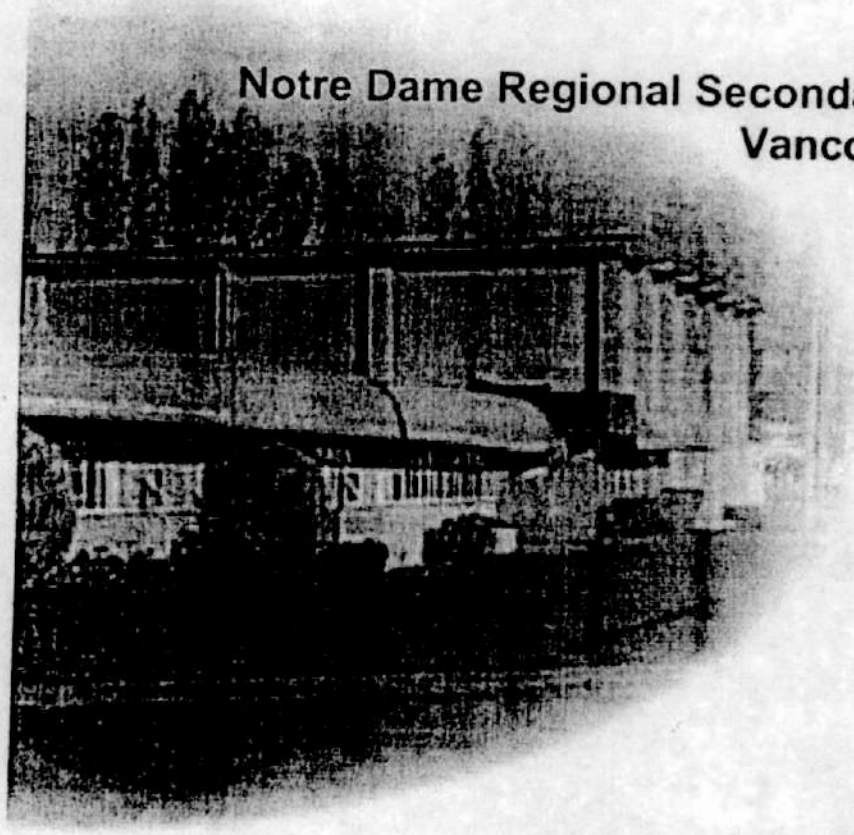
Report

Transportation Management Plan

Notre Dame Regional Secondary School
Vancouver, B.C.



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1.0 INTRODUCTION

This Transportation Management Plan (TMP) is submitted in fulfillment of a development permit requirement of the application to make building changes at the Notre Dame Regional Secondary School. This TMP supersedes an earlier report originally submitted by ND LEA in December 2005.

The Transportation Management Plan is based on information collected in 2002 and 2004 for a Traffic and Parking Study by ND LEA, supplemented by additional data collected in April 2006. The Transportation Management Plan is meant to be a resource guideline for encouraging safe travel to and from the school, while encouraging alternative transportation methods to support a cleaner environment, better relations with the community, and a healthier lifestyle for students and staff.

2.0 EXISTING CONDITIONS

The Notre Dame Regional Secondary School, located at 2855 Parker Street in Vancouver, currently has an enrolment of 650 full time students ranging from Grades 8 through 12, and 50 full time equivalent staff. These numbers vary slightly from year to year.

The Notre Dame Regional Secondary School is a regional school which attracts students from several municipalities of Greater Vancouver. **Table 1** summarizes the geographic distribution of place of residence of student and staff.

Table 1. Geographic Distribution of Students and Staff

Place of Residence	Students	Staff
Vancouver < 5 blocks from School	3%	-
Vancouver – Westside	-	5%
Vancouver – Eastside	72%	25%
Burnaby / New Westminster	25%	45%
North Shore	-	12%
Surrey/Langley/White Rock	-	0.4%
Richmond/Delta/Tsawwassen	-	0.2%
Coquitlam/Pt.Coq/Pt.Moody	-	12%
Other	-	0.4%
Totals	**100%**	**100%**

Source: School Administration Office, Dec. 2005

The table shows that three-quarter of the student population lives in the City of Vancouver, mostly in the east side area, with 3% within 5 blocks from the school campus. Another one-quarter of the students live in the Burnaby/New Westminster area.

Staff residence distribution show that less than a third live in Vancouver, almost half in Burnaby/New Westminster, and 12% in Coquitlam, 12% in the North Shore, and the rest in the surrounding municipalities.

The existing school buildings are situated along the east and south frontages of the site, with the main doorway off Parker Street. See **Figure 1**. An existing west parking lot has an entry off Kaslo Street, with an internal driveway that connects to Venables Street. The school buses also park in this west lot.

The existing Loading area is off Venable Street. Additional loading has been noted to occur curbside on Parker Street.

Morning traffic observations by ND LEA for the previous traffic study showed that more than 85% of the morning drop-offs occur on Parker Street, near the existing main south doorway. (The new proposed building layout will help distribute these so that they are not so concentrated, as shown in a later section in this report).

The normal school hours of instruction are from 7:25am to 2:35pm from Mondays to Fridays. Often there are extracurricular activities which would have students staying until 6pm.

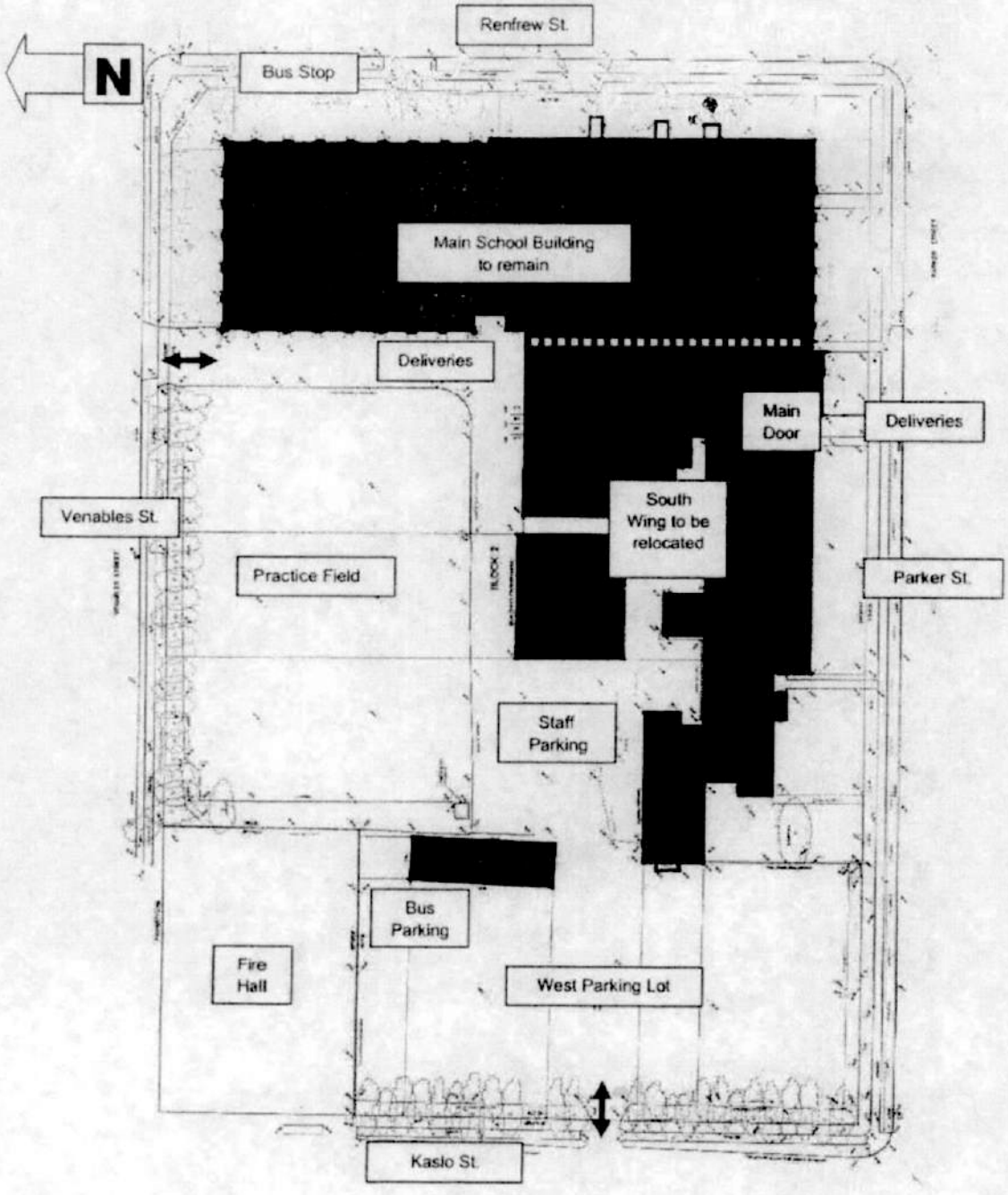

Figure 1. Existing Site

In the fall of 2002 ND LEA did traffic counts and a traffic questionnaire survey of students and staff. In the spring of 2006, additional traffic counts and traffic observations were done at the request of City staff (The new turning movement traffic counts were conducted on: Tuesday April 25th 2006 from 7:45am to 8:45a.m, and on Monday May 1st, 2006 from 7:45am to 8:45am and from 2:15pm to 3:45pm). The amalgamated traffic counts are summarized in **Figure 2**.

The site observations can be summarized as follows:

- More than three-quarter of the students are dropped-off by car in the mornings
- 85% of the morning drop-off activity is concentrated near the doorway off Parker Street, with the rest occurring in the inside driveway, along Venables Street, and on Renfrew Street
- In the morning arrival period, almost 30 cars turned left from Parker into the laneway behind Renfrew Street, after dropping off students along the School frontage
- The average vehicular speed on the laneway was measured at 25 km/hr southbound, and 30 km/hr northbound. This is normal, compared to speeds over 60 km/hr observed on Renfrew Street
- 10% of the students arrived by public transit. Bus route No. 16 travels along Renfrew Street, with stops at Venables (see the next section)
- Typical of schools, the morning student drop-off activity lasts less than an hour each time. During the rest of a typical day, schools generate relatively little traffic, limited to visitors and deliveries
- Typical afternoon school dismissal traffic is less concentrated than in the mornings, and does not coincide with the evening commuter rush hours on the streets. Before the dismissal time, parents arrive earlier and park to wait for the students to come out.

More details on traffic patterns are discussed below.

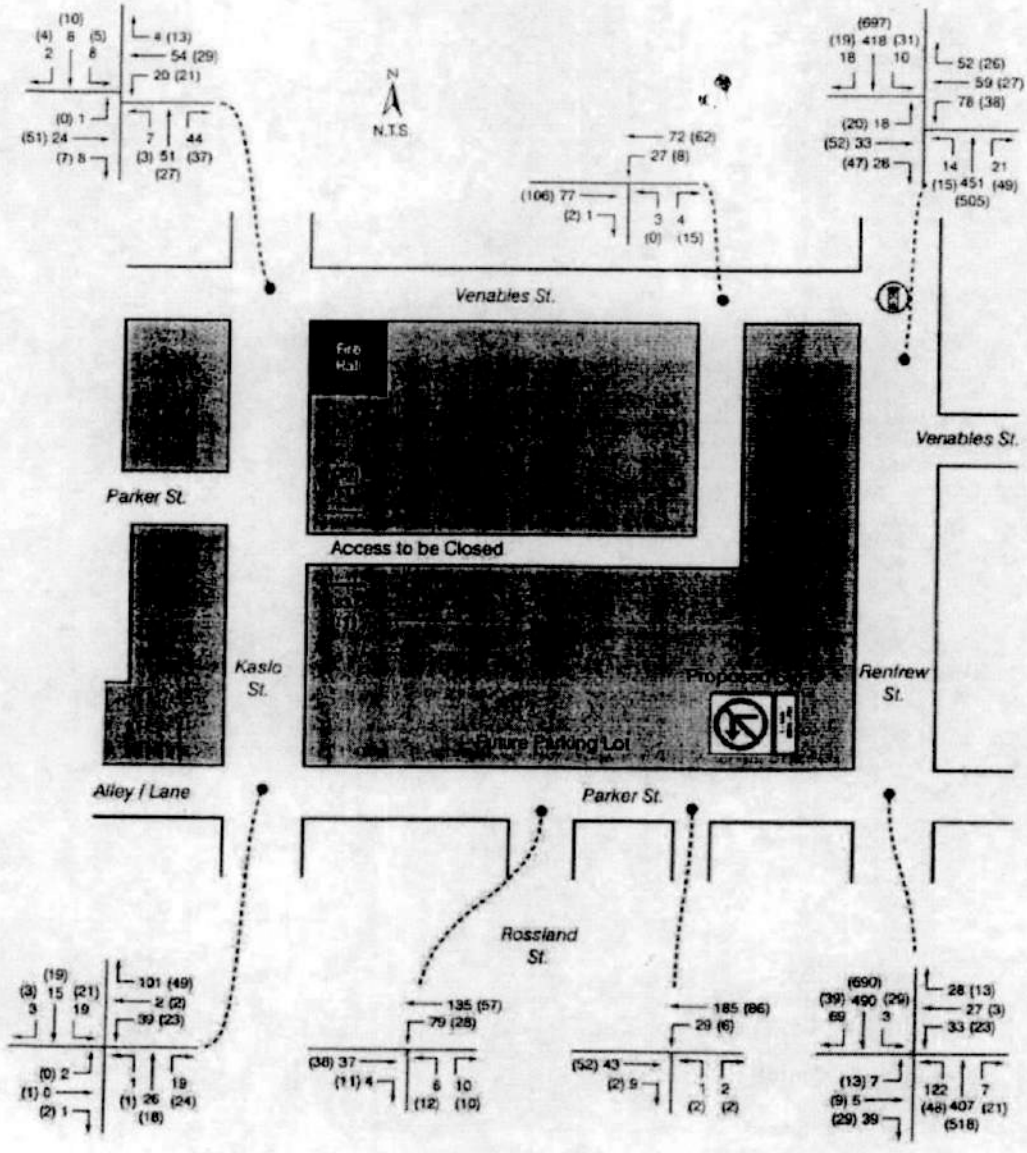

Figure 2. Current Traffic Counts

The traffic surveys by ND LEA determined the following travel modes for the campus:

Table 2. Student and Staff Morning Arrival Modes

Arrival Mode	Student	Staff
Dropped Off	78%	4%
Drive and Park	7%	88%
Transit	10%	4%
Walk or Bike	5%	4%
Totals	**100%**	**100%**

The data shows that more than three-quarter of the students are dropped-off by car which is a fairly high rate for high schools. This is not necessarily bad, as it means that the students are carpooling perhaps with the parent-driver who may be on the way to work in the mornings. It also means that on-site parking is less of a problem for this campus (i.e., the car drives away), as shown in the next section of the report.

The number of "Drive-and-Park" students is 7%, which is low. This may be as a result of the recent introduction of the graduated licensing program for new drivers. (In the City of Vancouver, the percentage of high school student drivers averages about 20%). These students are able to park in the west lot of the school.

The survey showed an auto-occupancy for the dropped-off students at 1.41 students per vehicle, whereas the students that drove-and-parked had a higher carpool rate with an auto-occupancy of 1.81 students per vehicle.

A transit ridership of 10% is average compared to other private schools, but considered low when compared to other high schools in Vancouver, which have an average transit utilization of 20% to 25% (depending on transit route availability).

Notre Dame owns two private buses that are used for transporting teams or student groups for outings and sport practices. These buses are not currently used for student home pick-up or drop-off on school days.

The combined "Walk or Bike" component of 5% is normal for private schools such as Notre Dame which typically have enrolments from a larger geographical area. Neighbourhood public schools can have an average "Walk or Bike" rate of about 33%.

The afternoon school exit traffic is not as critical because it is not as concentrated. The school day ends around mid-afternoon, and this does not coincide with the street rush hour which occurs a couple of hours later.

For teachers and staff, the same **Table 2** showed that 88% normally drive and park. This rate is similar to that of other schools. Notre Dame staff reported a 4% transit ridership. This is normally around 3% for other schools in the region.

2.1 The School: Parking

The results of a parking survey during a typical school day are summarized in **Table 3**.

Table 3. School Parking Demand and Supply

Location	Parking Demand	Parking Supply
On-site	62	145
On-street	9	0*
Total	71	145

Note: *No parking available along school frontage on weekdays.

The current off-street parking capacity is estimated at 145 cars on-site, therefore, with a daily demand for 71 cars, there is on-site spare capacity for day-to-day school purposes.

The overall parking generation rate (students+staff) is calculated at 0.11 cars per student (= 71 cars ÷ 650 enrolled students). This rate is about half of the rate observed at other private secondary schools in Vancouver.

Curb parking is restricted during school days from 8:00 a.m. to 5:00 p.m. along the school frontage on Renfrew and Parker Streets.

2.2 Saturday Bingo

In addition to the school classes, the Notre Dame Regional Secondary School holds regular Saturday night bingo sessions. The bingo nights are scheduled from 6:20 to 9:30 p.m. on Saturdays. In the 2002 study, attendance varied from 300 to 420 persons. Currently, the maximum attendance has not exceeded 300 persons, a drop of almost 30% from the previous maximum in 2002. It is our understanding that the recent increase in casino developments in the region has affected the bingo attendances.

ND LEA surveyed the bingo night on Saturday, November 9, 2002. About 370 people attended this event. The corresponding parking count is summarized in Table 4.

Table 4. Bingo Parking Demand and Supply

Location	Parking Demand	Parking Supply
On-site	89	250
On-street	76	50*
Total	165	300

* Evening street parking available along school frontage

About 80% of the bingo parking occurred on-site or along the school frontage (curbside parking is not restricted at nights), with some overflow onto residential parking within one block on the north side of Venables. The school playfield is used to accommodate extra parking (about 100 cars) during bingos and special events which bring the total maximum on-site parking supply to about 250 spaces plus about 50 more on-street spaces that would be available along the school frontages.

A number of bingo attendees travelled by transit. This was estimated by counting persons boarding at the bus stops on Renfrew. This count indicated that between 30 to 40 people, or roughly 10% of the attendees, left by bus.

The parking survey included two counts: one initial count while the bingo was in session (= bingo + residential parking) and a second after the bingo was over (= on-street residential parking remaining). Subtracting the latter from the former resulted in a parking generation rate of 0.45 cars per bingo attendee (= 165cars ÷ 370 attendees). Thus, at a potential maximum attendance of 420 persons in 2002 the school would have generated a parking demand for 189 vehicle spaces. With a year 2006 maximum attendance of 300 persons (28.5% lower) the maximum bingo parking demand would be 135 spaces.

As mentioned above, Bingo attendance has been diminishing in recent years (almost 30% drop from 2002 to 2006). We understand that the Saturday Bingo events at Notre Dame may be eliminated or significantly decreased in the future.

2.3 Sports Field

Notre Dame has a number of sports teams that would use the on-site sports field, including 3 football teams (grade 8, junior and senior), 2 soccer teams (boys and girls), and 2 boys field hockey teams.

These teams use the field for practice between 3:00 and 5:00 p.m. on weekdays during the fall and spring. Normally the field will not be used for practice during the winter and summer months.

2.4 Current Traffic Management Initiatives

Following are some measures that are already in place at Notre Dame in order to monitor and encourage good driving behaviour and safe travel:

- Morning arrivals personally monitored by the Principal or designated person;
- Parking lots are monitored by designated teachers;
- The City's Police Liaison Officer gives frequent talks to students;
- Frequent newsletters remind students and teachers of drop-off and pick-up rules;
- Currently the Venables driveway is designated only to be used by teachers, staff and student drop-offs. Students who drive-and-park must use the Kaslo Street driveway;
- The internal parking alongside the building is designated for teachers and staff, and the west parking lot is available for student use;
- Whenever there is a special event being planned, newsletters and flyers are distributed to the neighbours to advise them; and
- The Student Council is very active in working with Administration and the neighbours in monitoring unsafe driving activities or disruptive behaviour.

3.0 FUTURE CONDITIONS

The ultimate enrolment level is for 800 students and 55 FTE staff at the Notre Dame Regional School. The building site plan A101a, prepared by Killick Metz Bowen Rose (KMBR) Architects and Planners Inc is shown in **Figure 3**. This plan allows for the addition of two new classroom to accommodate increased enrolment to the ultimate level as indicated above, should the demand arise.

Mainly, the building plan is to remove the south wing and build a new classroom wing along the north of the site, fronting Venables Street. Removal of the south wing will allow the completion of a sports practice field as illustrated in **Figure 3**.

The completed new campus plan will also include the following features:

- Closure of the existing west parking lot off Kaslo Street.
- Construction of a new parking lot along the south frontage, to accommodate a total of 69 parking stalls, which includes 1 wheelchair bay, as well as parking for 2 school buses and 1 van, with a hammerhead for turn-around at the west end of the parking lot.
- The new south parking lot will also include off-street truck loading bays and garbage enclosures (see **Figure 3** which is the Site Plan by KMBR Architects).
- Provision for 36 Class A bicycles spaces (only 32 are required) on the main floor level adjacent to the Cafeteria, and 45 Class B bicycle parking spaces (45 are required) outside the main entrance on Venables. This is indicated on the figure.
- The new school building layout will have a new north main doorway facing Venables Street. With a secondary drop-off area along Venables Street, the morning drop off activity will be dispersed instead of being concentrated on the Parker Street frontage as it is today.
- Some morning drop-offs will also be encouraged along the Renfrew Street frontage, just north of Parker Street.
- Request the City to prohibit morning left turns from Parker into the laneway behind 1100 block Renfrew by posting a new No Left Turn 7-9 AM sign.

After construction, the morning drop-offs on the Parker Street side will be encouraged to occur within the new parking lot, and a second driveway will encourage parents to return to Renfrew instead of circulating around the block.

Because of an improved on-site sports practice field, there will be no need to shuttle players by bus to off-site practice fields during school days.

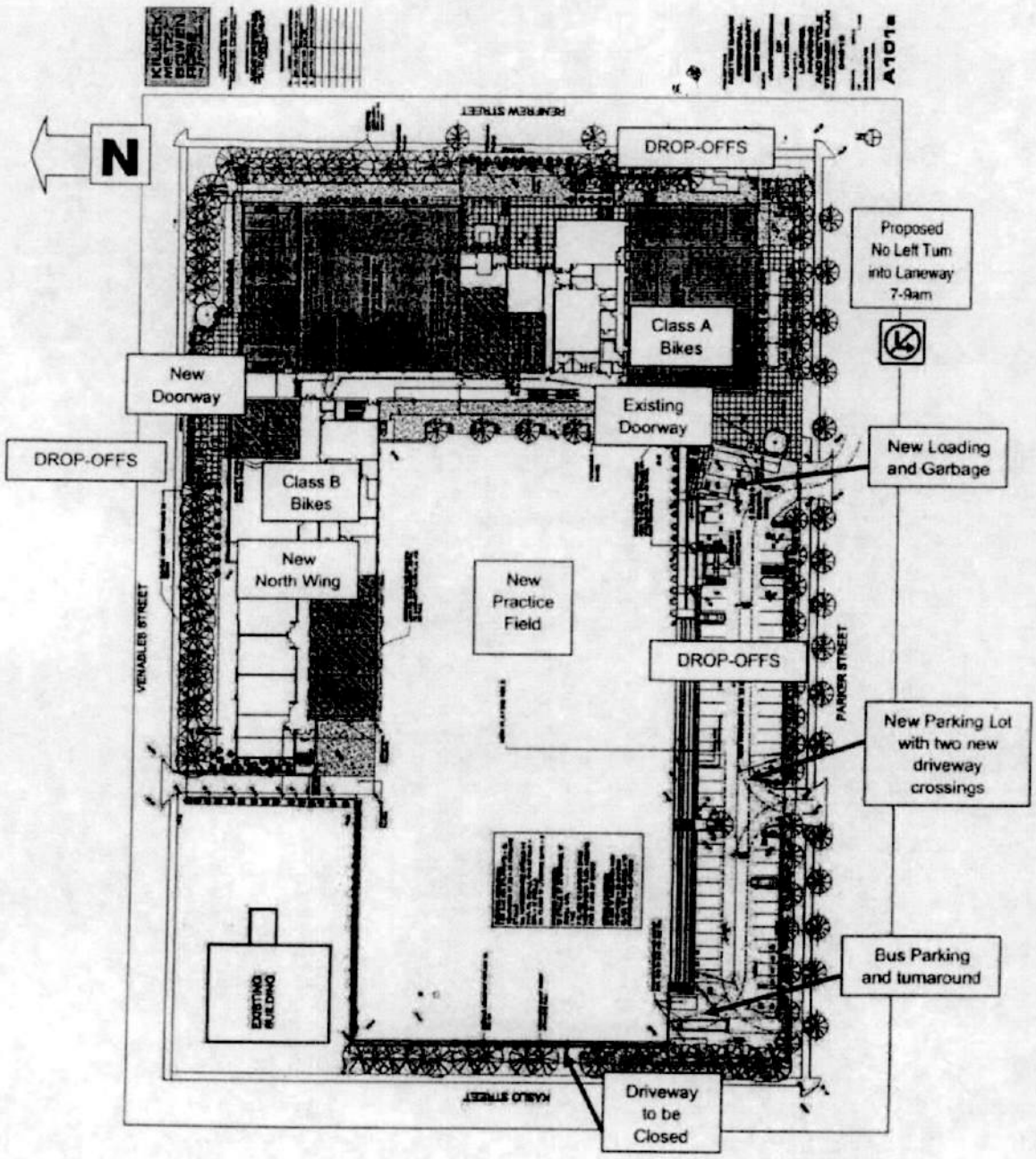

Figure 3. Proposed Site Plan

4.0 THE TRAFFIC MANAGEMENT PLAN

4.1 Goals

Following are the main goals of the Plan for the Notre Dame Regional School, with actions that support them. These are to be reviewed from time to time to compare the effectiveness in reaching set targets and establish new strategies as needed.

Ensure Safe Travel

- Proper sightlines for traffic and pedestrians
- Proper traffic control and signage
- Illumination and surface quality
- Monitor the drop-off / pick-up zones
- Watch for patterns of conflicts, accident history, unsafe behaviour, speeding traffic
- Establish a Parent Parking Patrol group
- Remind parents and students of established or new regulations
- Encourage early arrivals to avoid and spread the traffic congestion
- Liaise with City Engineering Department, Police Department and ICBC to discuss concerns and possible solutions
- Involve police enforcement if necessary

Encourage Walking

- Review walk routes
- Ensure good surface quality
- Provide good illumination and visibility
- Review crosswalks
- Review traffic control, signage and pavement markings
- Liaise with City Engineering Department to discuss concerns and possible solutions
- Provide health and environment statistics to stimulate walking
- Organize theme days such as Walk to School Day or No Car Day.
- Reward regular walkers (e.g. with jackets or umbrellas)
- Encourage bus ridership
- Review and inform students and staff of bus routes and schedules
- Set ridership targets
- Reward "frequent riders" (e.g. exchange bus transfer stubs for prizes or credits)
- Liaise with TransLink to explore ways of encouraging transit ridership
- Organize theme days, such as Ride-A-Bus-Day
- Consider using the school-owned buses for shuttling students on selected routes

Encourage Car Pooling

- Provide address matching service
- Reward Carpoolers (e.g. designate preferred parking stalls for carpoolers on school days and bingo nights)
- Provide regional environment statistics highlighting benefits of emission reduction
- Organize theme days, such as Share-a-Ride-Day

Encourage Cycling to School

- Provide secured, roofed, convenient Class A bike storage.
- Provide good riding surface (e.g. paved path, bikeways)
- Provide health and environment statistics to stimulate cycling
- Organize theme days, such as Bike to School Day
- Encourage participation in community cycling events
- Obtain and distribute Vancouver's free Cycling Maps
- Arrange free cycling workshops (e.g. with local bike merchants, city planners, athletes)
- Liaise with City Engineers and Planners to establish bike routes to school

Be a Good Neighbour

- Designate a Communications person to discuss traffic and parking queries and concerns
- Arrange regular informal "tea/coffee" sessions to improve neighbourly relations
- Distribute newsletters informing neighbours of events and changes
- For large campus events, communicate with neighbouring community on an organized basis
- Manage parking during special large events
- Request students and staff to avoid parking on residential frontages
- Request parents not to idle the car engines while waiting to pickup students in the afternoons
- Instruct students and staff not to drive along the lane behind Renfrew Street
- Communicate with neighbouring fire hall, schools, businesses and associations in regards to traffic and parking issues

The above list is not meant to be exhaustive. It is a dynamic plan, meant to be flexible and adaptable as new ideas and opportunities emerge. The main purpose is to have fun while encouraging alternative travel methods, and work towards a better community, a cleaner environment and a healthier lifestyle.

4.2 The Plan Manager or Coordinator

The school will designate a Transportation Manager or Coordinator who will lead the Plan with the support of administrators, teachers, parent groups, neighbours and students. The appointed Transportation Manager for Notre Dame is Vice Principal Mr. George Oswald. He will:

- Document existing conditions
- Oversee a School Crossing Program and training
- Review plan regularly to monitor targets and goals
- Organize proposed programs to encourage increased transit, walking and cycling
- Meet with concerned groups to review problems, measures and progress
- Be the contact person for transportation issues
- Liaise with City Hall in matters of traffic and parking issues
- Issue newsletters with updates of the programmes
- Be in charge of enforcing the Traffic Management Plan

4.3 Some Additional Suggested Measures

Following are some additional measures the school may want to consider for the renovated school plans to enhance safety, reduce congestion and improve relations with neighbours:

- Consider assigning curb sections for drop-offs and pick-ups (e.g., Grades 8 and 9 immediately by the Venables new front door, and Grades 10 to 12 at the Parker Street parking lot). This would help distribute the drop-off and pickup activity
- For Parker Street, encourage drop-offs only inside the proposed parking lot, to avoid students having to cross the street and reduce the two-way congestion. Some management measures may have to be implemented, such as designating a one-way flow in the parking lot and coning-off some spaces for passenger-only activity during the peaks
- For Venables Street, encourage drop-offs and pick-ups only on the school side (i.e., south side), to avoid students having to cross the street.

4.4 Travel Mode Targets

The following are the suggested five-year targets for the Notre Dame Traffic Management Plan.

Component	Mode	Arrival Mode	
		Current (2006)	Target (2011)
Students	By Car –dropped off	78%	74%
	By Car as Driver	7%	5%
	By Bus	10%	15%
	By Walking or Biking	5%	6%
	Total	**100%**	**100%**
Staff	By Car –dropped off	4%	4%
	By Car as Driver	88%	85%
	By Bus	4%	7%
	By Walking or Biking	4%	4%
	Total	**100%**	**100%**

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