAVCO, is the huge maintenance cost of subway infrastructure. Toronto's subway, London's Tube, and Paris's Metro are good examples of subway maintenance eating up precious public transit dollars, Pounds and Euros. This is so important a matter, that according to Tramway & Urban Transit, each city mentioned is undertaking massive light rail planning and/or construction. Paris's St. Denis - Bobigny, on-street light rail line is now carrying more ridership that is predicted for the proposed RAV line.

SO WHAT IS THE DIFFERENCE BETWEEN LIGHT METRO AND LIGHT RAIL?

It's not the vehicle that defines LRT or light metro but the quality of rights-of-way. Light Rail is built mostly at ground level and light metro is always grade separated. Many a LRT system has sections of route that operate as a light metro or even a heavy-rail metro.

The term "light metro" came about to describe a plethora of proprietary transit systems, such as our SkyTrain, that were marketed in the 1960's, 70's and 80's. In practice, light metros have proven very costly to build. Costs equal to those of heavy rail metro, but offering only the same capacity of its much cheaper cousin, LRT!

According to the Toronto Transit Commission's 1982 Accelerated Rapid Transit Study which compared SkyTrain (which was then named Intermediate Capacity Transit System) with LRT and heavy-rail metro, came to the conclusion that, "ICTS costs anything up to ten times as much as a conventional light rail line to install for about the same capacity; or put another way, ICTS costs more than a heavy-rail subway which has four times ICTS's capacity."

No wonder ICTS's name was quickly changed to Advanced or Automated Light Rail Transit (ALRT) for its sale to Vancouver. The proprietary SkyTrain, now owned by Bombardier Inc., is now known as Automated or Advanced Rapid Transit (ART).

The name "Light Rail" comes from the English 'Light Railway' a railway that is 'light' in costs. In North America LRT is more commonly known as streetcar or interurban. The Light Rail Transit Association definition of LRT is "A mode that can deal economically with traffic flows of between 2,000 and 20,000 passengers per hour per direction, thus

effectively bridging the gap between the maximum flows that can be dealt with using buses and the minimum that justifies a metro."

Modern LRT, with articulated cars, operating on reserved rights-of-ways, has proven to be as effective as light metro. A perfect example of a reserved right-of-way is the Arbutus Corridor, but reserved R-O-W's can be as simple as a High Occupancy Vehicle (HOV) lane with rails. Modern light rail has effectively shut the door on light metro and the mode has been built mostly for political prestige by having a futuristic 'automated and elevated transit system' rather than an effective transit mode.

During the 1970's and 80's, there was much debate about the effectiveness of light-metro compared to LRT. The conclusions from Transportation Engineer, Gerald Fox's 1991 study 'A Comparison Between Light Rail and Automated Guided Transit' Systems (as most light-metro's are), which included SkyTrain, found:

1) Requiring fully grade separated rights-of-ways and stations and higher car and equipment use, total construction costs is higher for AGT than LRT. A city selecting AGT will tend to have a smaller rapid transit network than a city selecting LRT.

2) There is no evidence that automated operation saves operating and maintenance costs compared to modern LRT operating on a comparable quality of alignment.

3) The rigidity imposed on operations by a centralized control system and the lack of localized response options have resulted in a poor level of reliability on AGT compared to the more versatile LRT.

4) LRT and AGT have similar capacity capabilities if used on the same quality of alignment. LRT also has the option to branch out on less costly R-O-W's.

5) Being the product of contemporary technology, AGT systems carry with them the seeds of obsolescence.

6) Transit agencies that buy into proprietary systems should consider their future procurement options, particularly if the original equipment manufacturer were to cease operations.

The debate between light metro and LRT has been long over: who builds with light metro? Not many, yet bureaucrats in Vancouver and TransLink have been unable come to grips with the two rail modes, preferring to recognize LRT as a poorman's SkyTrain and refuses to acknowledge modern LRT as proven, modern public transit mode that is the first choice of transit planners around the world.

IS THERE A LIGHT AT THE END OF THE TUNNEL?

The RAV subway will give Vancouver a politically prestigious subway, as our present politicians feel that Vancouver can be never a world class city without one! Will RAV attract sufficient ridership to justify its construction costs? Probably not, as the both the Expo Line and Millennium Lines have failed to attract the ridership to justify their construction costs. TransLink has kept well hidden SkyTrain's annual $200 million annual operational subsidy and pretends that it achieves its operating costs. TransLink also hides SkyTrain's expensive ongoing maintenance program, with constant rail re-laying and reaction rail adjustments.

The RAV subway will probably be the last straw in light metro construction for the region as there is nowhere else to build a new line. The North East Corridor rapid transit project, claimed to be LRT, is in fact a light metro, with elevated guideways and tunnels and in the spirit of the Millennium line, will be built as a SkyTrain.

RAV will show the fallacy of TransLink's and GVRD planning by failing to recognize LRT and light metro as two separate modes built for two different reasons. As well, RAV will show the taxpayer 25 years of sham transit planning, done to ensure construction of only a SkyTrain light metro solution. What RAV will not do is to provide an affordable, efficient, and attractive transit mode that will attract the motorist from the car. RAV will certainly give Vancouver civic and provincial politicians a primer on why cities around the world avoid cut-and-cover subway construction at all costs. Now with the exorbitant TransLink tax (read SkyTrain/RAV tax) on local rates, the public will start questioning the need of light metro or regional rapid transit planning.

Could it be that RAV and the big dig will lead the GVRD into a new round of Freeway construction, being seen to be cheaper and less disruptive than light metro construction? The failure of senior bureaucrats in TransLink, the GVRD, and the City of Vancouver, to recognize the fundamental differences between SkyTrain light metro and modern light rail has sent the region on an expensive light metro crusade that in the end will fail, simply because the region can not afford the huge sum of money needed to build a viable transit network, a network the region could afford if the region built with just as efficient but much less costly LRT.

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