



Report to the Joint Council/School Board Liaison Committee

By

The School Traffic Safety Advisory Sub-committee





INDEX

Acknowledgements.....	3
Committee membership.....	4
Introduction.....	4
Principles and Process.....	5
Schools.....	6
School Zone Analysis by Site.....	7
Education.....	8
Engineering.....	11
Enforcement.....	14
Conclusion.....	15
Appendix A – Terms of Reference.....	17
Appendix B – School Sites.....	19
Appendix C - WVSD Cross Country Routes.....	34
Appendix D – Resources and References.....	36





ACKNOWLEDGEMENTS

As we progressed with our review and recommendations, we tapped into the knowledge and experience of a diverse group of individuals. Our sincere thanks go to the Parent Advisory Council (PAC) Chairs and Principals who generously gave their time to provide input to this process by answering our questions and helping us understand the traffic safety concerns related to their schools.

We want to acknowledge the dedication of parents, teaching and school staff who brave the weather day after day and commit their time to help make traffic safety in our schools a reality.

We want to thank Claudia Dow and Stephanie Belich who through the years have continuously lobbied and worked to improve traffic safety at the District level and who shared many of their findings with us through one of our committee members.

We also recognize the valuable contribution of the West Vancouver Speed Watch volunteers whose continuous presence in our community help keep drivers aware of speed limits and regulations.

Many other individuals, groups and organizations work continuously to improve traffic safety in our province. We want to thank them for their valuable information, programs and innovative ideas directed at providing our children with a healthier environment.

Most of all we want to thank the pedestrians and drivers in our community who by observing the rules make the roads safer for all.





COMMITTEE MEMBERSHIP

Brent Dozzi, Manager, Engineering Services, District of West Vancouver
Brian Walker, P. Eng., Engineering Advisory Committee
Bob Fontaine, West Vancouver Police Department
Charles Merrick, West Vancouver Speed Watch
Christie Whitley, Principal, Chartwell Elementary School, WVSD
Cindy Dekker, District Parent Advisory Council
Edward Strong, West Vancouver Speed Watch
Gary Cords, Facilities, West Vancouver School District 45
Joe Foster, West Vancouver Speed Watch
John Clark, Councilor, District of West Vancouver (Co-Chair)
Kathleen Hicks, Regional Manager, ICBC
Paola Merkins, Chair, West Vancouver School District 45 (Co-Chair)
Thomas Longridge, Principal, Rockridge Secondary School, WVSD

INTRODUCTION

As vehicular traffic volume increases in and around our public schools multiple concerns regarding traffic safety have been raised by parents, teachers, administrators and members of the community who are interested in safeguarding our children's well being and creating a safe environment for our students.

In order to respond to these concerns and to address them through a consistent and integrated community approach, the District of West Vancouver (DWV) and the West Vancouver School District (WVSD) appointed the Traffic Safety Advisory Sub-committee to review each matter and make recommendations that will create an environment in the District of West Vancouver where:

- The pedestrian is respected and alternate modes of transportation are facilitated and encouraged;
- All residents are aware of and understand their responsibilities as a pedestrian or motorist;
- Communication among all users and operators of the roadway is assured;
- The law is clearly understood and consistently enforced; and
- Engineering is applied consistently and creatively to address school zone traffic safety issues.



To accomplish this task the Traffic Safety Sub-committee met 12 times, often once a week, between Jan 23rd and April 29th 2004. The Sub-committee's membership included representatives from the West Vancouver School District, the District of West Vancouver and organizations such as the West Vancouver Police Department, West Vancouver Speed Watch and ICBC. The members of this group brought to the table a vast array of knowledge and experience as they worked to resolve the issues raised and to make recommendations.

During the course of the subcommittee's discussions, three fundamentals of road safety were identified which are absolutely necessary in order to create and support a safe pedestrian and vehicular environment around our schools. These are:

Education, Engineering and Enforcement.

In addition, issues and recommendations were categorized into two groups: those that could be considered and applied consistently to every site and those that applied to specific schools.

Finally, this report is not intended to be prescriptive, rather it is to be used as a guideline or framework that will regulate and encourage appropriate management of traffic safety issues in our community. The mandate of the Sub-committee is to provide recommendations and ideas that will empower and inspire individuals in positions of influence related to traffic safety to look at innovative alternatives and to be creative in the way they integrate human and physical resources to alleviate these issues in the short and long term.

See **Appendix A** for a copy of the Terms of Reference.

PRINCIPLES AND PROCESS

The mandate given to the Sub-committee required its members to:

- Investigate issues pertaining to pedestrian and vehicular traffic safety and movement adjacent to school sites;
- Review current standards, guidelines, policies and initiatives taken by traffic safety and movement issues; and
- Develop recommendations to improve pedestrian and vehicular traffic safety and movement where appropriate for consideration by the Joint Council/School Board Liaison Committee and implementation by the District of West Vancouver and the West Vancouver School District.



Prior to the development of a set of recommendations, a thorough understanding of the issues was necessary. To that end, the committee conducted an extensive review of pedestrian and vehicular traffic design and operations adjacent to each school.

The review was multi-faceted and information was collected from several sources and points of view such as:

- On-site pedestrian and vehicular traffic assessments;
- Input from PAC representatives from each school;
- Input from the principal of each school;
- Discussions with representatives from the WVSD administration and facilities;
- Discussions with representatives from the WVPD and representatives from WV Speed Watch;
- Discussions with representatives from WV Engineering;
- Discussions with representatives of ICBC's Way To Go program, BCAA's Traffic Safety Foundation;
- Review of policies and official guidelines pertaining to this matter and;
- Research of initiatives implemented in other jurisdictions both in the Lower Mainland, BC, Canada and abroad.

SCHOOLS

These are all of the public schools located within the District of West Vancouver, which were considered for this report.



Rockridge Secondary



West Vancouver Secondary



Sentinel Secondary



Caulfeild Elementary



Chartwell Elementary



Cypress Park Primary



Eagle Harbour Primary



Gleneagles Elementary



Hollyburn Elementary



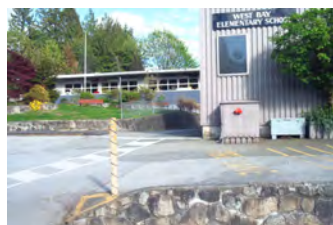
Irwin Park Elementary



Ecole Pauline Johnson



Ridgeview Elementary



West Bay Elementary



Westcot Elementary



Ecole Cedardale

SCHOOL ZONE ANALYSIS BY SITE

The Sub-committee in consultation with the PAC chair and school Principal performed a site by site analysis. Based on these comments and supported by research done by our membership, a series of issues for consideration and



recommendations were identified. Under the headings of **Education, Engineering, Enforcement**, issues for consideration and recommendations are presented as:



- Those that apply to district wide circumstances and can be implemented at all sites either in the same way or by a slight variation; and
- Those that apply to specific circumstances in each site.

See **Appendix B** for School Sites/Engineering and Enforcement Issues.

EDUCATION

Issue for Consideration:

Need for district wide, mandated traffic safety programs or initiatives which link safety, operational, environmental and health issues with an awareness of alternate modes of transportation.

Recommendations:

That the West Vancouver School District (WVSD) in collaboration with the District of West Vancouver (DWV) and the West Vancouver Police Department (WVPD) through its School Liaison Officers continue to include and support:

- Traffic safety programs in the primary and elementary school curriculum such as WVPD's Traffic Safety program, ICBC's Going Places program and Passport to Road Safety program and BCAA's School Traffic Safety Patrol program.
- Traffic safety programs in the secondary school curriculum, particularly in Grades 10, 11 and 12, such as ICBC's Teacher's Road Safety curriculum, C.A.R.S.B.C., Road Sense speakers, Youth Awareness Campaign and other initiatives.





That the WVSD, DWV, WVPD and DPAC encourage and support the use of alternate modes of transportation to school by promoting and celebrating success in programs such as the Safe Route to School program, Walking School Bus program, School Traffic Safety Patrol program, car pools, use of school bus, use of public transit, Earth Day and Walk/Ride to School Day.

That the Secondary Schools' administration and PAC promote and encourage students to use alternate modes of transportation to travel to and from school.

 Citizen



**You are now entering
an idle free zone.**

 Canadian

That the WVSD, DWV, WVPD and DPAC encourage and promote no idling practices in school zones.

That WVSD consider implementing staggered hours of operation at individual sites to minimize congestion on roadways adjacent to the school zones.

That individual schools open their doors to students for half an hour before and after school hours to reduce vehicular congestion on roadways adjacent to the school zones at peak times.

Issues for Consideration:

Need for ongoing driver training and education including an understanding of the *Motor Vehicle Act* and *Traffic and Parking Bylaw*. Frequently those driving and walking in and around school zones are not aware of their roles and responsibilities.

New and returning parents and children are not informed or reminded of traffic facts, regulations and issues on a periodic basis.



Parents and children new to the school community receive no special education regarding traffic safety.

Multi-media is not used on a regular basis to convey traffic safety facts, regulations and issues to the community at large on a regular basis.



Recommendations:

That the DWV, WVSD and WVPD jointly develop a *Traffic Safety Around Schools and Playgrounds* brochure for distribution to all students in September and that copies of the brochures be available in other languages.

That the DWV and WVSD initiate a multi-media information blitz (North Shore News, Outlook, Tidings, DWV Web Site, WVSD Web Site, DPAC Web Site, school and PAC newsletters, etc.) whereby the community is informed of local traffic safety issues, traffic signs and pavement markings, traffic regulations and traffic fines in school zones and that the information blitz occur four times per year:



- During the first week of school;
- Prior to implementation of standard time in October;
- Post Christmas; and
- Post spring break.

Issue for Consideration:

Currently no protocol or forum exists for addressing traffic issues at the school, community or municipal levels. The absence of an established process between DWV, WVSD, WVPD, PACs, ICBC, etc. to deal with these concerns has created a lack of consistency and appropriate use of resources that does not support traffic safety around our schools.

Recommendations:

That the members of the times per year, coincident above to share information, synergies and develop action



Sub-committee meet four with the times established discuss issues, investigate plans where required.

That a process be pertaining to school traffic Sub-committee for review any of the meetings

established in which issues safety be forwarded to the and recommendations at mentioned above.



ENGINEERING

Issue for Consideration:

Need for consistent designation of school zones including standardization of school zone signage and placement.

Recommendations:

That for the purpose of enforcing a school or playground speed zone the speed zone be established as per the *Motor Vehicle Act* whereby the roadway between the face of an approaching SCHOOL ZONE sign and the back of an opposing SCHOOL ZONE sign constitutes the zone.



That the first roadway adjacent to each side of the school site be signed as the school zone.

That school zone signing be standardized with the fluorescent SCHOOL ZONE sign, 30 KPH tab.

That a SCHOOL ZONE AHEAD warning sign be installed in advance of each SCHOOL ZONE sign where appropriate.

That all crosswalks adjacent to every school zone be signed with the SCHOOL CHILDREN CROSSING sign and warning signs be installed in advance where appropriate.

That directional signing to schools be installed where required to facilitate access to the site.

That WVSD install school identifying signs to provide visual clues to motorists where necessary.

Issue for Consideration:

Need for engineering solutions to traffic operational issues i.e. parking, congestion and traffic flow.



Recommendations:

That DWV Engineering and WVSD work with individual schools to implement improvements to on-site vehicle circulation and parking including traffic circles, one-way traffic flow, adequate off street vehicle parking, etc.



That DWV Engineering and WVSD work with individual schools to establish protocols for safe drop-off/pick-up practices and investigate opportunities for alternate pick-up/drop-off sites.

Issue for Consideration:

Need for engineering solutions to address traffic safety issues i.e. speeding, sight lines, and roadway crossings.

Recommendations:

That DWV Engineering considers prevention as a priority and uses signs and other traffic management devices creatively towards this goal.



That DWV Engineering consider additional traffic calming measures where appropriate such as curb extensions, raised center medians, roadway narrowing, one-way traffic flow, etc

That rumble strips be installed on the roadway transverse and adjacent to every SCHOOL ZONE sign.

That the words SCHOOL ZONE be painted according to Transportation Association of Canada standards on the roadway approach to each school zone.



That all pavement markings be painted with thermo-plastic.





That crosswalks adjacent to every school be painted as a zebra crosswalk except where the intersection is controlled by a traffic signal.

That barrier curbs and sidewalks be used in streets adjacent to school zones to ensure that pedestrian flow is not interrupted by parked vehicles.

Issue for Consideration:

Need for an annual maintenance program directed at improving the environment adjacent to schools i.e. brushing and limbing, pavement markings and signage.

Recommendations:

That DWV Engineering and WVSD schedule an annual maintenance program prior to the beginning of each school year which focuses on pruning, brushing and limbing vegetation, cleaning/replacing signage, clearing/repairing pathways and sidewalks and cleaning/repainting pavement markings in and adjacent to school sites.



That DWV Engineering meets with WVSD annually to discuss and prioritize capital improvements adjacent to school sites such as new school crosswalks and sidewalks.

That DWV Engineering and WVSD ensure that routes used for training by the Physical Education departments of the Secondary Schools be safe, free of obstruction, and that students are instructed on appropriate behavior and traffic safety roles and responsibilities.

See **Appendix C** for WVSD Cross Country Routes.

That DWV Engineering and WVSD identify and maintain trails and shortcuts to school sites and that enhancing and increasing these alternate routes be considered when reviewing residential and commercial construction and development permits.



Issue for Consideration:

Need for progressive school site and neighborhood designs, which address pedestrian and vehicular traffic safety and flow.

Recommendation:

That DWV Planning require an approved Traffic Impact Study as part of the development approval process for developments near school sites including residential, high density or commercial developments.

ENFORCEMENT

Issue for Consideration:

Need for increased enforcement of the *Motor Vehicle Act and Regulations* by the WVPD as well as greater police visibility in school zones i.e. speeding, dangerous driving, non-compliance with traffic control devices.

Recommendation:

That the WVPD provide ongoing enforcement of the *Motor Vehicle Act and District Traffic and Parking Bylaws* in and around school zones, with specific emphasis on drop-off and pick-up times and that the WVPD initiate an enforcement blitz four times per year coincident with the times mentioned earlier in the ***Education*** section of this document.



Issue for Consideration:

Need for increased enforcement of the *Traffic and Parking Bylaw* by the Bylaw & License Services Department i.e. parking, non-compliance with local bylaws.



Recommendation:

That DWV Bylaw & License Services Department provide ongoing enforcement of the *Traffic and Parking Bylaw* in and around school zones, with specific emphasis on drop-off and pick-up times, and that the DWV Bylaw & License Services Department initiate an enforcement blitz four times per year coincident with the times mentioned earlier in the **Education** section of this document.

CONCLUSION

Approximately 6,000 students attend public school in West Vancouver. As the Sub-committee reviewed and analyzed the many factors which impact their safety and contribute to traffic safety hazards around schools, one main point became apparent - there is no single solution. To ensure the greatest positive effect, a communal effort is necessary whereby the District of West Vancouver, the West Vancouver School District and the West Vancouver Police Department work cooperatively to secure the fundamentals of traffic safety - **Education, Engineering and Enforcement** - and explore them to their maximum potential.



This Sub-committee believes that by implementing the recommendations made in this document we will create healthier and safer school environments by:

- Encouraging physical activity;
- Incorporating environmentally sound policies;
- Improving the surroundings during drop-off and pick-up times;
- Providing leadership opportunities for our students,
- Providing role-modeling opportunities for adults; and
- Developing positive relationships with the District's enforcement agencies and its officers.

Councilor John Clark District of West Vancouver Co-chairperson	Trustee Paola Merkins West Vancouver School District Co-chairperson



Next time you are in a School Zone remember...



Safety before Convenience

Appendix A
School Traffic Safety Advisory Sub-committee
Terms of Reference

1.0 Committee Purpose

The School Traffic Safety Advisory Sub-Committee will review current traffic safety policies, guidelines and standards and make recommendations to the Council/School Board Liaison Committee with respect to possible changes that will improve pedestrian and vehicular safety and movement around school sites within the District of West Vancouver.

2.0 Duties

The Committee shall, at the request of the Council/School Board Liaison Committee:

- Review current standards, guidelines and policies pertaining to vehicular and pedestrian safety and movement around School sites;
- Review initiatives taken by other municipalities to address safety and movement issues; and
- Develop recommendations to improve pedestrian and vehicular safety and movement where appropriate for consideration by the Liaison Committee and implementation by the District of West Vancouver School Board.

3.0 Origin of Work

Referred by the Joint Council/School Board Liaison Committee.

4.0 Membership

Eleven members, appointed by the Council/School Liaison Committee with the membership including:

- Two members of the Joint Council/School Board Liaison Committee (one each from the Municipality and the School Board);
- A member of the District's Engineering Advisory Committee;
- A member representing the School Board's Parent Advisory

Committee;

- A member of the Joint District School Board Youth Advisory Committee; and
- A maximum of six staff representatives from the District's Engineering Department, Police Department, and Elementary and Secondary School Administration and Facilities Management.

5.0 Term

Six months or until a report is submitted to the Liaison Committee (if earlier).

6.0 Operation of the Committee

6.1 Meeting Schedule

As determined by the sub-committee.

6.2 Rules of Procedure

Meetings shall be conducted in accordance with the rules of procedure set out in Council Procedure Bylaw and Council Committee Policy.

6.3 Sub-committee Secretarial Services

A designated Administrative Staff person or other will provide committee secretarial services.

7.0 Council Representative(s) and Alternates

Council alternate and School Board alternates to be designated by the Liaison Committee.

Approved by:	Amended by:
Date Approved:	Date Amended:

Appendix B

School Sites – Engineering and Enforcement Issues

The attached issues raised by parents and principals were intended to initiate consideration and discussion in the development of district wide recommendations, which are intended to improve pedestrian and vehicular safety and movement for all schools. As such, site specific issues may or may not be addressed by this report however, remain valid in themselves and should be considered as goals to work towards.

Rockridge Senior Secondary



West Vancouver Secondary



Chartwell Elementary & Sentinel Secondary

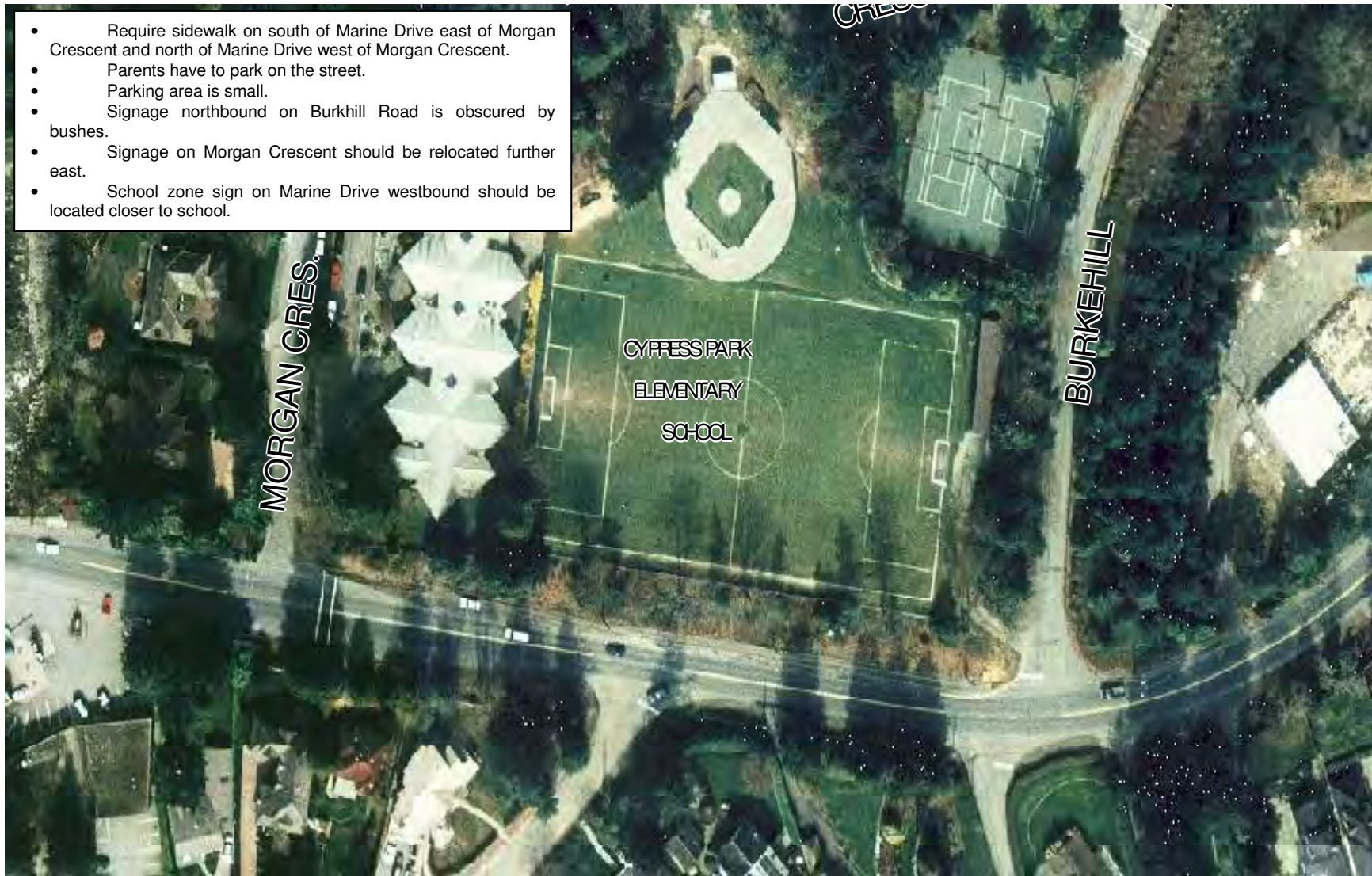


Caulfield Elementary



Cypress Park Primary

- Require sidewalk on south of Marine Drive east of Morgan Crescent and north of Marine Drive west of Morgan Crescent.
- Parents have to park on the street.
- Parking area is small.
- Signage northbound on Burkhill Road is obscured by bushes.
- Signage on Morgan Crescent should be relocated further east.
- School zone sign on Marine Drive westbound should be located closer to school.



Eagle Harbour Primary



Gleneagles Elementary



- Speeding along Marine Drive.
- Sight lines obscured by brush and trees.
- Improve intersection of Keith Road and Marine Drive.
- Possible turning circle.
- Require sidewalk on east side of Marine Drive at Keith Road.
- Determine whether school zone or playground designation is more appropriate.
- Congestion along Marine Drive in the p.m. Add pick up/drop off lane to Marine Drive.
- Traffic queues back to the overpass on poor weather days.
- Rosebery is congested during a.m. and p.m. peak times.
- No particular safe route from school on Rosebery.
- Insufficient staff parking.
- Require general brushing and limbing adjacent to school.
- Keith Road is very narrow. Require two turning lanes from

Hollyburn Elementary



Irwin Park Elementary

- Expand present school zone to include 25th Street.
- Install Stop sign on 25th Street at Kings Avenue.



Pauline Johnson Elementary



Ridgeview Elementary



West Bay Elementary

- Speeding along Rosebery.
- Parking along Westmount Place in No Parking zone.
- No Parking zone along Rosebery. Residents only.
- Crosswalk at intersection of Thompson Place and Thompson Crescent is not safe. Needs to be repainted.
- Vehicles parking and driving on sidewalks.
- Improved pavement marking through turn around to direct traffic.
- No sidewalks along Rosebery.
- Continue sidewalk on south side of Thompson Place.
- Congestion along school driveway and turn around in the p.m.
- Rosebery is very narrow.
- No handicapped parking.
- General brushing and limbing required adjacent to school. Sight lines and signage are impaired.
- Parking and speeding along Thompson Crescent.
- Improve turn around area for pedestrians and vehicles.

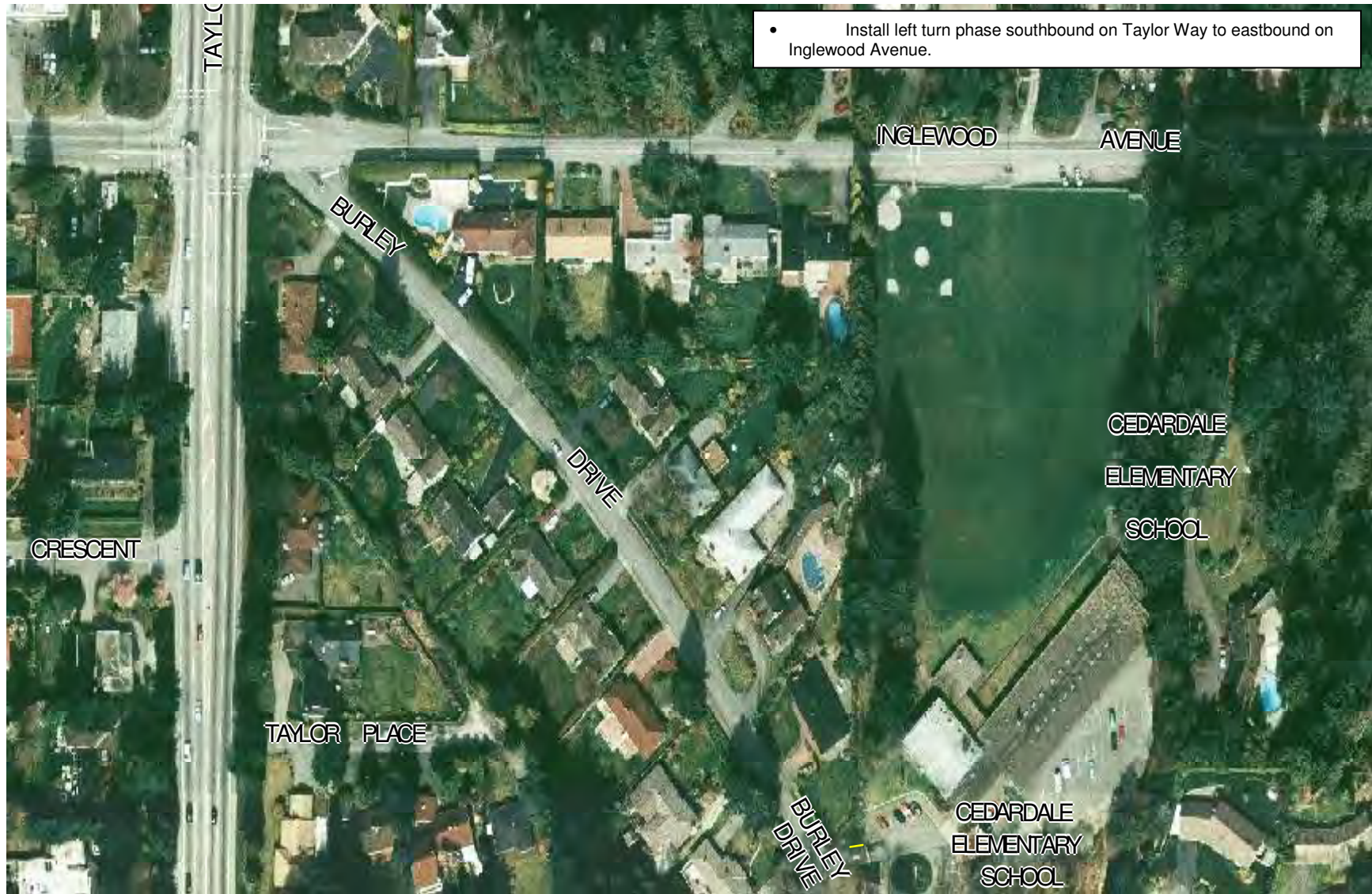


Westcot Elementary

- Traffic congestion along Westcot Road in the a.m. and p.m.
- Activity at St. David's Church contributes to congestion.
- Improve crosswalk on east side of Westcot.
- School driveway not in use.
- Traffic issues at intersection of Westcot and Southborough.
- Link Stevens Drive, Taylor Way and Southborough Drive



Cedardale Primary



Appendix C

WVSD Cross Country Routes

It is common practice for our students attending one of our Secondary Schools to use a few established routes throughout the community for Physical Education classes and for team training. Students are instructed to stay on the sidewalks and to use marked crosswalks if available. It is recommended that these routes are kept clear of obstacles and that appropriate crosswalks and signage be installed if needed.

Rockridge Secondary School

Route 1: Pinetree Run - Students begin from the student parking lot turning east on Caulfield Dr., turning east on Pinetree Cr., then east again on Headland Dr. and back into school grounds past the front of the school.

Route 2: Cypress Run - Students run past the student parking lot, turn west past the Bus Stop and cross Caulfield Dr. at the crosswalk. They run north over the Highway 1 overpass, and then up Northwood Dr. before turning east on Woodburn Pl. and then south on Woodgreen Dr. At the bottom of Woodgreen Dr. where the sidewalk goes into the tunnel, the students run on the south side of the road heading west. They run past the Highway 1 westbound off ramp and the Highway 1 westbound on ramp. Runners then turn south on Headland over the Highway 1 overpass and back to the school. The route does not use the tunnel because it is a steep hill back to the school and the crosswalk after the tunnel is on a blind corner.

Route 3: Chevron Run (6 Km) - This run has students run past the student parking lot, turn west past the Bus Stop and cross Caulfeild Dr. at the crosswalk, north over the Highway 1 overpass, east along Woodgreen Dr. past the Highway 1 westbound on ramp and the Highway 1 westbound off ramp onto Woodcrest Rd. (bus route), southeast on Almondel Rd. before going under Highway 1, east on Ripple Rd. (at a blind corner), east on Westridge Ave. to Westmount Interchange (near the Chevron gas station and the Park-and-Ride parking lot), west back Southridge Ave. to Westridge Ave. and retrace the route back to the school.

Sentinel Secondary School

Route 1: Students repeat the run twice starting across the field, west on Camelot Rd. to Woodward Park, north through the park, east on Cambridge Rd., north on Camwell Dr. and east on Chartwell Dr. back to the school.

Route 2: Students repeat the run twice starting across the field, west on Camelot Rd., south on 15th St., east on Tyrol Rd., northeast on Cross Creek Rd., south on 12th St.,

east on Queens Ave., north on 11th St., west on Sutton Place, across Cross Creek Rd. and back to the school.

Route 3: Across the field, west on Camelot Rd., west through Woodward Park to Westhill Dr., northwest on Westhill Dr. past the Salmon House, turn around and retrace the route back to the school.

West Vancouver Secondary School

Route 1: 1.4 Km - From track north through the school to Mathers Ave., west to 19th St., south to Inglewood Ave., east on Inglewood Ave., north through the South Campus and back to the track.

Route 2: 1.8 Km - From track north through the school to Mathers Ave., west to 20th St., south to Jefferson Ave., east to Hey Park, south down to Inglewood Ave. and north back up to Jefferson Ave. on the Park, east to Sinclair St., south to Inglewood Ave., east on Inglewood Ave., north through the South Campus and back to the track.

Route 3: 1.9 Km - South from the track through the South Campus, west on Inglewood Ave., south on 20th St., east on Gordon Ave., south on 19th St., east on Esquimalt Ave., north on 17th St. to Inglewood Ave. and back to the track through the South Campus.

Route 4: 2.0 Km - South from track through the South Campus, east on Inglewood Ave., south on 16th St., west on Fulton Ave., north on Sinclair St., west on Inglewood Ave., north through Hey Park to a Mathers Ave., east on Mathers Ave. and return to the track through the staff parking lot.

Route 5: 2.2 Km - North on 17th St., west on Palmerston Ave., south on St Denis, west on Mathers Ave., south on 19th St. through Hey Park to Inglewood Ave., east on Inglewood Ave. to South Campus and back up to the track.

Route 6: 2.8 Km – South from track through South Campus to Inglewood Ave., west on Inglewood Ave. and Jefferson Ave., south on 24th St., east on Haywood Ave. to Inglewood Ave., turn around and retrace route back to the track.

Route 7: The Highlander Endurance Run 5.0 Km – South from track through South Campus to Inglewood Ave, west on Inglewood Ave. and Jefferson Ave., south on 25th St., east on Bellevue Ave. and Argyle Ave., north on 16th St., west Inglewood Ave. to South Campus and north to the track.

Appendix D Resources and References

Consideration for the many common and specific issues related to pedestrian and vehicular traffic safety adjacent to school sites led to much discussion and sharing of experience and knowledge amongst members of the sub-committee. In addition, the sub-committee drew on many external sources for information including:

- Bernadette Kowey of the Way to Go School Program;
- Ravinder Toor of the BCAA Traffic Safety Foundation – School Traffic Safety Patrol Program;
- Kathleen Hicks and Aman Kainth of the ICBC Community Traffic Safety Program;
- Cynthia Hadley of the Irwin Park PAC and representative to the Irwin Park Traffic Safety Improvement Project;
- Ministry of Transportation *Pedestrian Crossing Manual*;
- Ministry of Transportation *Safe Crossings – Guidelines for School Crossing Programs*;
- Transportation Association of Canada (TAC) *Design Guidelines for Canadian Roads*;
- TAC *Manual of Uniform Traffic Control Devices*;
- *Motor Vehicle Act and Regulations* of British Columbia;
- West Vancouver District *Traffic Bylaw No. 2832, 1979*.