Nanaimo Transportation Master Plan

2012 Transportation Surveys

Preliminary Highlights

NANAIMO
TRANSPORTATION MASTER PLAN

October 18, 2012

Preparing for our Transportation Plan…

- Field data was collected to understand existing (Spring 2012) travel demand and patterns.
- This information will help the City respond to questions, concerns, ideas and concepts that emerge during the Transportation Master Plan process and beyond.
- Data Field Collection – Spring 2012 (Apr-May)

Transportation Data Elements

- Population, Housing and Employment Projections
- Transit / Traffic Screenline Survey
- Travel Time Survey
- Transit On-Board Survey
- Ferry On-Board Survey
- Household Travel Survey – Addressed Separately

Population, Housing and Employment Projections

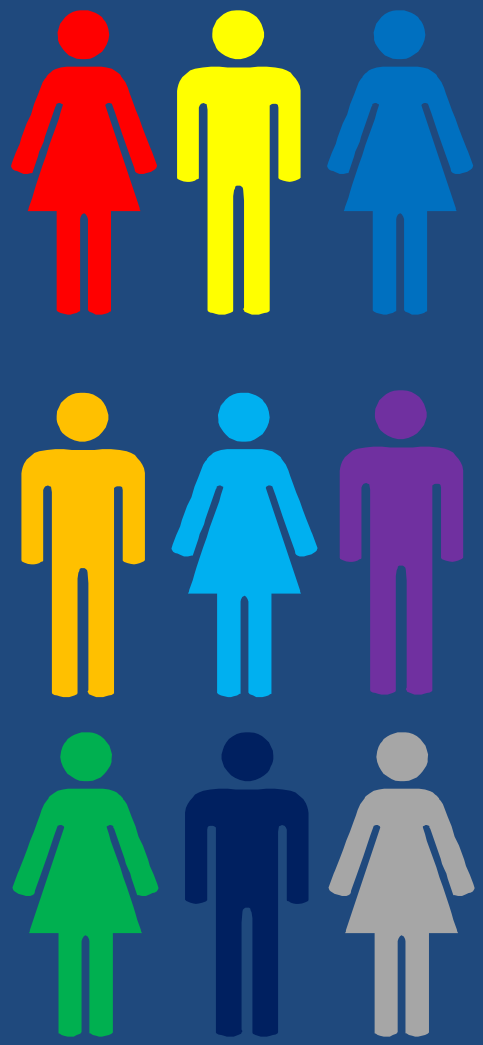
Two Part Study

Phase 1 (Historical Review)

Estimate of Population, Households and Employment (2001-2011)

Phase 2 (Projections)

Projection of Population, Households and Employment (2011-2041)



Population, Housing and Employment

the past 10 years

	2001	2011	2001-11
Population	76,533	86,347	+9,814 / +13% / 1.21%/yr
Population (65+)	12,490	16,549	+4,059 / +32% / 2.85%/yr
Population (25-64)	40,400	46,592	+6,192 / +15% / 1.44%/yr
Population (0-24)	23,643	23,206	-437 / -2% / -0.18%/yr
Households	32,040	37,152	+5,112 / +16% / 1.49%/yr
Avg HH Size (pph)	2.39 pph	2.32 pph	-3%
% Ground oriented HH	79%	76%	-0.4%
% Apartments	21%	24%	trend towards multi-family
Employment*	40,010	48,901	+8,891 / +22% / 2.03%/yr

* 2011 employment estimated using 2006 census results and 2006-11 regional growth trends.

Population, Housing and Employment

the next 30 years

	2011	2041	2011-41
Population	86,347	125,692	+38,345 / +44% / 1.26%/yr
Population (65+)	16,549	40,577	+24,028 / 245+% / 3.03%/yr
Population (25-64)	46,592	59,596	+13,004 / +28% / 0.82%/yr
Population (0-24)	23,206	25,519	+2,313 / 10% / 0.33%/yr
Households	37,152	57,202	+20,050 / +54% / 1.80%/yr
Avg HH Size (per/hh)	2.32 per/hh	2.19 per/hh	-6%
Ground-Orientated/Apartments	76%/24%	62%/28%	trend towards multi-family
Employment*	48,901	74,003	+25,102/ +51% / 1.39%/yr

Strengthening Trend
Stable Trend
Weakening Trend

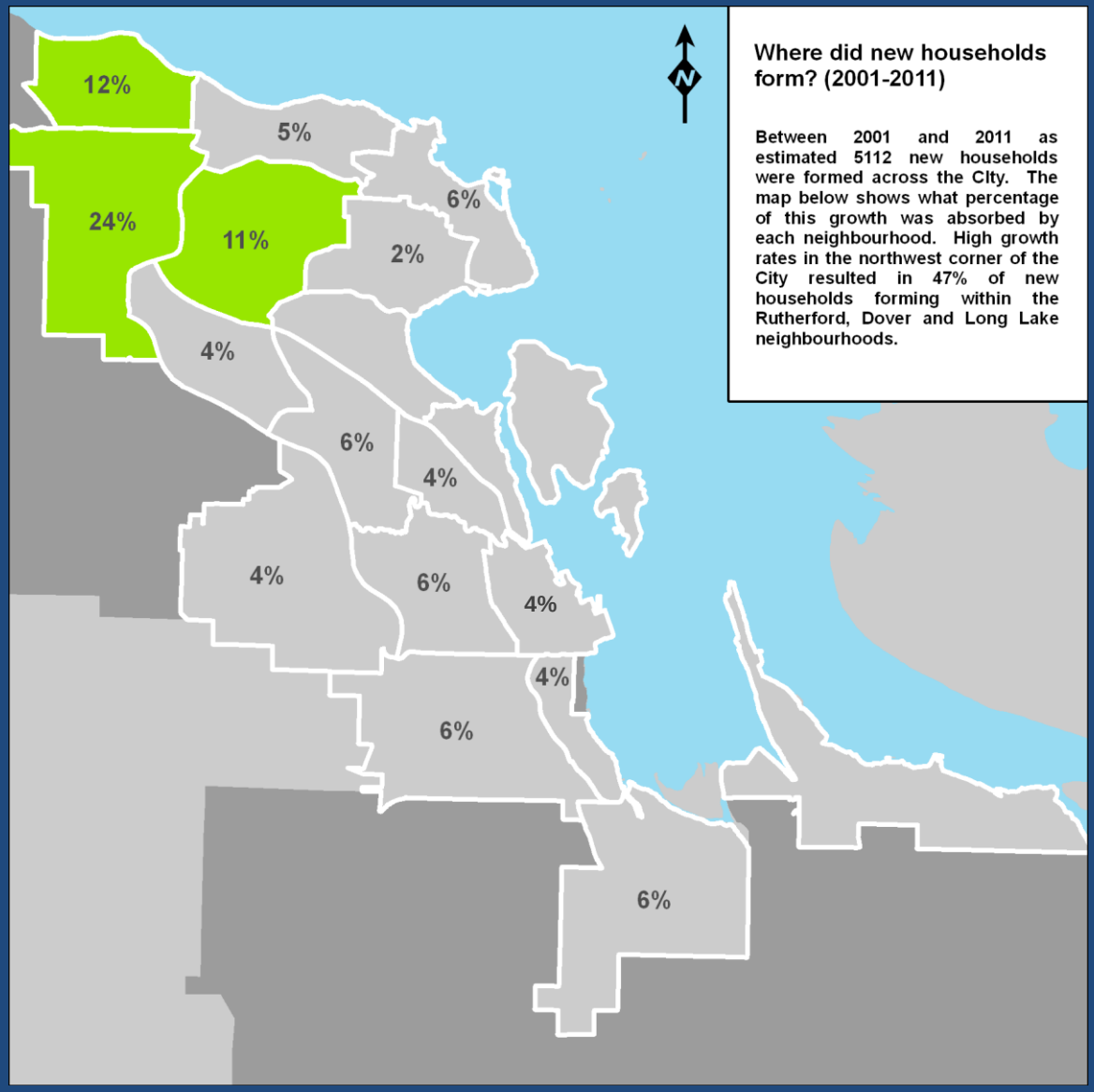
Draft

* 2011 employment estimated using 2006 census results and 2006-11 regional growth trends.

Distribution of New Households (2001-11)

Almost half (47%) of new households formed within the three neighbourhoods surrounding Woodgrove Mall.

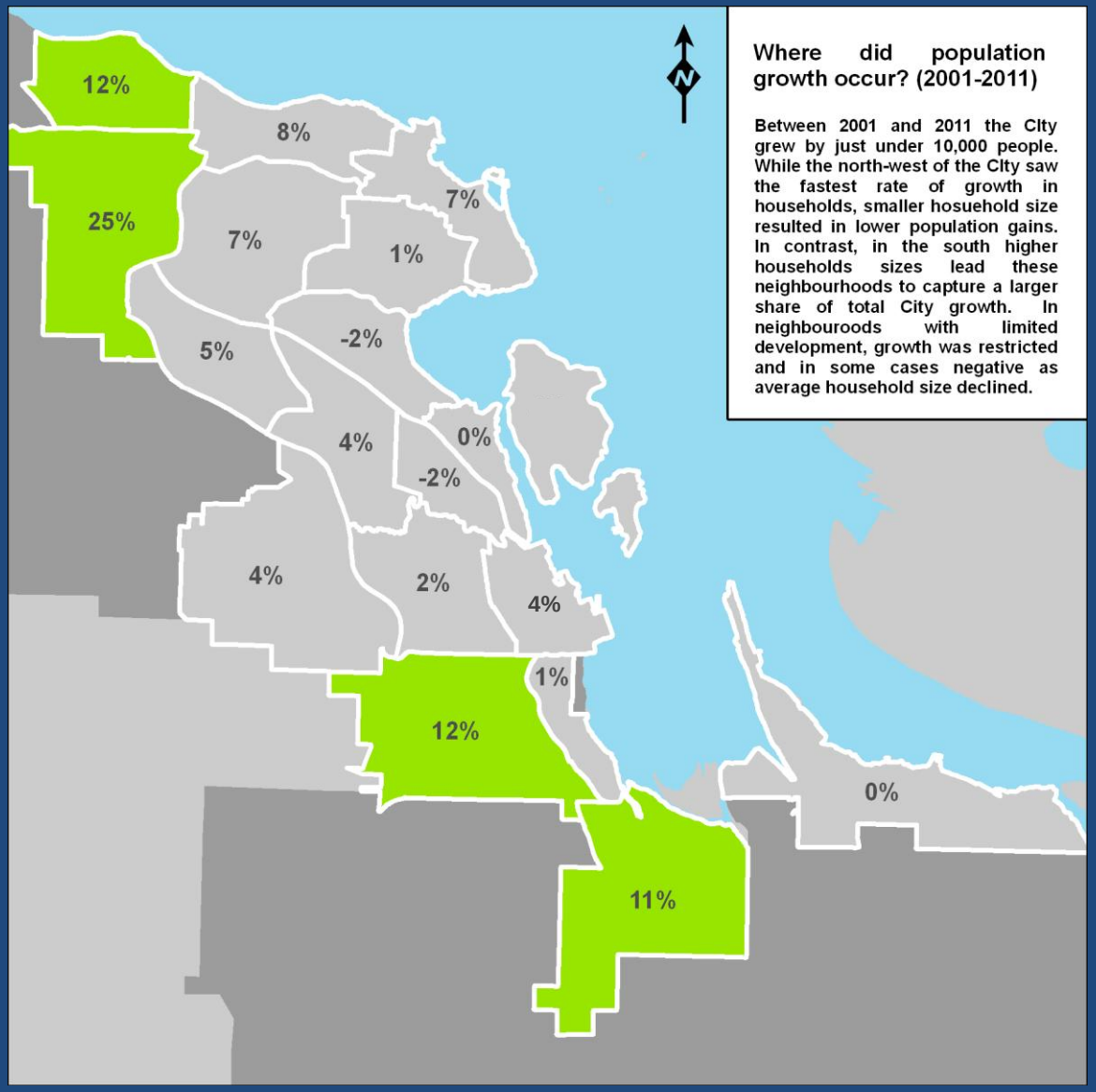
However, these neighbourhoods also have lower than average household size resulting in lower population growth.



Population Growth by Neighbourhood (2001-11)

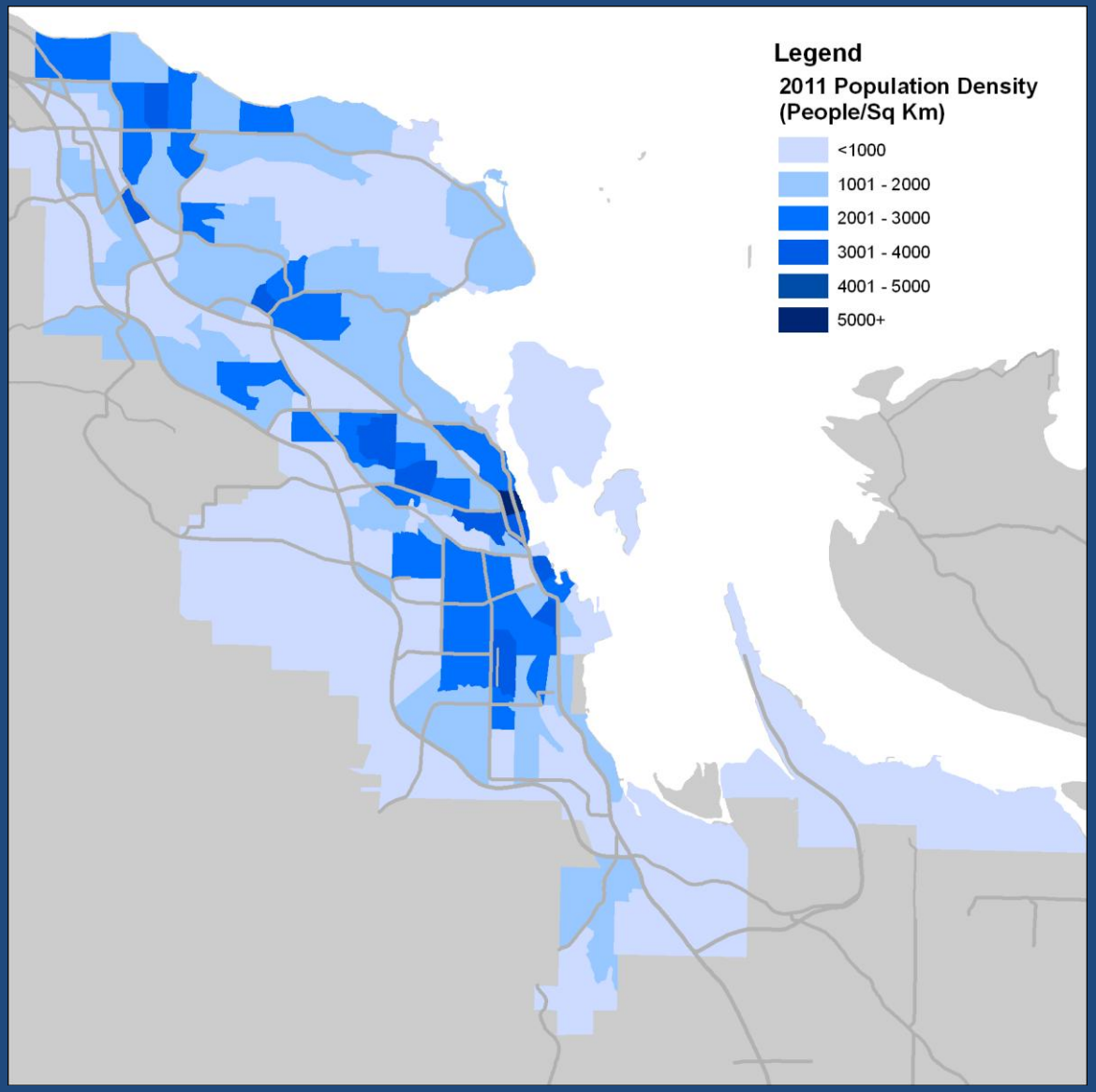
The north and south of the City were the fastest population growing.

Some neighbourhoods experienced population decline, as falling average household size reduced population within existing housing stocks.



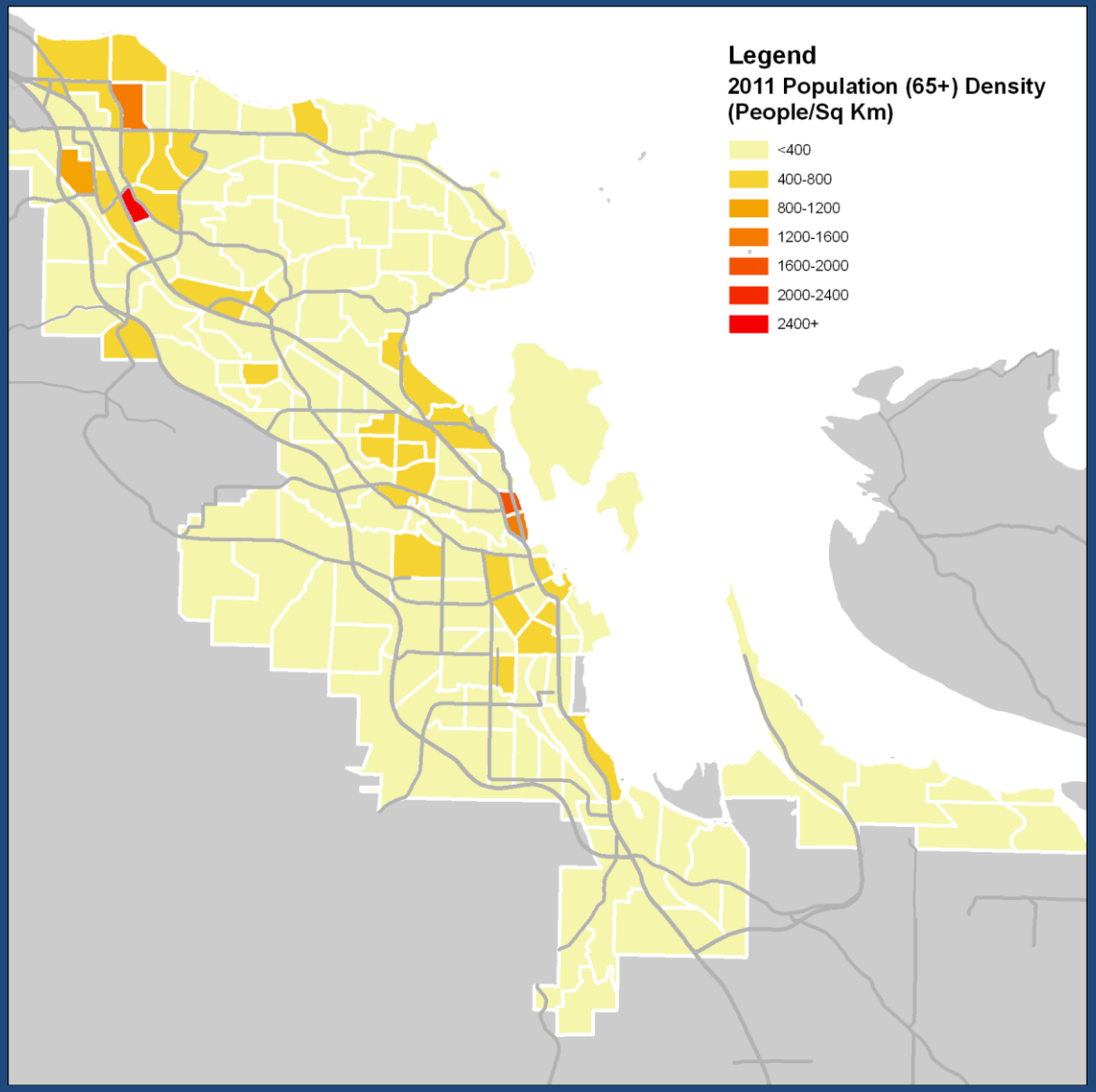
Population Density (2011)

The densest areas of the City are concentrated around the Downtown, with secondary centres at Country Club and Woodgrove.



Population Density 65+ (2011)

Some areas of the City have high concentrations of seniors. These residents may have different transportation needs over time.

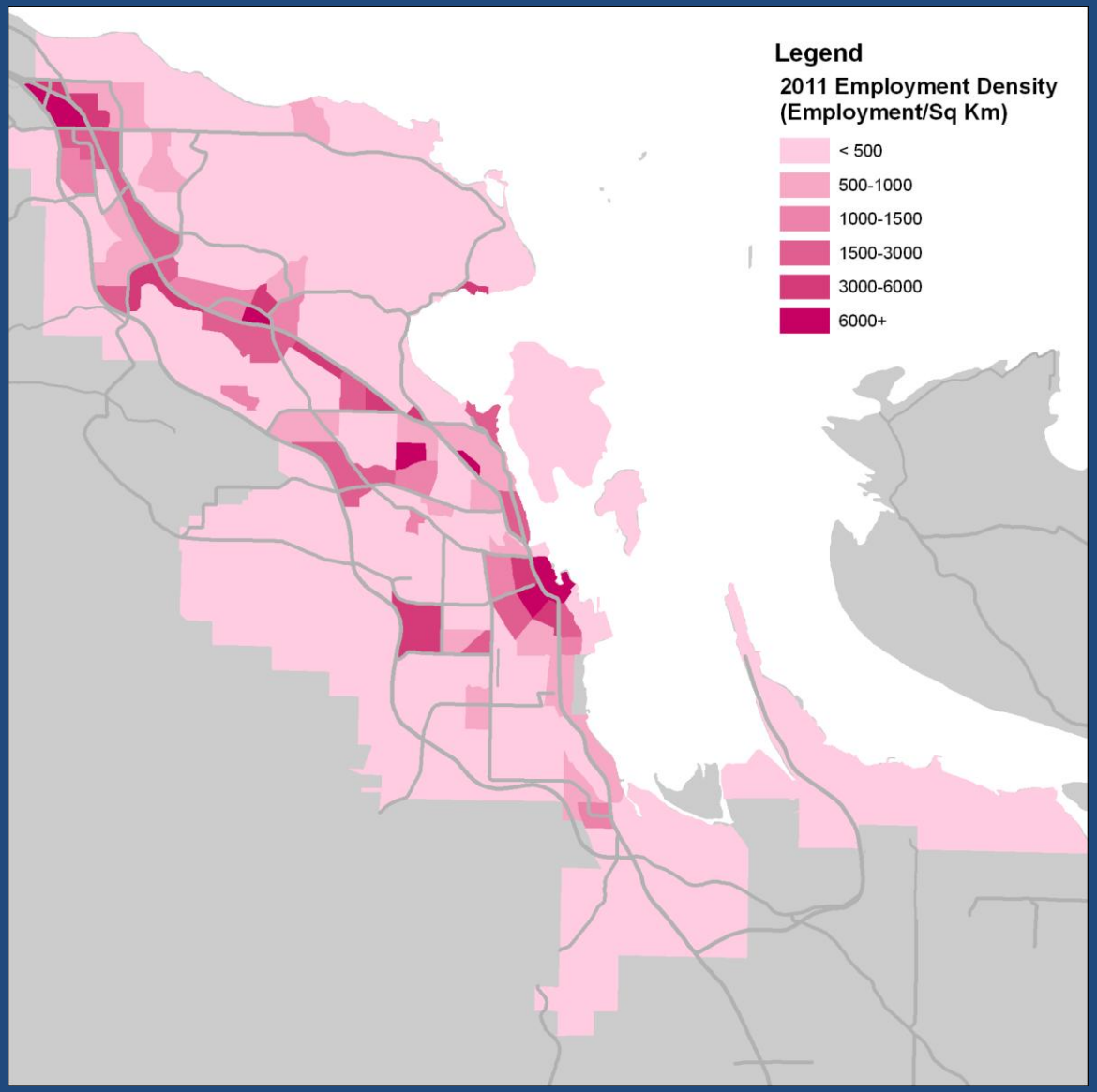


Employment* Density (2011)

Employment is distributed along the Island Highway Corridor.

Concentrations of employment are present at shopping centers, Downtown and industrial areas.

Major institutional employers such as NGRH, BCF, VIU and the DFO Research Station also are highlighted.



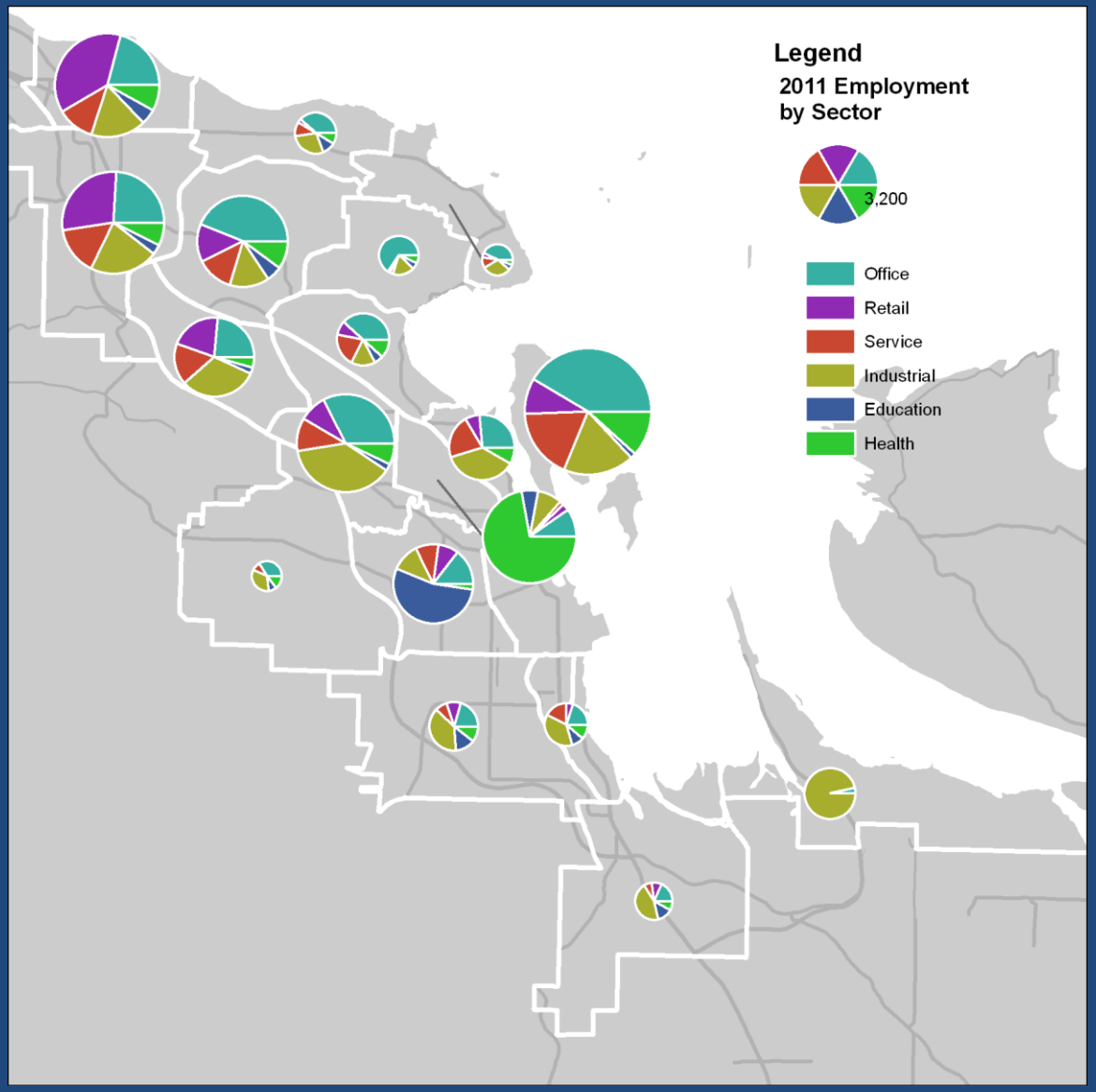
* 2011 employment estimated using 2006 census results and 2006-11 regional growth trends.

Employment* by Sector (2011)

Retail employment concentrated in the north of the City.

Office employment more distributed with some concentration in Downtown.

Concentrations of health and education employment around NGRH and VIU.



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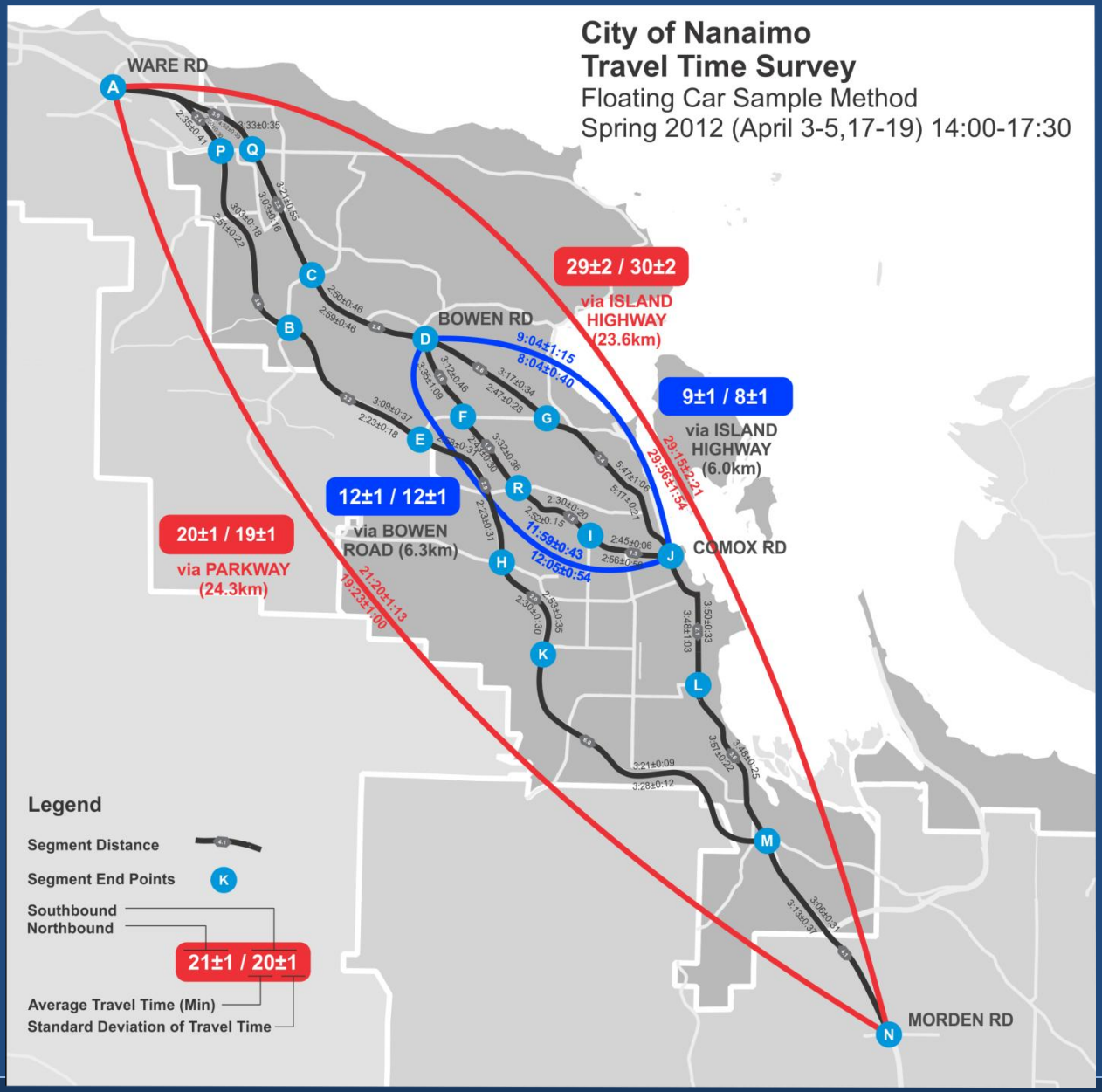
Travel Time Survey

Measured the time to travel through the City via three routes (Parkway, Island Hwy and Bowen Rd) using sample cars.

Based on six sample runs on two consecutive weeks on Tuesday, Wednesday, Thursdays.

Travel Time Survey

- Ware-Morden Rd (24km)
- ~20±1 min via Parkway
- ~30±2 min via Island Hwy
- Norwell-Comox Rd (6km)
- ~ 9±1 min via Island Hwy
- ~12±1 min via Bowen Rd



Screenline Survey

Scope

5 count stations at external gateways to the study area.

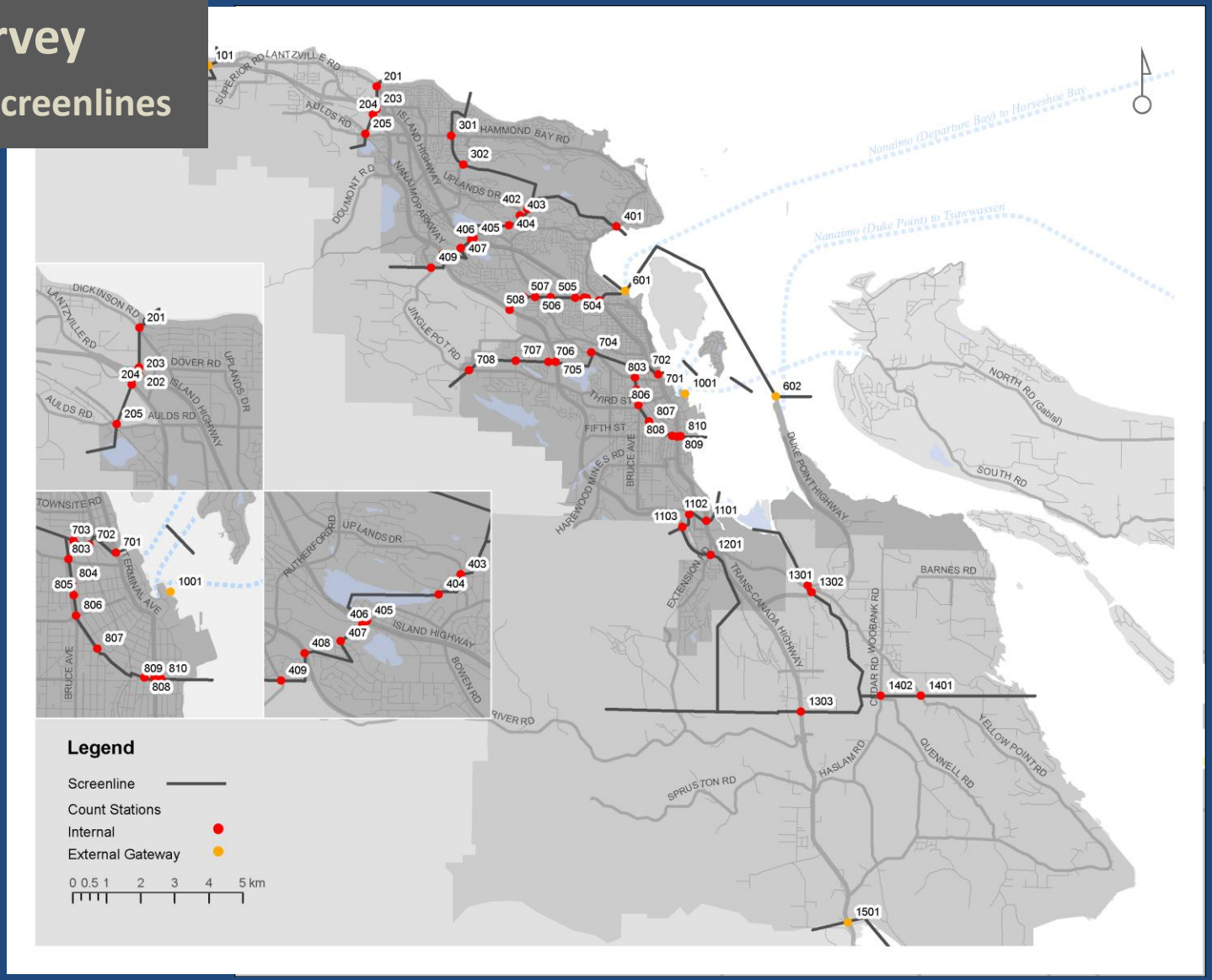
49 count stations forming 10 screenlines within the region.

Automatic counts completed for 10 days to capture a complete week plus second weekend.

Manual / Transit data collected during PM peak period 2:30-6:30pm.

Screenline Survey

Count Stations & Screenlines



Screenline Survey

24hr Volume Profile

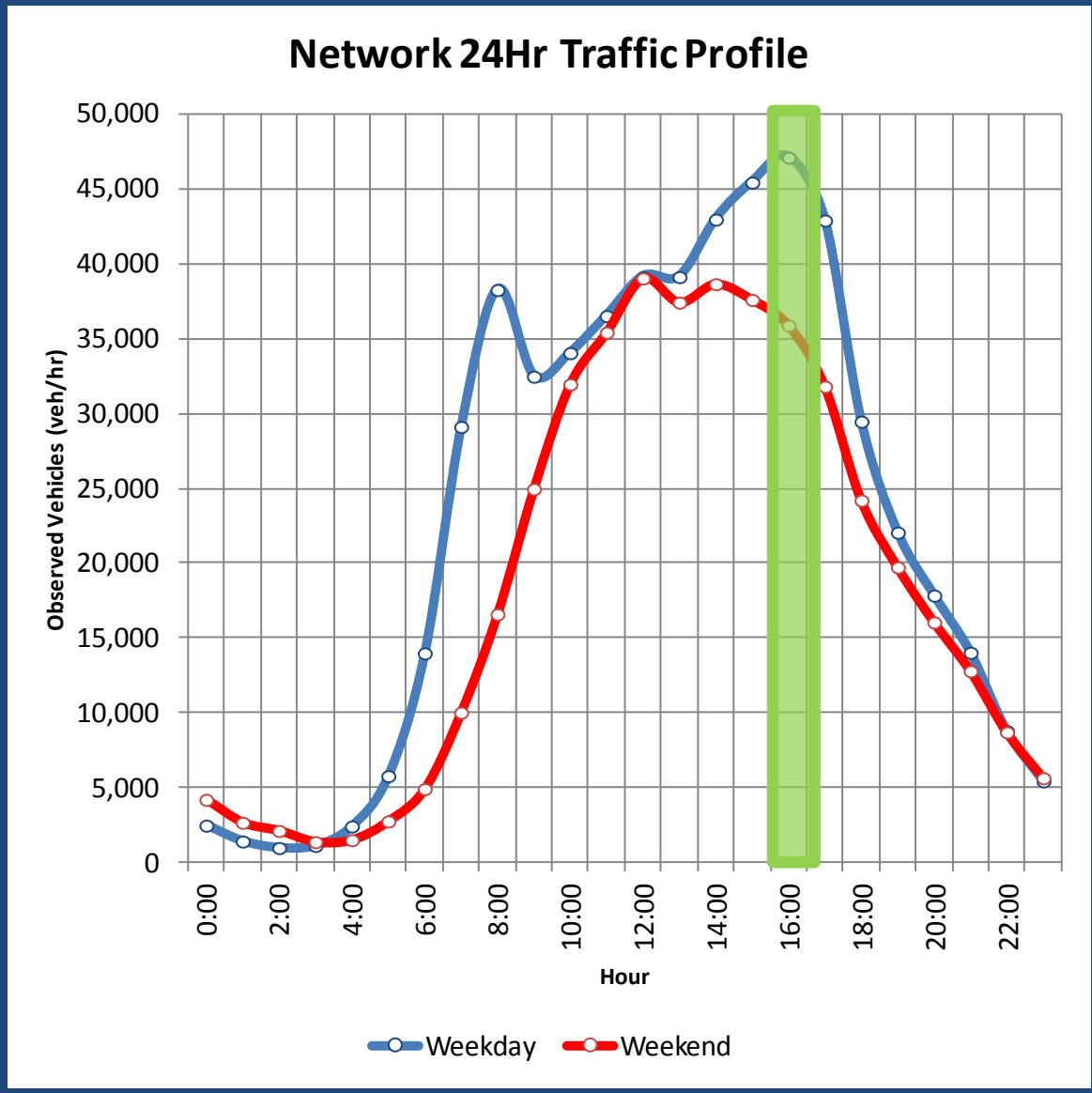
Typical weekday and weekend 24 hour traffic profiles at screenlines.

PM peak period is busiest time of day.

Over 24hrs, weekends are about 81% of typical weekday.

Weekend peak occurs in the mid-afternoon, when demand is similar to weekdays.

Saturday is busier than Sunday.

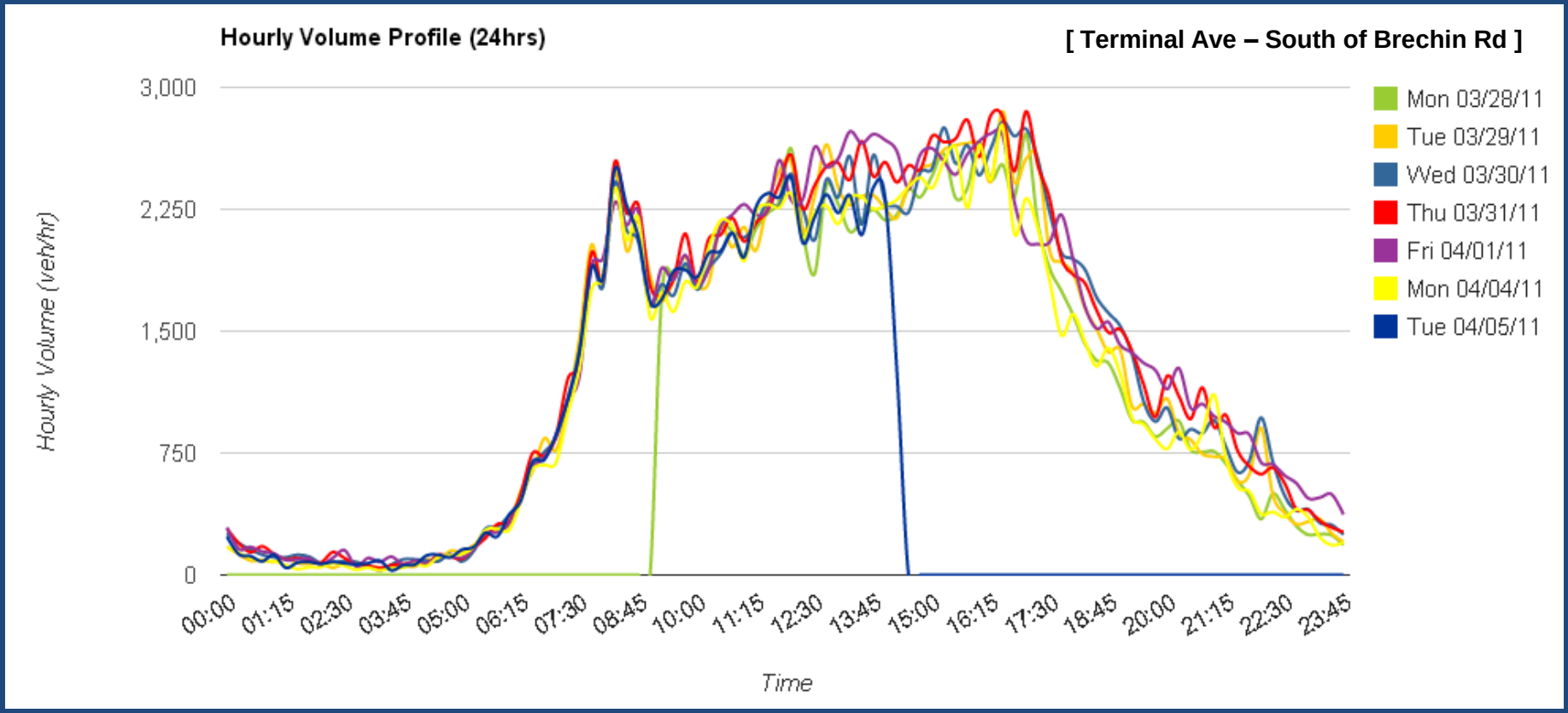


Screenline Survey

24hr Volume Profile

AM peak - Typically work related, very repetitive and stable.

PM Peak – A mix of return to home, shopping, service and other trips, more variable.

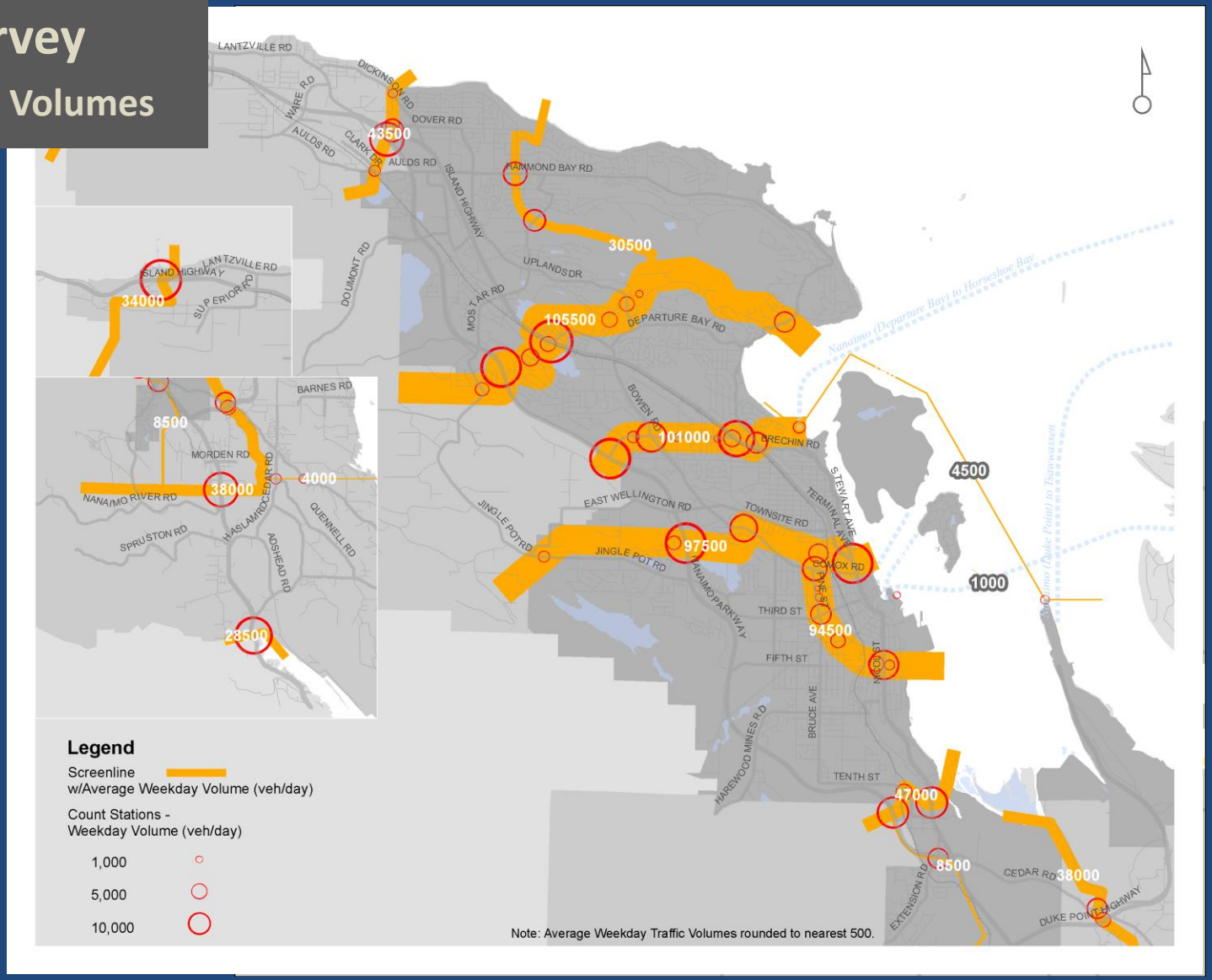


Screenline Survey

Screenline/Station Volumes

On the edge of the City volumes drop to around 30,000; within the City they rise to over 100,000 trips/day.

Largest traffic volumes seen between Downtown and Country Club.

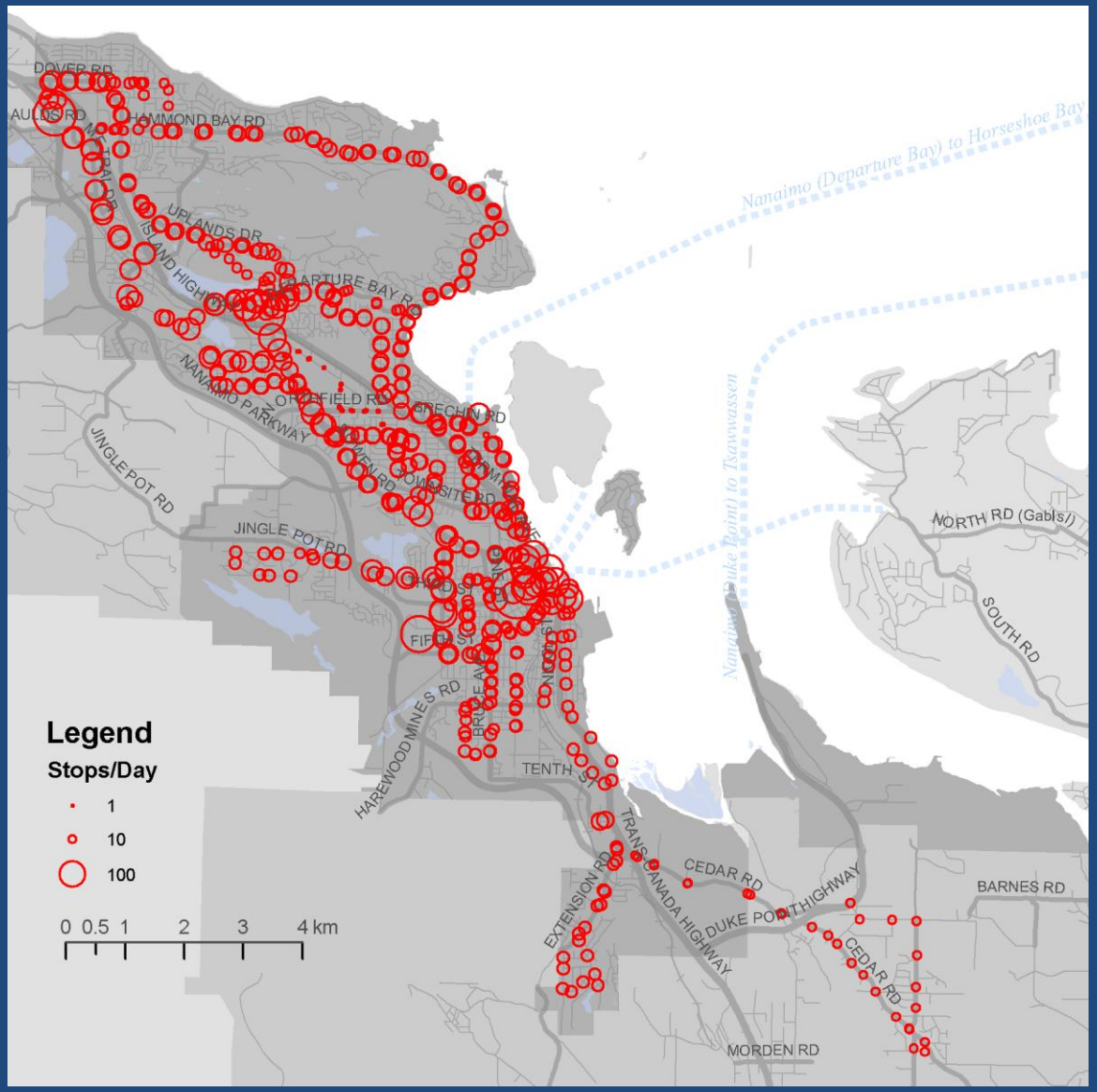


Screenline Survey

Transit Service Levels

The majority of neighbourhoods within the City have some level of transit service.

However service varies significantly with higher levels of service provided at exchanges located at VIU, Downtown, Country Club and Woodgrove.



Screenline Survey

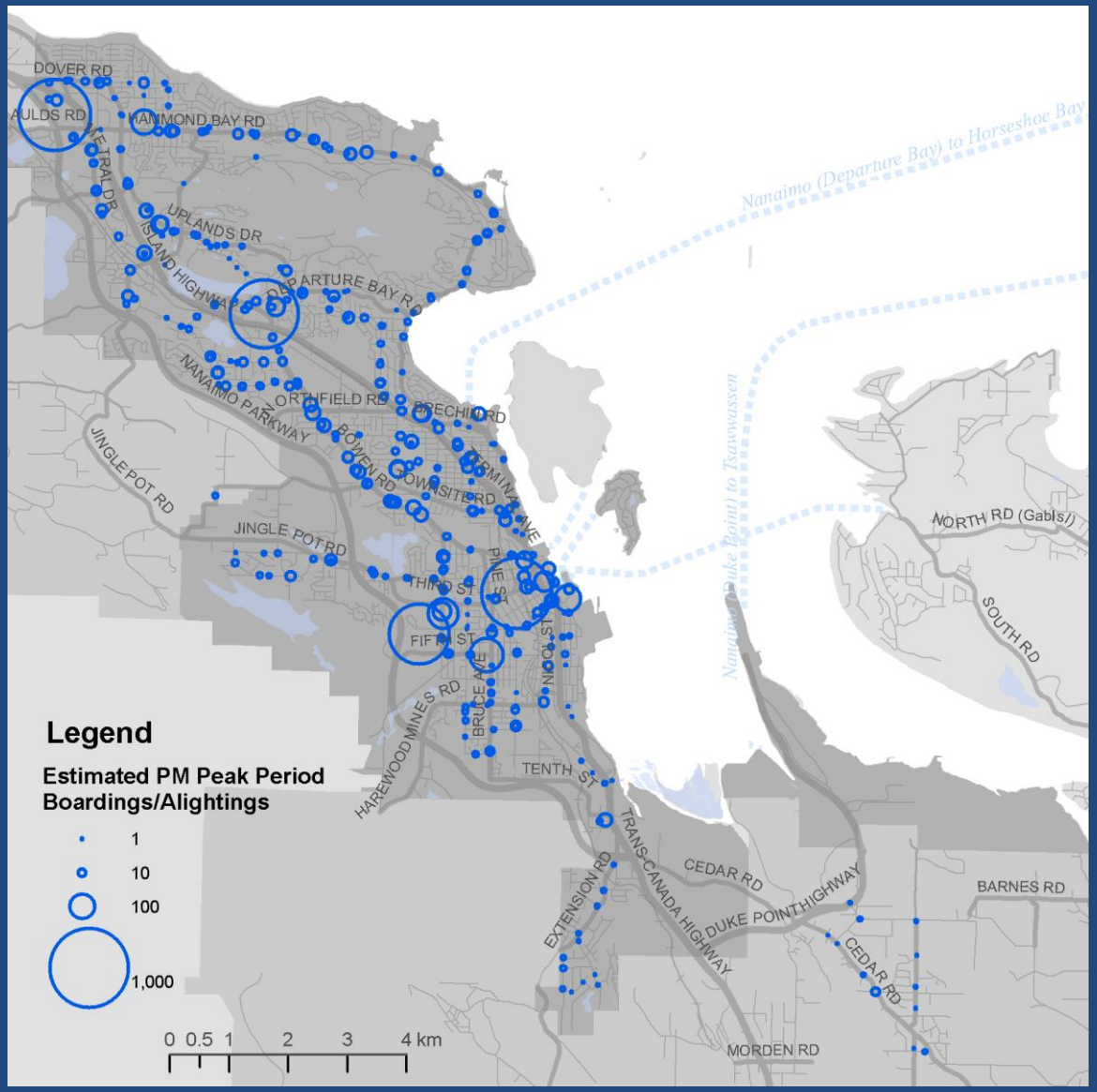
Transit Boardings/Alightings

Based on ~3200 observed/estimated boardings and alightings in the PM peak periods (14:30-18:30 / 4hrs)

Highest ridership from Downtown, Country Club, VIU and Woodgrove.

Strong ridership from NDSS, Dover, University Centre.

Lower ridership in other areas of the City.



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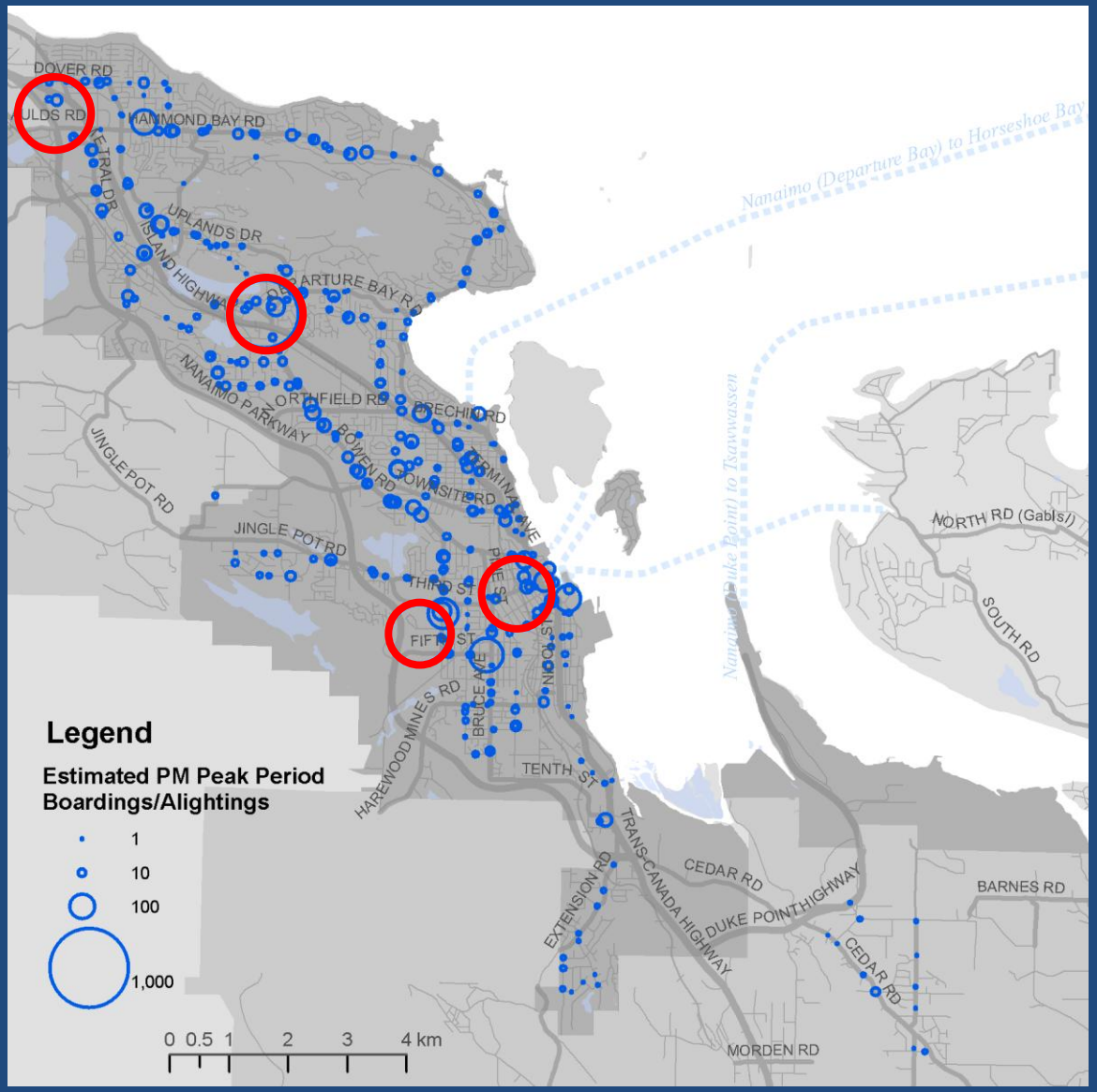

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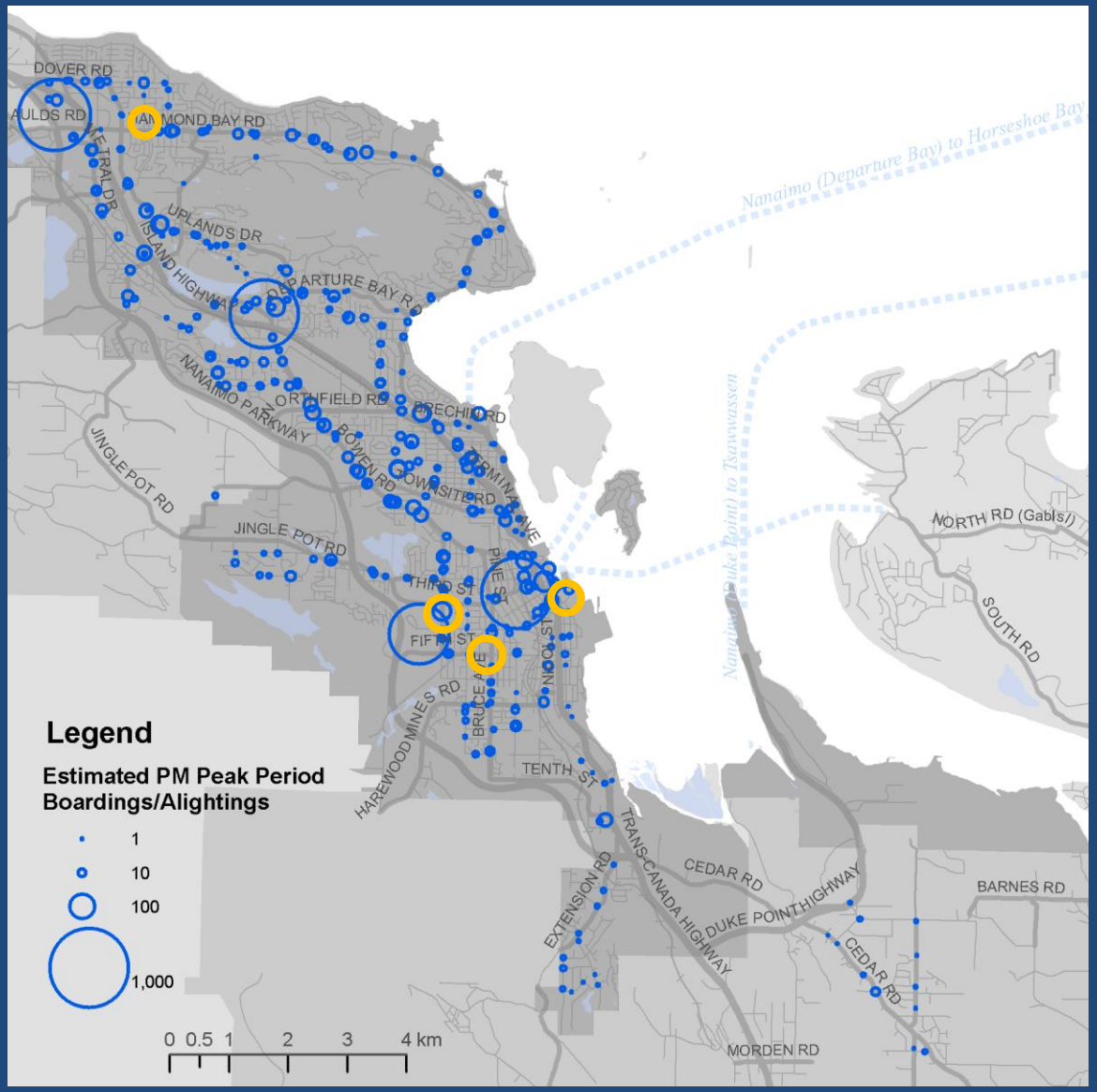


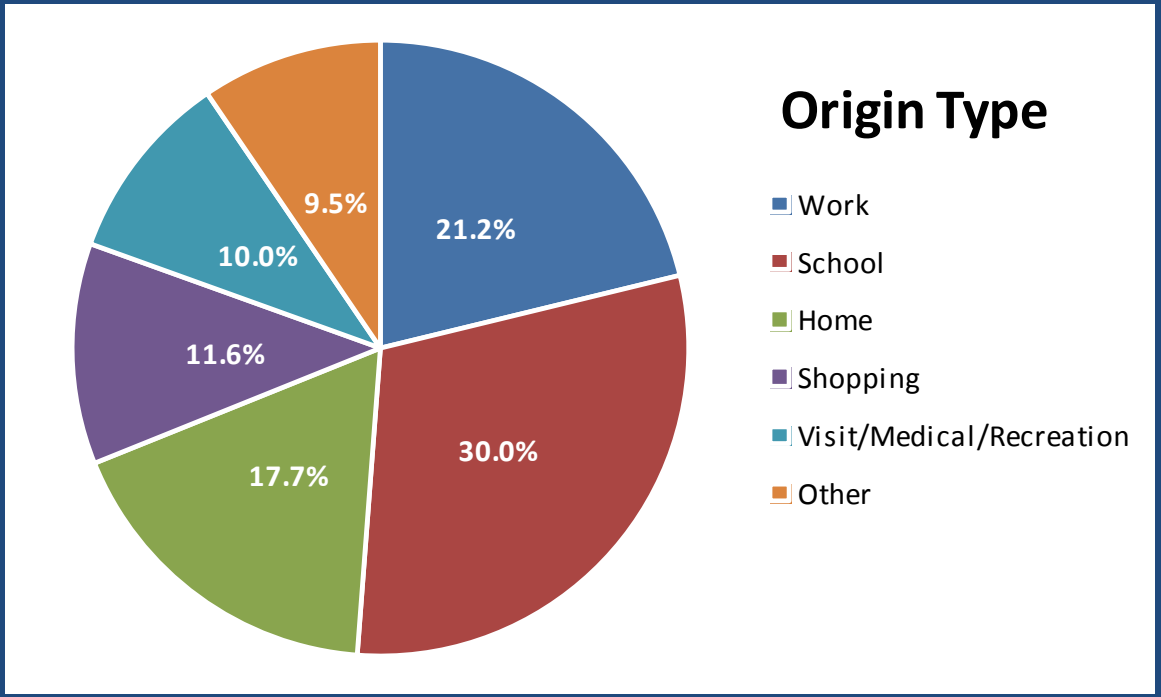
Transit On-Board Survey (2:30pm-6:30pm)

- Similar to the Household Travel Survey; this survey doesn't just count people on the bus, but rather tries to understand who they are and where/why are they traveling.
- Self completed survey on the bus.
- Completed while post-secondary, secondary and elementary schools in session (March 2012).
- 500+ surveys completed.

Bus On-Board Survey (PM Period)

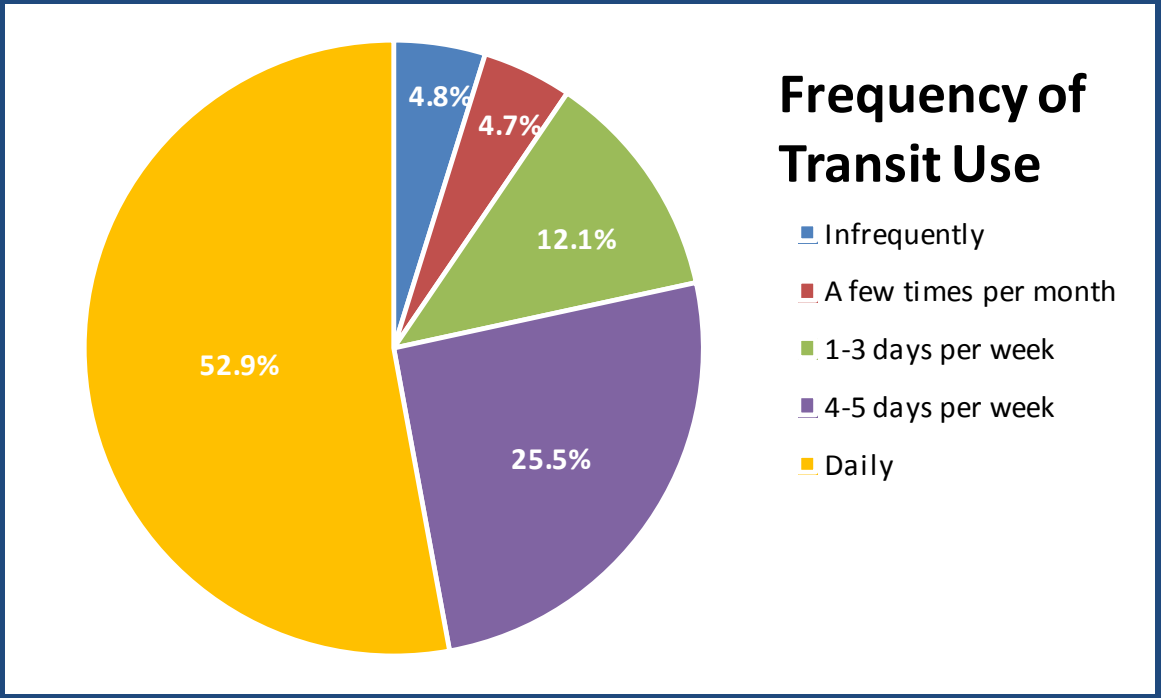
>50% of trips in the PM start at work or school

>50% of trips ends at home.



Bus On-Board Survey (PM Period)

>90% of riders used transit at least once per week.

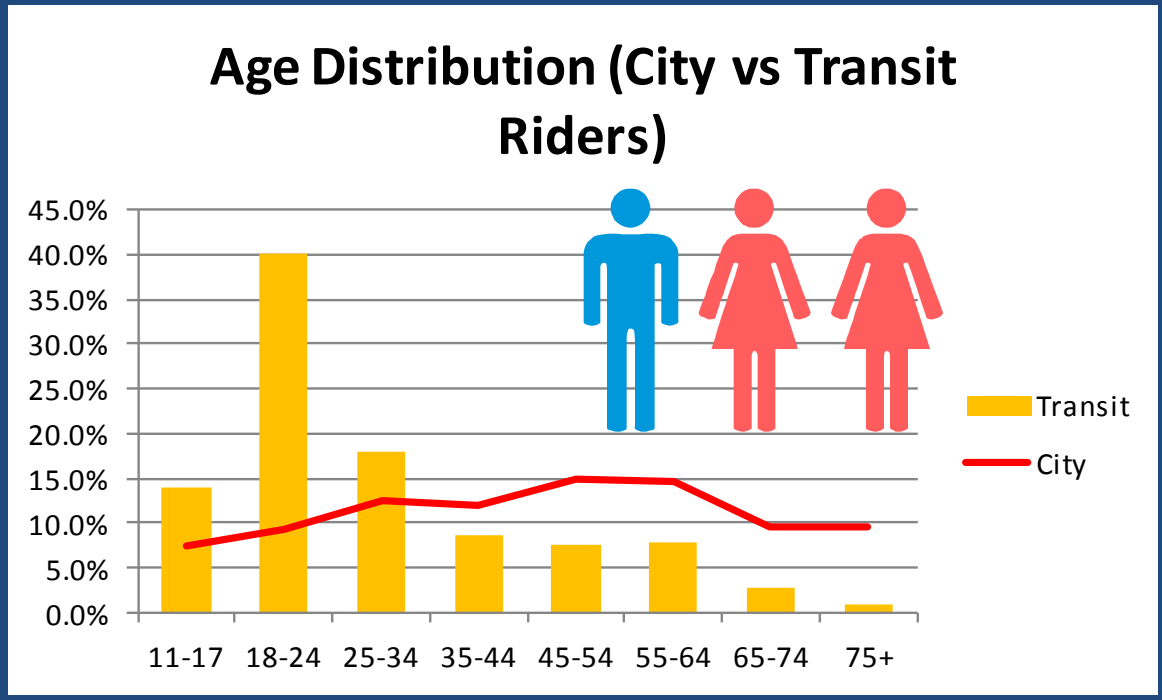


Bus On-Board Survey (PM Period)

Transit riders are young. Under 34s are over represented vs other age groups.

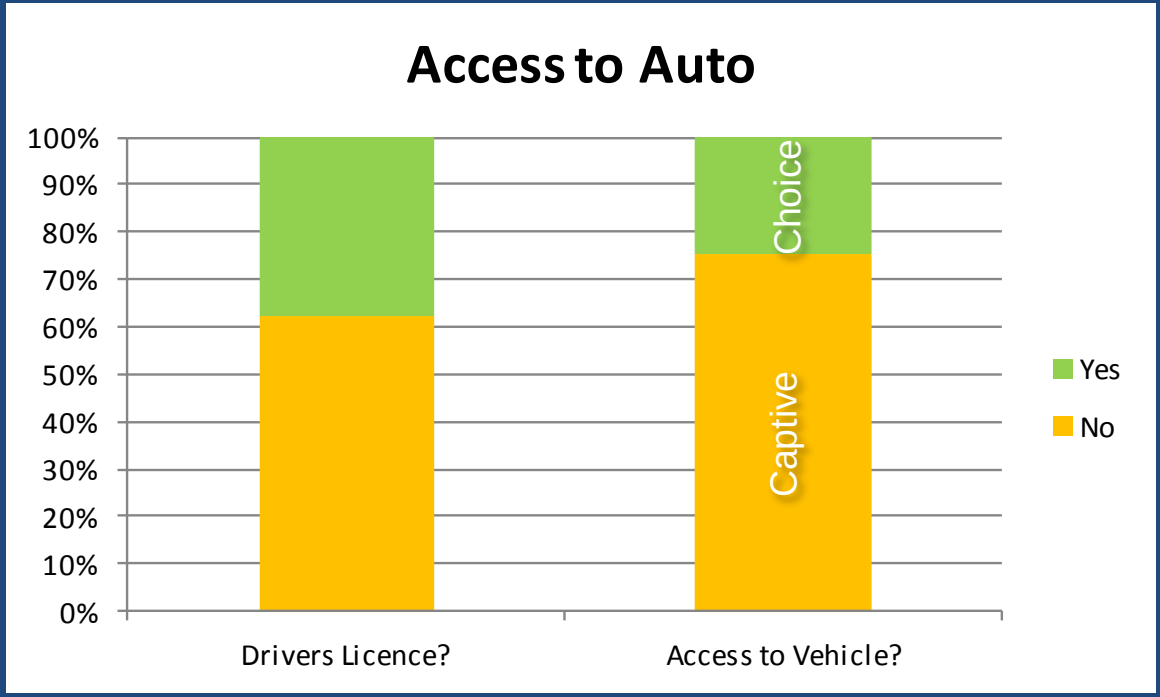
Seniors are underrepresented

Women outnumber men 2:1



Bus On-Board Survey (PM Period)

>75% of riders did not have access to a vehicle; 60%+ did not have a drivers license.

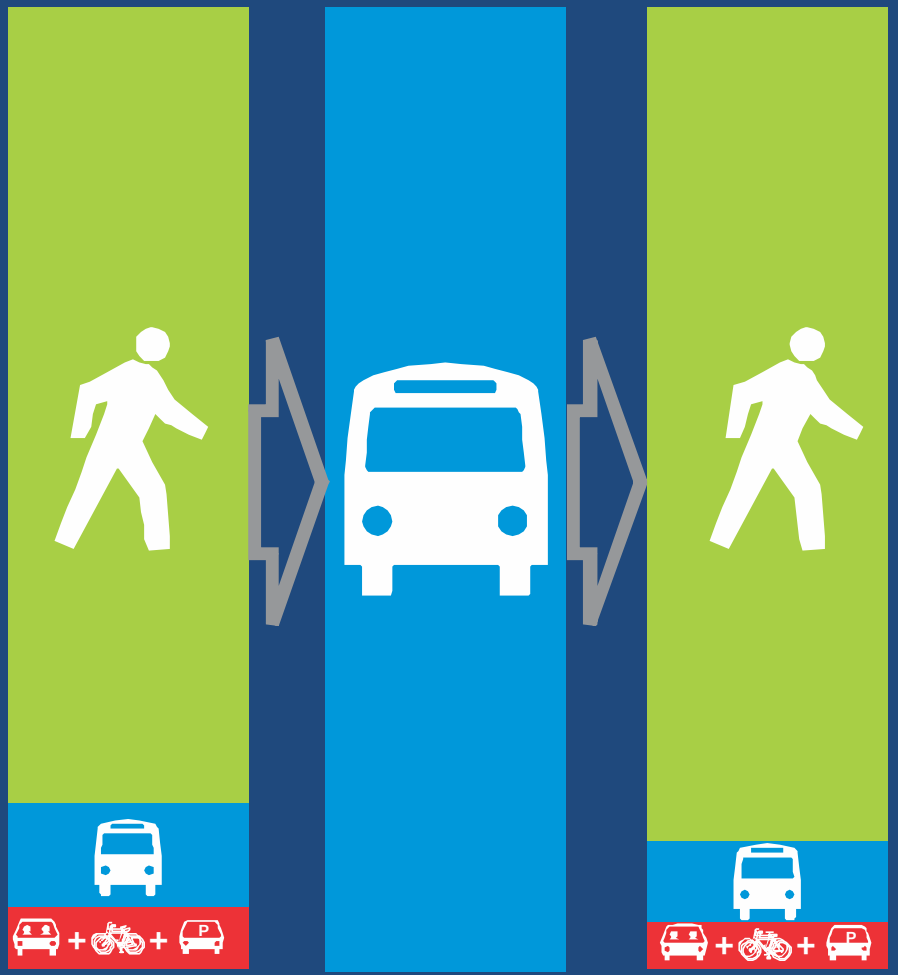


Bus On-Board Survey (PM Period)

The vast majority of riders get to/from the bus by walking.

Transit trips are extended walking trips.

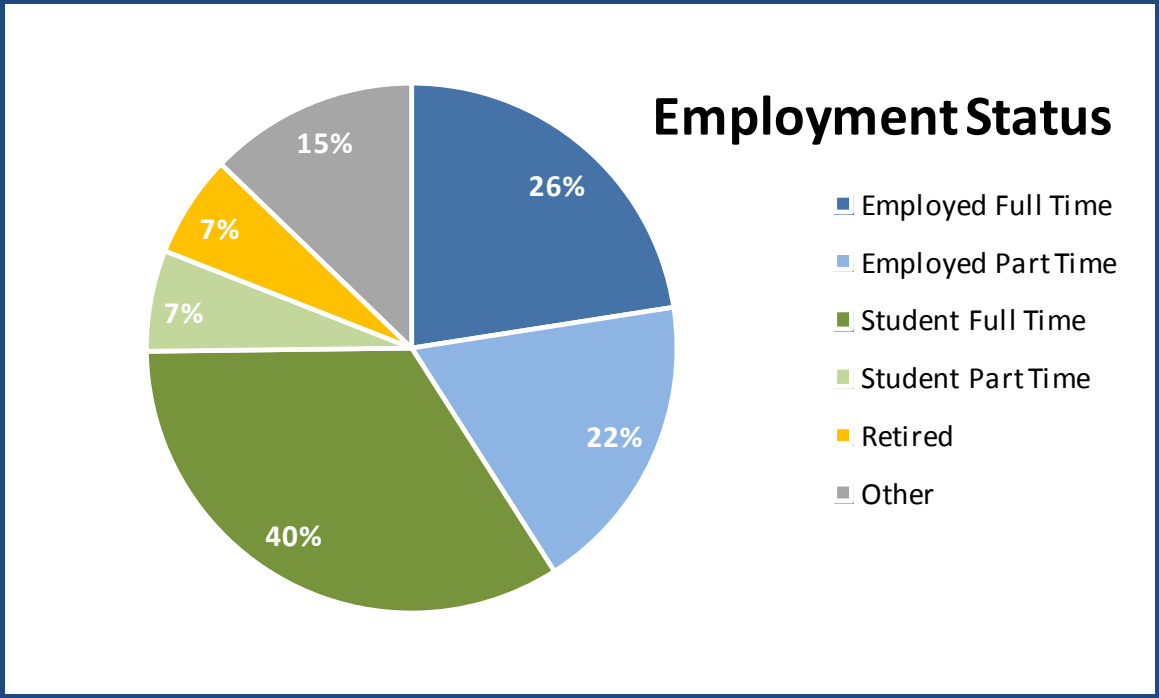
Creating walkable destinations is critical to grow transit use.



Bus On-Board Survey (PM Period)

Most transit users take a bus to go to work or school.

2/3 students are post-secondary.



Note: Multiple selections allowed, total = 117%

Ferry On-Board Survey (PM Period)

- Similar to the bus on-board survey.
- Self completed.
- Three routes surveyed (Gabriola-April, Duke Point/Departure Bay May [Delayed until after Duke Point reopening])
- 1000+ surveys completed / 30% response rate.
- **Survey scope - afternoon/weekdays in April/May.**

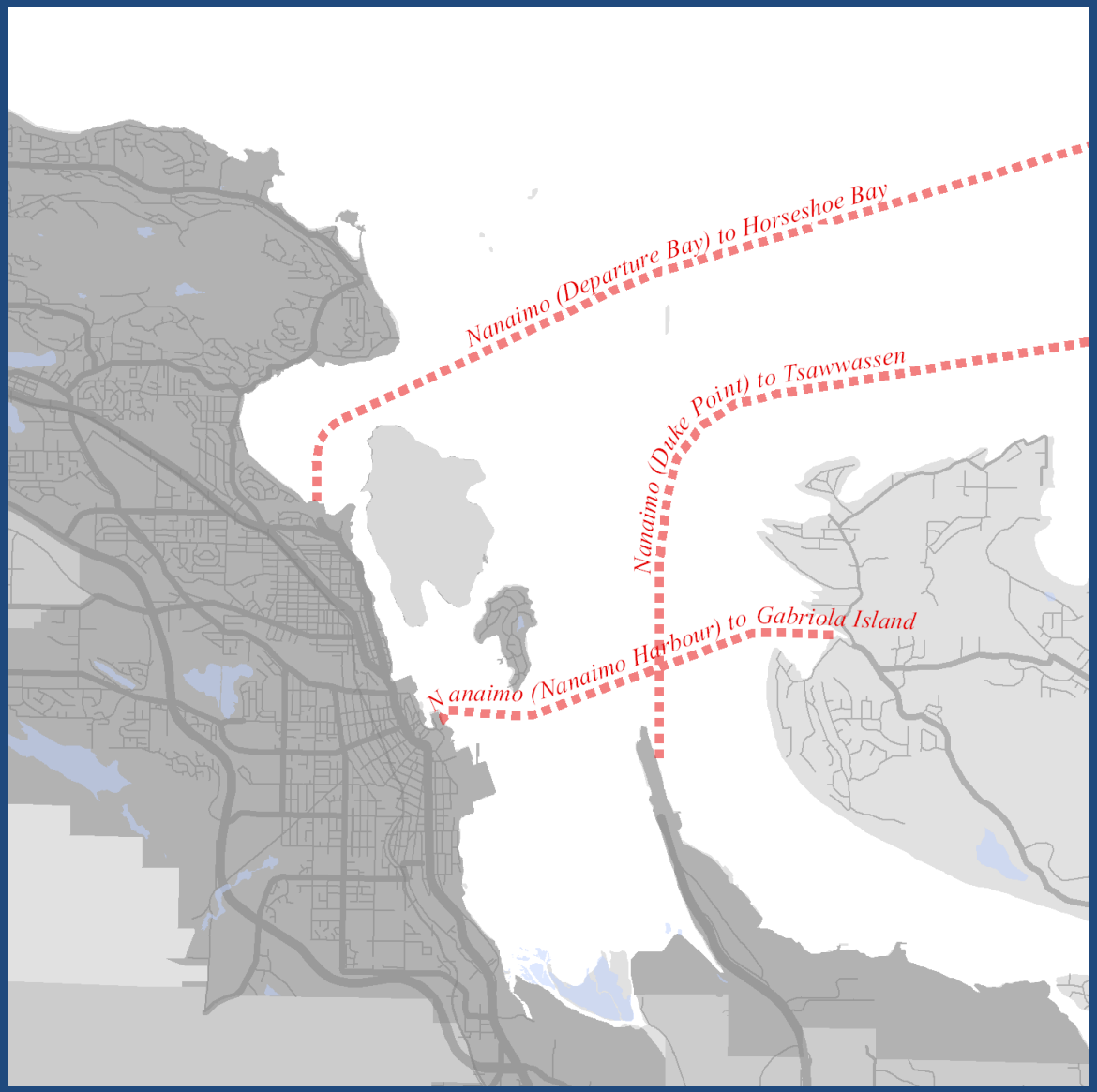
Ferry On-Board (PM Period)

Route Characteristics

Departure – Horseshoe Bay (Route 2)
(2x3:00/2x5:00)
(1889 pass, 472 pass/sailing)

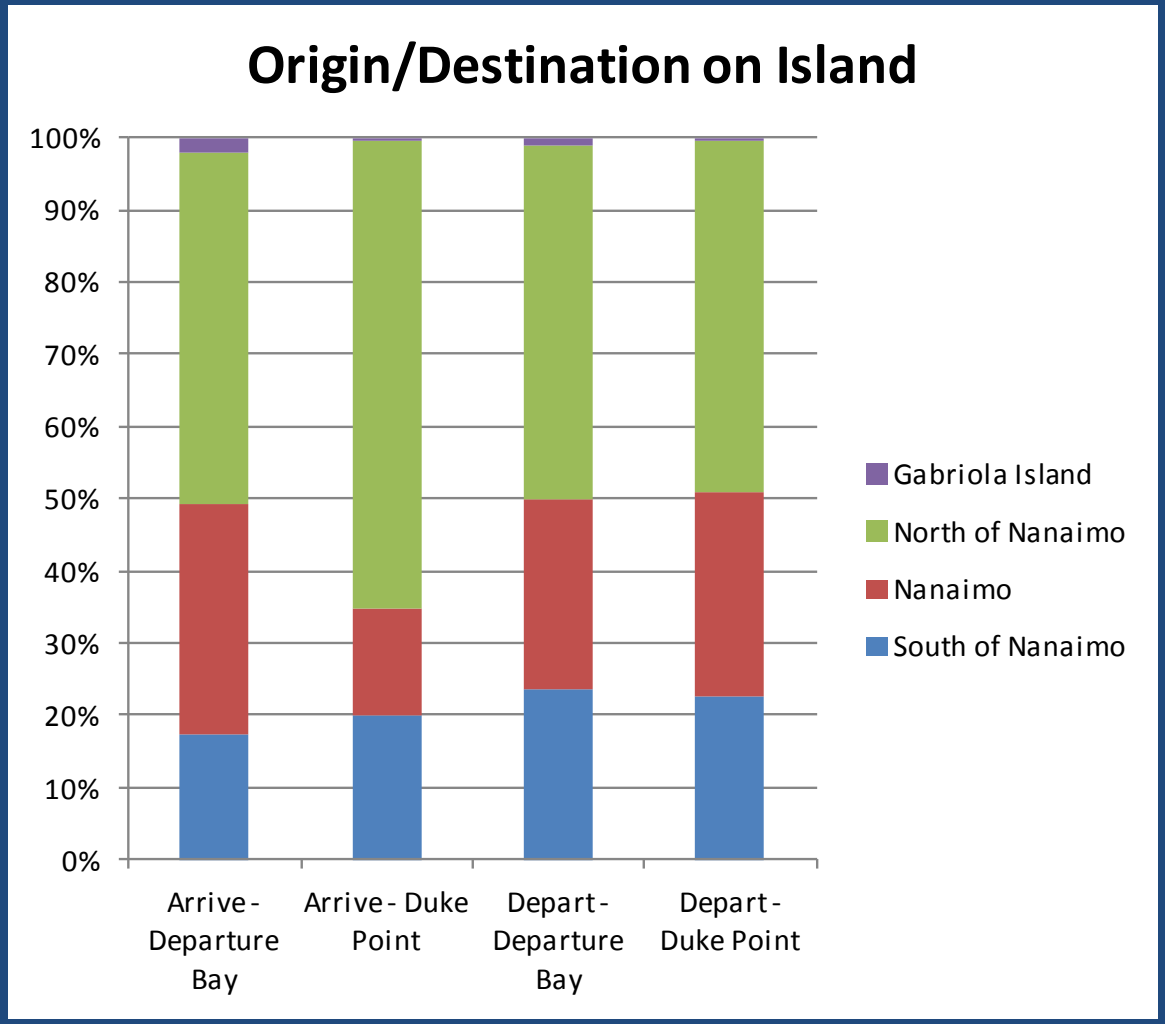
Duke Point – Tsawwassen (Route 30)
(12:45,2x3:15,5:45)
(756 pass, 189 pass/sailing)

Nanaimo-Gabriola Island (Route 19)
(2:30,3:10,3:45,4:25,5:00,5:35)
(644 pass, 107 pass/sailing)



Ferry On-Board Survey (PM Period)

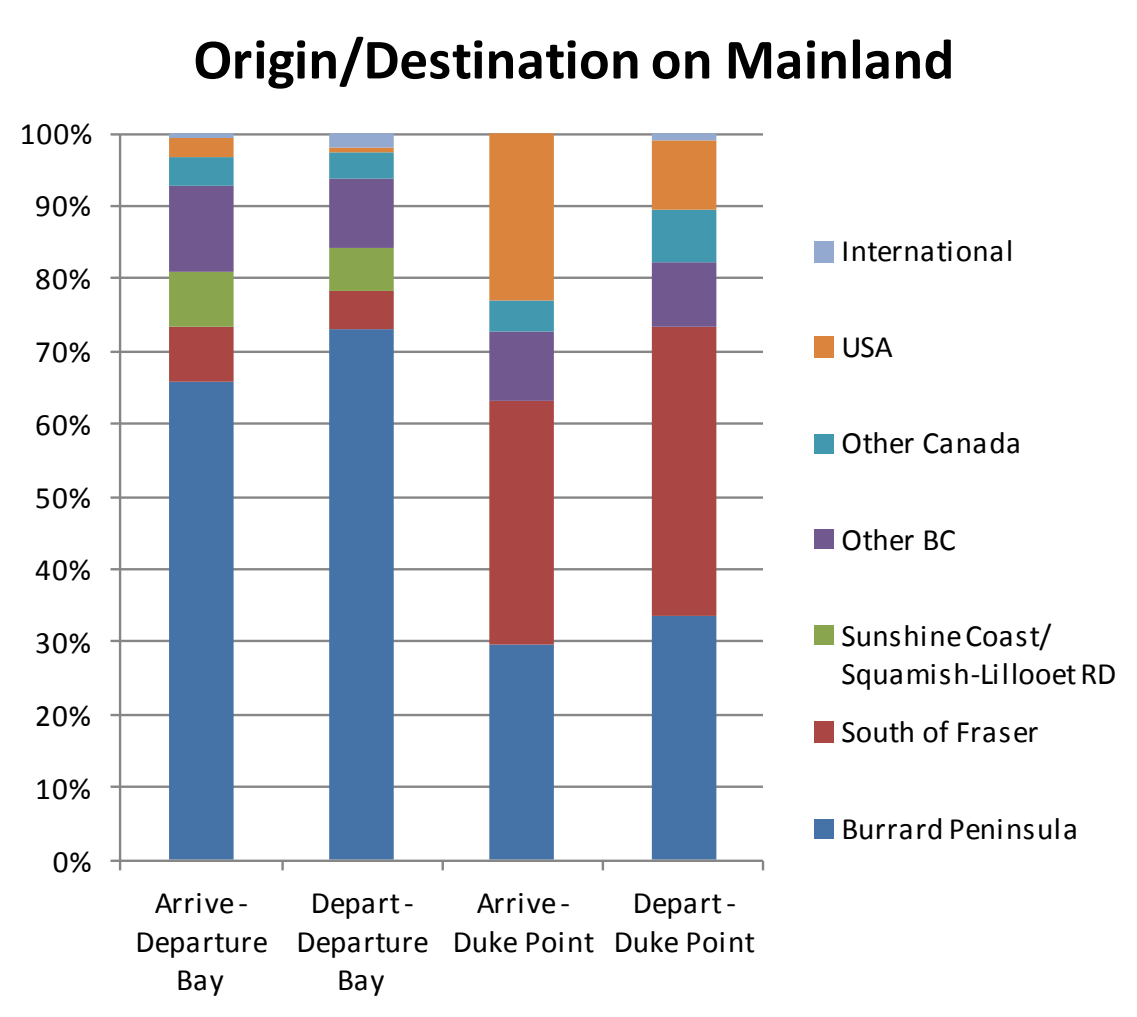
Island destination does not appear to be strong influence on major route choice.



Note: Survey scope, afternoon/weekdays in April/May 2012.

Ferry On-Board Survey (PM Period)

- Route choice strongly correlated to destination on the Mainland.
- Trips to/from US preference for Duke Point; to/from Sea to Sky corridor Departure Bay.



Note: Survey scope, afternoon/weekdays in April/May 2012.

Ferry On-Board Survey (PM Period)

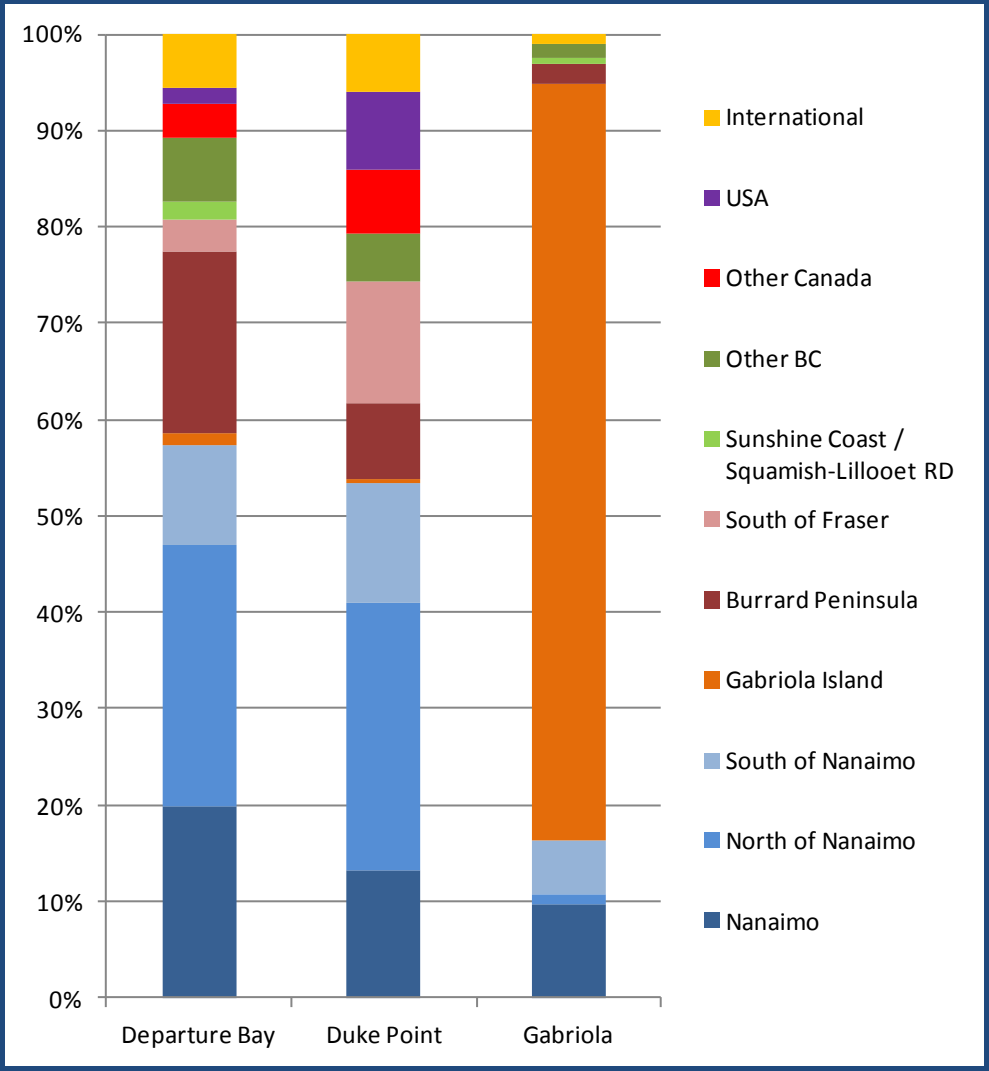
Location of Home

-50-60% of surveyed users from the Island

- ~20% from Lower Mainland

- ~ 20% from Other BC, Canada, USA or International

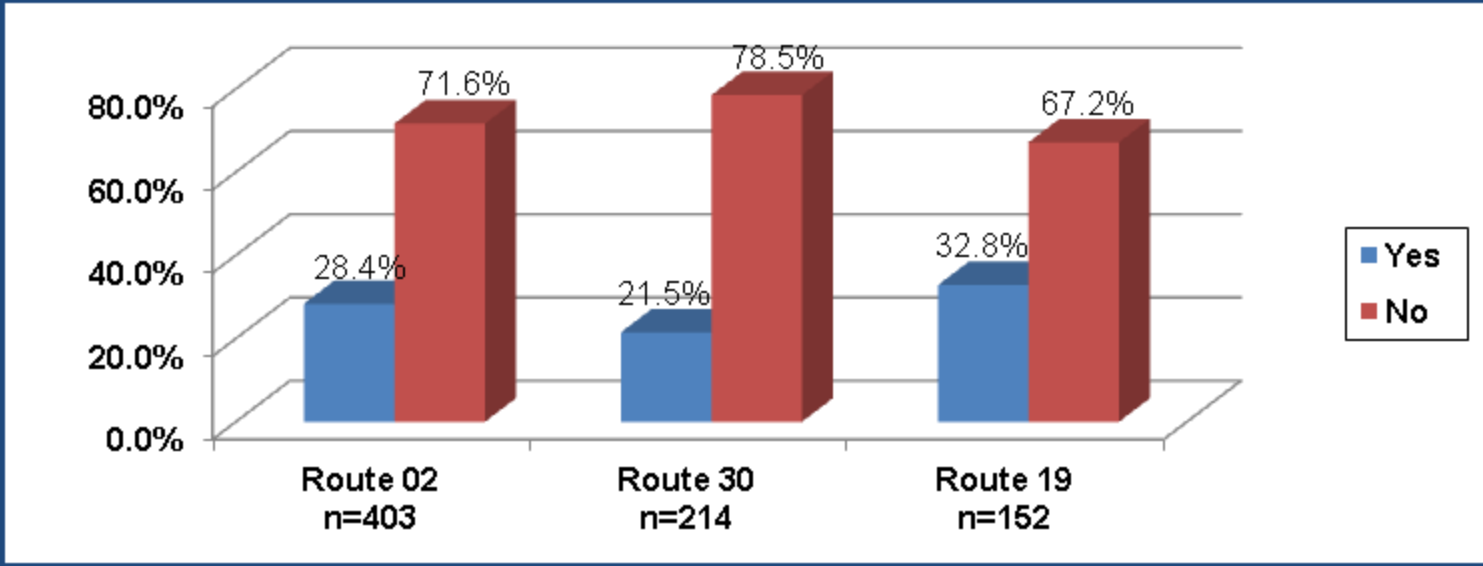
-Local traffic dominates on Nanaimo-Gabriola route.



Note: Survey scope, afternoon/weekdays in April/May 2012.

Ferry On-Board Survey (PM Period)

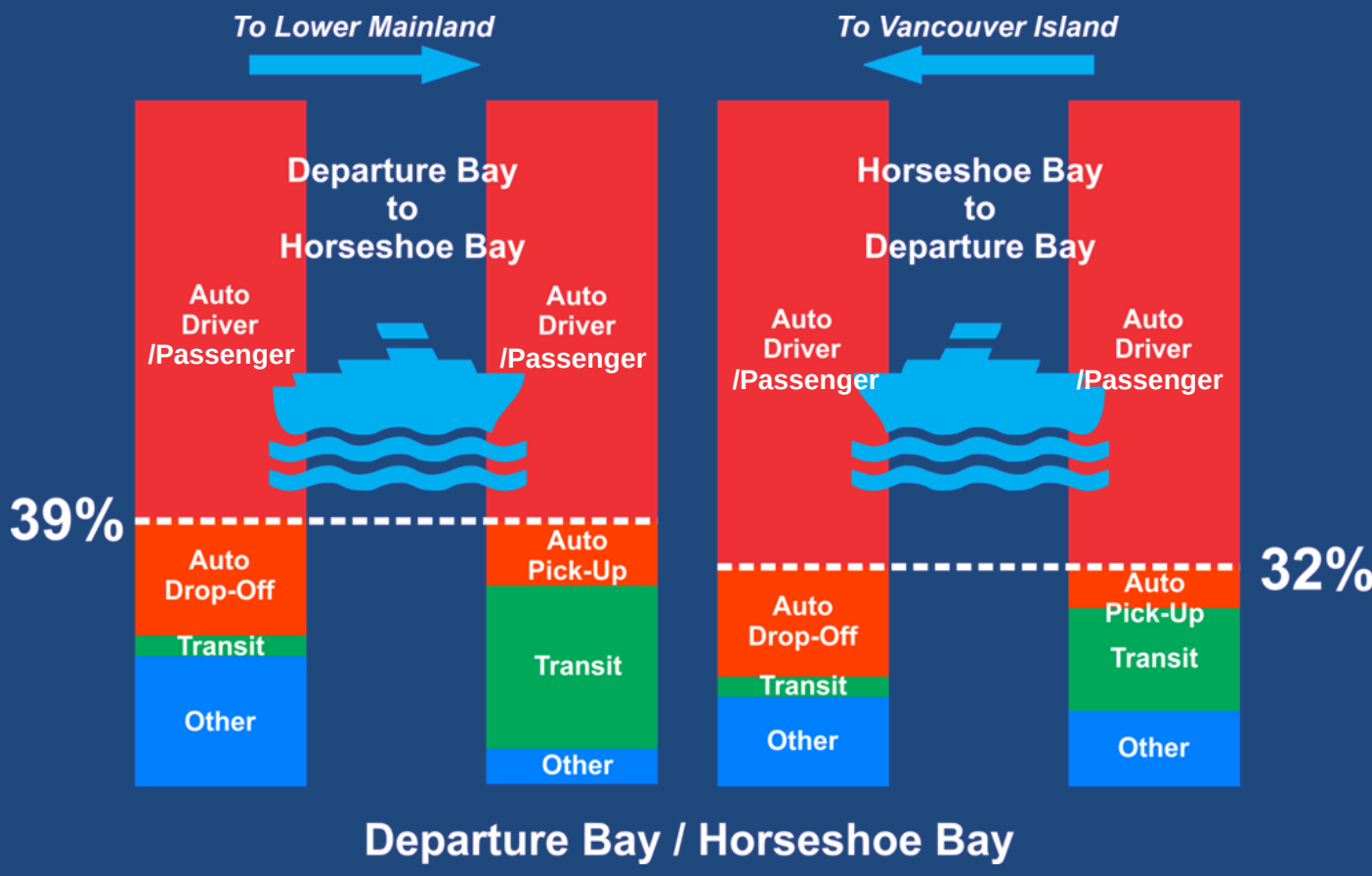
Stronger interest in transit use in Downtown Nanaimo (33%) vs Duke Point (22%).



Note: Survey scope, afternoon/weekdays in April/May 2012.

Ferry On-Board Survey (PM Period)

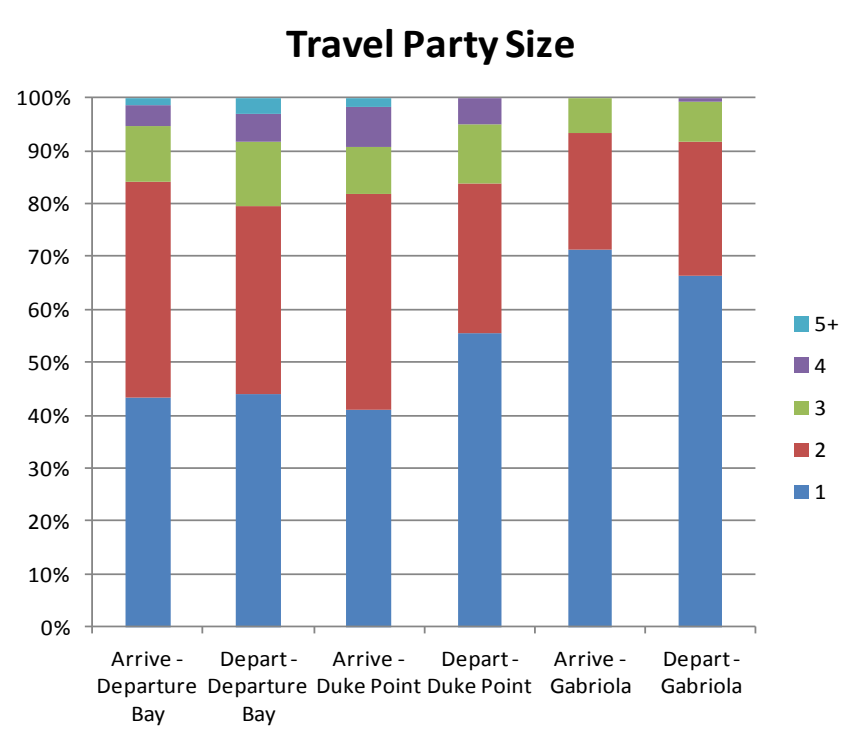
- Non-auto users use transit on Mainland but pick-up / other in Nanaimo.
- Proportions of mode split similar by terminal.
- End point may be influencing mode choice.

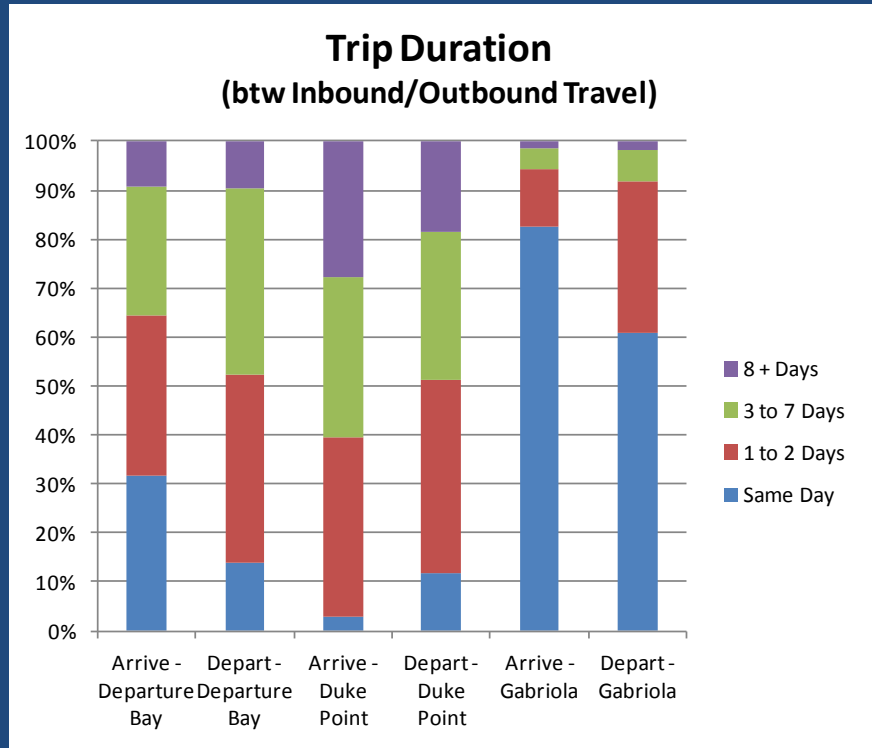


Note: Survey scope, afternoon/weekdays in April/May 2012.

Ferry On-Board Survey (PM Period)

Gabriola Island route had smaller travel parties and shorter trip length; Duke Point has the longest trip lengths.

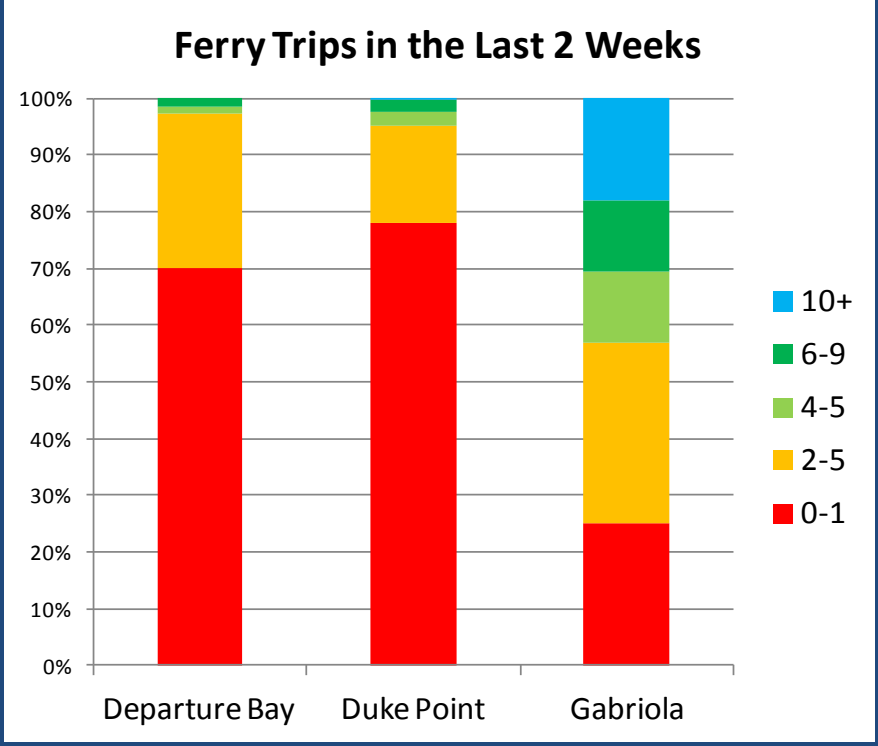


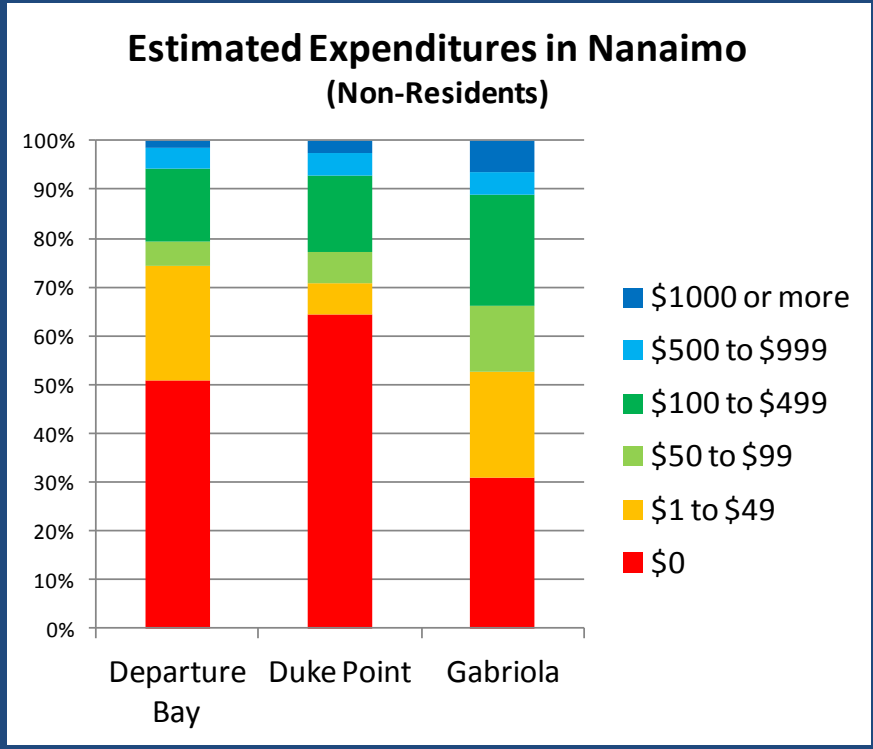


Note: Survey scope, afternoon/weekdays in April/May 2012.

Ferry On-Board Survey (PM Period)

Gabriola Island route users traveled on the ferry more frequently and typically spent more money per trip in Nanaimo*.





*Non-Residents – Home not in Nanaimo

Note: Survey scope, afternoon/weekdays in April/May 2012.

End