

Report to NVCAN Board and Members

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Subject: Analysis of 2011/2012 DNV Transportation Plan Statistics & Goals

Introduction

As part of my consideration of the DNV Fiscal Budget this year, I pondered on what was the desired outcome of our DNV Transportation Plan and whether the budget was steering towards those goals. I don't intend to spend much time in this report offering my own analysis of the budgeting process – I will leave that to each reader, but I thought that bringing the numbers into light might prove useful.

I used multiple sources to prepare the attached table: first and foremost, the DNV Transportation plan itself. Second, multiple iterations of Translink's Trip Diary, the North Shore Transportation Survey (2019), the Official Community Plan (OCP) references and finally, some communication with Transportation Manager Mr. Steve Carney.

It may serve useful to people to recall that the 2012 DNV Transportation Plan evolved out of the 2011 OCP Process with the Transportation Plan being ratified a year later in 2012.

Most people can recall the major "gist" of the plan: to see a transition from private automobiles being used for 79% of "daily trips" to 65%, and to see "active transportation" (Public Transit, Walking & Cycling) evolve to 35%.

But I thought it important to remember that this evolution in transportation patterns must be set in the context of a growing population. My initial "hypothesis" was that 79% of the pre-OCP population of roughly 80,000 was probably not much less actual traffic volume than 65% of the end-OCP population estimate of nearly 100,000. In short: 79% of 80,000, or 63,200 car trips per day, is, in fact, less than 65% of 100,000, or 65,000 car trips per day. I wanted to see if this "thumbnail" estimate was close to truth.

My other objective was to quantify the end-goals for each element of Active Transportation to determine whether our budget investments were equitably and strategically being invested in getting towards our goals – those goals being to grow the share of use of Public Transit, Walking and Cycling.

Summary

Q: Will Traffic Volume decrease under the plan? A: Not substantially, no.

I found that the answer to my first question: Whether 65% of the end-OCP population estimates was in fact less traffic volume than the pre-OCP share of 79% was substantially less was, in my summary, false.

At the outset, we would have seen 79% of 340,000 (cited as 2.88 trips per day per resident) trips per day which was traffic volume of 268,600 car trips per day. At the end-goal, 65% of 2.88 trips per day, times

105,000 residents (The end-of-OCP population estimate), traffic volume would be 263,004 (a drop of only 2.1%).

My conclusion of this aspect is that we cannot remove automobile vehicle capacity in favour of any Active Transportation Modes (cycling lanes, transit only lanes, etc.) without expecting that automobile traffic will be affected and traffic congestion increased.

I might point out that such moves are the stated agenda of Transportation Demand Management (TDM) – to “incent” drivers to switch to other modes through TDM measures. But we should recall that TDM is inherent to the Transportation Plan – and even AFTER TDM is implemented, the “best case” scenario stated in the plan would be that automobile use would shrink to 65%.

Q: What is the end-goal of the Transportation Plan for Cycling share? A: No exact answer exists, but my most accurate estimate is “no more than 4%”.

Q: What are the end-goals for Trip Shares across each mode?

The following are my findings:

The goal for private automobile use is 65%

The goal for Public Transit use is 15%

The goal for walking and cycling use (combined) is 20%. I estimate that at 4:1 ratio that means 16% walking and 4% cycling.

Q: What are the shares of transportation usage when distance is considered?

When average trip distance (in kilometres) is considered (average of to/from work, personal business and to/from school), the totals of usage are:

Private Automobile - from 84.4% at TP Outset to 73.6% by 2030.

Public Transit - from 11.3% at TP Outset to 17.9% by 2030.

Walking - from 2.9% at TP Outset to 5.5% by 2030.

Cycling - from 1.4% at TP Outset to 3.0% by 2030.

The Anomaly(s)

Inherent to these calculations I found a significant anomaly: that the stated ratios didn’t add up. The Transportation Plan stated that the initial population took 2.88 trips per day which resulted in 340,000 trips within DNV. But 82,562 people times 2.88 trips per day is only 237,779 trips.

This left an “overhead” of an additional 102,221 trips. So, either the ratio is closer to 4.12 trips per day per resident, or, at 2.88 trips/resident/day, the 102,221 extra trips come from somewhere else. Could it be commercial traffic? Workers commuting into DNV who live elsewhere? CNV Residents travelling through DNV to get where they are going? My guess that it is “All of the above”.

The anomalies in this are that:

- 1) I held this “overhead” number as a constant over the life of the OCP – even though I don’t believe it is constant at all.
- 2) There are no “share” estimates, or even acknowledgement of this “overhead” number in the transportation plan – so can we really expect it to follow the same ratios that we seek in the plan?
- 3) I suspect that the “overhead” – or outside-DNV sourced trips are more skewed towards automobiles and public transit than towards walking and cycling, but that is not evidenced anywhere in the plan or the trip diaries that I can witness.

The other major factor to consider is this: the plan focusses on trips per day – the stated goals are based on “trips” – not on distance travelled. The plan does state that walking and cycling tend to be used for shorter trips while automobiles and transit tend to be used for longer trips. At the outset, our average trip within DNV was 8 km. I have prepared a supplemental table which incorporates distance travelled.

It is at the bottom of the table below.

