Vancouver Park Board
and
Vancouver School Board

Playing Field Renewal Plan

June 12, 2002

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INTRODUCTION

This report assesses the current state of Vancouver's sport fields, and outlines a strategy to address maintenance and supply concerns both immediately and over the long term. The study upon which this report is based was conducted by the Vancouver Park Board (VPB) and the Vancouver School Board (VSB) with the active involvement of the Vancouver Field Sports Federation (VFSF). The objective of this joint study is to ensure the provision of an appropriate quantity and quality of playing fields and related amenities in relation to the current and future demands both of organized and casual sport participants, commensurate with the actual and potential resources of the VPB and VSB. Other park uses (e.g., neighbourhood access to open space, habitat preservation and passive recreational enjoyment) as well as school curriculum/extracurricular demands and future VSB facility expansion needs, are factored into the overall assessment.

BACKGROUND

Study Context, Objectives and Methods

The Vancouver Park Board (VPB) and the Vancouver School Board (VSB) jointly provide almost all the available playing fields in Vancouver and share common concerns with respect to ageing infrastructure and growing public demand for service. The Vancouver Field Sports Federation (VFSF) represents the interests and knowledge of most of the amateur sport associations that play on the City's fields and diamonds. It was formed in the 1980s by sport associations to help improve field conditions. The focus of this umbrella federation was to share information and coordinate efforts to maintain and improve playing field conditions in the city. In conjunction with the VSB and VPB, the VFSF has been very active in supporting maintenance and capital improvements to fields and diamonds.

The field's review was driven in part by the ongoing and escalating requests by the VFSF to review playing field conditions in the city and develop a comprehensive long term strategy to address current and future shortfalls in the quantity and quality of the city's playing fields. Equally, the VPB and VSB wished to examine an area of significant service overlap and, looking beyond short term capital funding cycles, coordinate their long term commitments to field development and maintenance.

A Playing Field Strategy Development Committee, composed of elected officials and staff of the VPB and VSB and representatives of the VFSF, was struck in the winter of 2000 to review current and projected playing field supply and demand issues. At the outset, terms of reference (see Appendix D) were drafted by the committee to guide the review process. The work program described in the terms of reference included a review of past sport-field related studies conducted

by both organizations[1], updating of current field inventories, analysis of the collective VPB and VSB resources, and an assessment of demographic and leisure trends.

This study documents historical field allocation data, benchmarks current playing field supply and demand levels, and factors in the potential impacts from city growth, sports participation and gender equity trends. The study also assesses current maintenance practices and makes recommendations regarding required annual maintenance practices. The outcome of this analysis is a long range plan that identifies the capital and operating investment required for fields, along with an optimum maintenance schedule for the next decade (i.e., through to 2011).

This playing field study establishes a framework and process for the Vancouver Park Board, Vancouver School Board and the Vancouver Field Sports Federation to coordinate their actions toward rebuilding and developing the necessary playing fields to meet the expanding outdoor sports requirements of the City of Vancouver. The study will inform the next several capital planning initiatives of the VPB and the VSB. The benchmarking information it contains will be the basis for future tracking playing field supply and demand trends. Other strategies to ensure sufficient quantity of quality playing fields on an ongoing and sustainable basis are outlined in the recommendations of this report.

THE VALUE OF PLAYING FIELDS

Many Vancouver residents are active participants in sports and exercise. In 2001, there were more than 41,500 people who were members of nonprofit volunteer field-sports organizations. These members regularly participated in weekly outdoor athletic activities. This has been confirmed by commissioned studies (Mark Trend) which identified that 8% of city residents regularly participate in organized sports. The benefit of playing fields is considerably broader than the direct benefit to 8% of the city's current population of 550,000 when you include school children's participation, casual community and corporate participation, impromptu neighbourhood games, as well as family and spectator enjoyment.

Primary sports activities on VPB and VSB fields and diamonds include: baseball, cricket, disc, field hockey, field lacrosse, football, rugby, soccer, softball and volleyball. The 1990s have seen dramatic increases in several sports. Volleyball on sand and grass has become increasingly popular while new sports such as disc (Ultimate) have gone from a casual novelty activity to one of the largest sports activities in the city.

[1] Playing field studies and plans undertaken by the VPB in the past 20 years include: The Playing Field Utilization Study (1980), The Management Study of Vancouver Playing Fields (1984), and the Playing field Management Plan (1992). The VSB undertook a similar study in 1999.

Inventory

There are 285 public playing fields and 358 diamonds in the City of Vancouver. The VPB has 124 fields and 143 diamonds while the VSB has 161 fields and 215 diamonds (See pages 16, 17, and 18). These fields range from low quality, non-regulation size, gravel practice fields to top quality, regulation size, artificial turf fields.

The primary field and diamond resources in the city are the 133 grass regulation-size fields and the 156 grass regulation-size diamonds (See pages 19 and 20). However, an ongoing shortage of maintenance funds has resulted in the deterioration of these facilities. This translates into poorer quality facilities, reduced playing hours on the effected fields and even complete closures of fields due to safety concerns. In 2001, 40% of regulation grass fields and 45% of regulation grass diamonds required significant repairs or rebuilding. [2]

This inventory represents a significant investment in terms of capital outlay and ongoing maintenance requirements. One adult field requires about a full city block. To purchase land and build a top quality regulation soccer pitch costs from eight to ten million dollars and is a level of investment comparable to purchasing land and building a community centre. The cost to rebuild an old deteriorated playing field with new drainage, irrigation and turf is approximately $100,000 to $150,000.

The annual cost to maintain the Park Board's 114 grass fields and 140 grass diamonds at optimal maintenance standards would be $1,136,000. The annual cost to maintain the School Board's 79 grass fields and 88 grass diamonds at optimal maintenance standards would be $344,000[3]. The total annual maintenance requirements for all grass fields would be $1,480,000 and the current annual budget is $1,121,000. This has created an annual field maintenance shortfall of $359,000. The result is a steady deterioration of grass playing fields as essential fertilizing, dethatching, aerating and liming are curtailed due to lack of funds.

To meet current and future demand the VPB and VSB will need to increase the number of playable hours on playing fields. This can be accomplished through the investment of capital into rebuilding deteriorating playing fields, improving maintenance practices on existing playing fields and converting appropriate VSB and VPB fields into lit artificial turf fields.

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[2] There were 133 regulation-size grass fields fields in Vancouver. In 2001, there were 79 in good condition and 54 that were in need of significant repairs or rebuilding. There were also 156 regulation-size grass diamonds for various age levels. In 2001, there were 86 diamonds in good condition and 70 that were in need of significant repairs or rebuilding.

[3] The annual cost to maintain VSB grass fields is substantially lower than the cost to maintain VPB grass fields because of the percentage of small mini-soccer fields. Sixty five percent of the VSB's grass field inventory consists of small mini-soccer fields while only eight percent of the VPB's fields are small mini-soccer fields.

Benefits

The investment of capital into playing fields needs to be seen in the context of the benefits to the individual and the community. It is important to have a clear sense of these benefits when deciding to embark on a long range renewal plan for playing fields.

Pay now or pay later

The question is not whether to spend money to improve Vancouver playing fields. Rather, the question is whether to spend money on playing fields now or pay later for the costs of not providing quality outdoor recreation facilities. The benefits of recreation to the individual and the community have been well documented as have the costs of not providing recreation opportunities. Every mile walked or run by a citizen of Vancouver will give them an extra 21 minutes of life and save society an average of 34 cents in medical and other costs. It is further estimated that if 40% of Canadians became involved in regular physical activity, the net savings to health care alone would be $6.5 million per day.

From 1981 to 1991, Canada's physical activity strategy paid off. A total of $3.4 billion in costs was avoided due to the successful increase in the rate of physical activity. However, increasingly in the 90's and now in the new millennium, there have been growing concerns, particularly in urban centres, that the rate of physical activity is declining. Two in five Ontarians face possible health risks and premature death by being overweight. It is also estimated that 10% of youth are obese, and as many as 85% of these youth are expected to remain obese as adults.

Vancouver is actively engaged in promoting youth participation in field sports through the schools, volunteer sports organizations and community centre programs. These initiatives require a system of well maintained and funded playing fields.

Children and youth development

The VSB and VPB are making a greater effort to engage the youth of our communities in outdoor team sports. It is well documented that participation in team sports raises self esteem, increases respect for others and lowers crime and other antisocial behaviour. It is a fact that 95% of the top executives of Fortune 500 companies participated in organized team sports as children.

Vancouver youth are not participating equally in outdoor field sports. This is particularly noticeable in youth sports such as soccer. In the Dunbar area, 28% of boys and girls participate in organized soccer. In the Grandview and Hastings areas, only 9% of boys and 6% of girls participate in organized soccer. Initiatives such as MoreSports[4] are underway to engage these youths in organized team sports and these initiatives need to be supported on an ongoing basis by the VSB, VPB and VFSF. The leadership benefits of team sports should not be underestimated.

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[4] MoreSport is a VPB initiative to help reduce barriers to sports participation. This program provides leadership and support to specific communities to enable local children to participate in regular team sports activities.

Community building

Volunteer community sports associations are the backbone of a healthy civic structure. These organizations provide the framework to enable individuals to contribute to the well being of their community and fellow citizens. The numerous and vibrant sports associations within the City of Vancouver are one of the many reasons that make Vancouver such a desirable place to live.

CRITERIA FOR RENEWAL

Although both the VPB and VSB have several excellent fields and diamonds, there are a number of factors which have resulted in insufficient quantity and quality of playing fields to meet current and projected demand. These factors include:

A chronic and long-standing shortfall in annual maintenance budgets to maintain optimal field maintenance practices.

An ageing and deteriorating playing field inventory that needs a more comprehensively funded renewal program.

Separate booking systems for VPB and VSB fields which result in less efficient field allocation.

Increase in the city's population which is forecast to increase by 101,000 people by 2021.

Increasing participation in emerging sports like volleyball and ultimate.

Increasing participation by girls and women.

Increasing participation by youth from the downtown and east side of Vancouver.

The chronic shortage of capital and maintenance dollars combined with increasing use has resulted in a steady deterioration in a large percentage of the playing field inventory. Lack of funds results in reductions in essential maintenance such as fertilizing, aeration, top dressing, overseeding and dethatching. This results in a deteriorated field and a reduction in playability or even the complete closure of the field.

The infrastructure of Vancouver playing fields requires cyclical renewal. Over time, playing fields deteriorate, requiring that the drainage, irrigation and turf be repaired or replaced. The complete rebuild of a grass field requires a minimum field closure of 15 months. The life cycle renewal of grass playing fields needs to be incorporated into the VPB and VSB capital planning initiatives and adequate funds need to be committed.

At present, the VSB and VPB separately book the fields in their inventory. These separate booking systems reduce the efficiency of resource allocation. Sports organizations and the public are required to complete two separate booking processes. This results in some duplication of effort and some inequities in field allocation.

Over the past ten years, The city of Vancouver has grown at an average rate of 1.7% per year. This growth rate is projected to continue through to 2021. This will result in a population increase of 165,000 people as the city increases from 470,000 people in 1991 to 635,000 in 2021. These growth factors combined with an underfunded field maintenance and capital building program has resulted in a current and increasing shortage in quality playing fields.

There are also several emerging trends. There is a steady and rapidly increasing demand for more summer fields for soccer, disc and volleyball. These emerging sports are expanding rapidly while traditional sports like soccer, baseball and softball are also increasing, although at a slower rate.

Gender equity is asserting itself in field sports as more girls and women are participating in all outdoor sports in ever increasing numbers. Recent trends show that in the Dunbar area more girls play soccer than boys. As this trend continues across the city there will be a significant increase in the demand for fields. Without an increasing inventory, the city will face the dilemma of reallocating scarce resources by limiting play for males to balance equally the lack of playing opportunities for both genders.

Another factor that will affect demand is the current lack of participation in sports by youth on the east side of Vancouver. While youth soccer participation rates are at 28% in the Dunbar area, the participation rates in the north east part of Vancouver are less than 9%. It is clear that several Vancouver neighbourhoods have exceptionally low participation rates. The City is actively programming to reverse this trend through sports initiatives such as MoreSports. The Park Board has had success reducing participation barriers for youth in the past[5]. It is anticipated that youth participation in field sports will significantly increase as the MoreSports initiative facilitates sports participation in under represented regions of the city.

[5] Vancouver girls' softball was restructured and separated from boys' baseball in 1994. This new structure and corresponding diamond reallocation resulted in a doubling of girls participating in organized softball (400 to 852 players) in one year.

CONCLUSIONS

The criteria for renewal identify the issues that need to be addressed to ensure an adequate supply of playing fields to meet the growing participation requirements of city residents. The following recommendations outline the initiatives that need to be undertaken. These playing field initiatives have been categorized under the following headings: increase playing field capacity; sustain the playing field inventory; financing; harmonizing the VSB/VPB playing field bookings and maintenance systems; and evaluation.

Increasing Playing Field Capacity

Recommendation: That the VPB and VSB field inventories be effectively allocated: Wherever possible, children and younger teens need to be assigned to smaller fields and diamonds that are the right scale for youth games but inadequate for adult games. This allocation will provide additional opportunities for older youth and adult sports groups that require the larger dimensioned fields and diamonds.

That the VSB and VPB work cooperatively with the VFSF, local clubs and communities to facilitate the installation of lights on all-weather fields. Youth sports organizations will be encouraged to work cooperatively with the VSB in accordance with the VSB procedures on lighting all-weather sports fields.

That VPB and VSB make it a priority to maintain their grass playing fields at a level to ensure maximum playable hours and good quality field conditions.

That the current VPB funding of deep tining and top dressing continue.

That an additional six artificial turf fields be constructed to meet the increasing demand for outdoor field sports. The fields will be funded through VPB and VFSF initiatives, including forthcoming capital plans, and will be located on VPB or VSB land.

That the potential to develop additional sports fields and diamonds be assessed when new park land of sufficient size is acquired.

Rationale:
Youth soccer players (12 and younger) learn soccer skills better when they play in a league where field dimensions are half the size of adult soccer fields. Adults and older youth require fields that are 100 m by 66 m, while youth under 12 play on "super 8" fields that are half that size. The

VSB and VPB will focus on shifting youth 12 years and under onto quality mini-soccer fields and provide regulation fields for adults and older youths. In addition to a VPB and VSB one time conversion fee of $30,000, this will require annual funding for the new grass mini-soccer fields that will now be played on more extensively and require additional ongoing maintenance ($1,500 to $2,500 per field per year).

Children's baseball requires 180 to 200 foot outfields while adult softball requires 275 to 300 foot outfields for regulation games. The VPB and VSB will focus on allocating large park spaces for adult softball and utilize smaller park spaces for children's baseball. When new park land is acquired, the development of adult softball diamonds and regulation soccer fields will be a sports priority.

The increase in winter soccer will require week-night practice fields. These practices will need to be conducted on lit all-weather fields[6]. The large inventory of VSB all-weather fields will be utilized to find appropriate locations to increase the inventory of lit practice fields. All lighting costs will be borne by the sports association as outlined in the VSB procedures[7].

The VPB and VSB have not been maintaining playing fields to an optimal standard or in a sustainable way. The annual maintenance program for Vancouver playing fields is underfunded by $358,000 annually (See page 21).

The Park Board field-maintenance shortfall is $275,000 annually. To sustain the grass fields, the Park Board Capital Plan allocates $133,000 annually toward a deep tining and top-dressing program. The longer term solution is to take some of the pressure off grass playing fields by building artificial turf fields. This will significantly reduce damage to grass fields and will provide an extended opportunity to make maintenance repairs. Improved maintenance and reduced play on grass fields will reduce the maintenance cost; however additional funds for field maintenance are essential if Vancouver is to maintain an adequate supply of quality grass fields.

The current Park Board funding of the deep tining and top dressing through the Capital Plan should be maintained. This program is an effective way to maximize the playable hours on existing grass fields. Increasing the playability of the current inventory is the most cost effective way to accommodate more sports teams.

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6 All-weather fields are constructed from crushed gravel and are not suitable for quality games. However, a grass field can only sustainably handle 400 hours of play per year while an all-weather field is virtually indetructible and can be practiced on constantly. Winter soccer teams play their games on quality grass fields but practice week nights on lit all-weather fields.

7 The VPB and VFSF have been encouraging local soccer clubs to fund rasie and seek corporate and governement grants to install playfield lights on all-weather fields. This initiatve has been successfull in the Dunbar and Kerrisdale areas, however, some local clubs may require VPB support in specific areas of the city

In a large urban environment, the cost to purchase new land for playing fields is exorbitant (eight to 10 million dollars per soccer field in Vancouver). The increasing demand for more playing fields is better met in a large urban environment by converting some existing grass or all-weather playing fields into artificial turf. To be sustainable, a top quality grass field can accommodate approximately 400 hours of high impact soccer play per year and a lit artificial turf field can accommodate 2,000 to 2,500 hours of high impact soccer play per year. This ratio of playability means that one artificial turf field has the playing capacity of five grass fields. In a densely populated urban setting, artificial turf is an environmentally friendly option as a minimum of park land needs to be allocated to playing fields.

Based on an estimate of current population and participation trends, it is estimated that by 2011 six artificial turf fields will be required to meet the increasing field sports requirements[8]. This number of artificial fields will have the playing capacity of 25 to 30 grass fields and would cost approximately nine million dollars. By building this number of fields and distributing them strategically around the city, the VPB and VSB will be able to meet the growing requirements for quality playing fields (See page 32).

These artificial turf fields will significantly reduce the damage that occurs on grass fields during inclement winter weather. The number of artificial turf fields will also enable the VSB and VPB to realign maintenance practices to repair more grass fields in the fall and winter and make them available for summer soccer, disc and softball.

Where possible, multiple artificial turf fields are advantageous as they provide opportunities for tournaments and sports days. Such locations will be given a high priority when assessing the locations for the new artificial turf fields.

Sustain the Playing Fields Inventory

Recommendation: That the VPB and VSB maintain a schedule of sports field renewal to enable the rebuilding of playing fields when they have reached the end of their playable life cycle.

That additional annual maintenance funds be allocated to newly built or newly designated playing fields to ensure that they can be sustained.

Rationale:
The VPB and VSB have a total of 285 playing field and 358 diamonds. In addition to annual maintenance, these facilities require life cycle renewal after a few decades of play. Drainage and irrigation systems need to be repaired and replaced and turf needs to be stripped, roto-tilled,

[8] The cost to build an artificial turf field is $1.2 to 1.5 million.

levelled and reseeded. The current life cycle renewal programs need to be adequately funded so that unplayable and unsafe playing fields can be rebuilt.

At present, several Vancouver fields are under utilized or unplayable. Significant unmet demand (approximately 14,000 hrs of playing time per year) can be accommodated by rebuilding deteriorated fields. In addition to building artificial turf fields, every effort should be made to rebuild and repair existing fields to reacquire the 14,000 hours of playing time.

The Park Board has identified that the cost of repairing these fields would be $2,885,000. Traditional funding through the Capital Plan will see about one third of these projects completed in the next three years. Renewing and repairing these fields are the quickest way to increase the amount of quality playing time on fields.

The demand for playing field time is increasing as the city's population grows, females increase their participation, and under represented regions of the city start to participate more fully in outdoor field sports. It is no longer appropriate to leave large segments of the city's playing-field capacity under maintained or unplayable.

Additional funding is required when new playing fields are built and passive meadows converted to playing fields. This study confirmed that in 2001 it required, $12,919 to maintain a "Sand A" field, $9,744 to maintain a "Soil A" field and $5,837 to maintain a "Soil B" field.

Financing

Recommendation: That the VPB and VSB work closely with the VFSF and its members to pursue funding for playing field projects. This initiative would include exploring opportunities to finance field projects with individuals, corporations and governments.

That additional maintenance dollars be derived from a fee structure that more accurately reflects the cost to maintain playing fields.

Rationale:
Partnership programs at local, corporate, and government levels will need to be explored on an ongoing basis by the VSB, VPB and VFSF. Improving the quality and quantity of Vancouver playing fields will require the collective support of all levels of government and the active involvement of nonprofit societies and the corporate sector.

The VSB and VPB fees and charges structure should be adjusted to accurately reflect the cost of participant visits. Revenues derived from these adjustments would offset annual field maintenance shortfall and help improve the quality of field maintenance. The VSB recently completed a fees and charges review and the VPB will be proceeding with a similar review. It

should be noted that the committee is divided on the issue of increasing fees. There is a belief by some committee members that children and youth should not be charged field user fees.

Harmonization

Recommendation: That the VPB and VSB explore the coordination of field maintenance practices and identify opportunities to work cooperatively to maintain grass and all-weather fields.

That the VPB and VSB will identify opportunities for joint purchasing of materials and equipment.

That the VPB and VSB synchronize their field classification and benchmarking practices.

That the VPB and VSB work toward harmonizing their fee structure. The VPB will initiate a fees and charges review similar to the recent VSB review.

That the VPB and VSB work toward a joint booking system for all playing field and diamonds within the City of Vancouver.

That the VPB, VSB and VFSF work toward a joint monitoring system for all playing fields and diamonds.

Rationale:

In some locations, VPB and VSB playing fields are closely situated. Maintenance practices such as mowing, aeration, top dressing could be combined to increase efficiencies. There are also economy-of-scale benefits that can be realized through joint purchasing of materials such as grass seed, fertilizer and maintenance equipment.

The VPB and VSB have similar playing field resources and serve the same clientele. A synchronized field classification system, permit-fee structure and field-monitoring program would simplify customer service and facilitate future efforts to amalgamate the organizations' facility booking processes.

There are clearly benefits of scale and simplicity to be derived by synchronizing or combining the Vancouver School Board and Vancouver Park Board field booking and monitoring procedures. This initiative should be further explored and the following issues addressed in the process:

- Consensus on field classification
- Consistent fee structure
- Consistent usage procedures
- Citywide field monitoring practices (expanded Ranger program and field closure line)
- Identify and implement a preferred booking system for the amalgamated field resources
- Develop consistent maintenance and risk management practices

It should be noted that the committee is divided on the issue of a harmonized fee structure. There is strong interest in assuring field usage by youth is recognized separately from that of adult usage.

Evaluation

Recommendation: That the VPB, VSB and VFSF evaluate the city's playing field supply and demand every three years to assess how effectively the strategies outlined in this report are meeting the requirements of a growing sports community.

Rationale:
The demand for playing fields is citywide and an assessment of playing field supply and demand is best accomplished from this global perspective. The VPB and VSB are better able to determine the adequacy of supply when they combine their field resources and compare this inventory against the overall demand for playing time. This report has taken an initial step by combining the two organizations' playing field resources and setting benchmarks on current field supply and demand. This statistical work should be continued on an ongoing basis.

This report's recommendations will have a significant effect on the quality and availability of playing fields within the city. The benefits of the new artificial turf fields and improved grass field maintenance will need to be assessed before each Capital Plan cycle (every three years). This will determine if the playing field inventory is keeping pace with the growth trends in the city and with the various sports.

APPENDIX A - SUPPLY

Overall VPB and VSB Supply

Through the VPB and VSB, the City of Vancouver has seven cricket pitches, 385 diamonds and 285 fields. These field facilities are used regularly throughout the year and accommodate a wide variety of sports. Due to the mild winter climate in Vancouver, playing fields are used throughout the entire year. Traditionally, the main activities in the spring and summer have been baseball, softball and cricket. In the winter, the primary activities have been soccer, rugby, football and field hockey. Recently, ultimate has become a highly popular four-season sport while volleyball and soccer have become increasingly popular summer activities.

Total Fields and Diamonds by Sport

Sports Activity	**Park Board**	**School Board**	**Total**
Cricket	7		7
Total Diamonds	**143**	**215**	**358**
Fields			
Field Hockey	5	6	11
Football	4	1	5
Rugby	12	3	15
Soccer	76	91	170
Soccer -mini	12	60	69
Ultimate	15		15
Total Fields	**124**	**161**	**285**

Winter Fields -Artificial, All-Weather and Grass

During the winter months, there are three artificial turf fields, 89 all-weather fields (AW), and 193 grass fields available for games and practices. The following chart shows the primary use of these fields.

Sport	Park Board Artificial	Park Board AW	School Board AW	Total Artificial and AW	Park Board Grass	School Board Grass	Total Grass
Field Hockey	3			**3**	2	6	**8**
Football					4	1	**5**
Rugby					12	3	**15**
Soccer		4	73	**77**	72	18	**90**
Soccer -mini*		3	9	**12**	9	51	**60**
Ultimate					15		**15**
Total	**3**	**7**	**82**	**92**	**114**	**79**	**193**

Artificial = Synthetic Artificial Turf

AW =All Weather. These fields are surfaced with crushed gravel

Grass = Sand-based grass fields and soil-based grass fields

* Mini-soccer = A mini-soccer field is approximately half the size of a regulation soccer field

Summer Diamonds -Artificial, All-Weather and Grass

During the summer months, there are 11 midget, 34 bantam, 139 Little League, and 48 T-ball diamonds. There are also 126 softball diamonds and seven cricket pitches. The following chart shows a detailed breakdown of each type of diamond.

Sport	**Size***	**Park AW**	**School AW**	**Park Grass**	**School Grass**	**Total**
Baseball**						
T-ball	45x150	1	15	24	8	48
Little League	60x200		73	28	38	139
Bantam	80x320		18	6	10	34
Midget	90x400		3	6	2	11
Total Baseball		**1**	**109**	**64**	**58**	**232**
Softball	**60x300**	**2*****	**18**	**76**	**30**	**126**
Total Diamonds		**3**	**127**	**140**	**88**	**358**
Cricket					7	7

* The size dimensions are in feet. The first number refers to the distance between the bases. The second number refers to the distance to the home run fence/line.

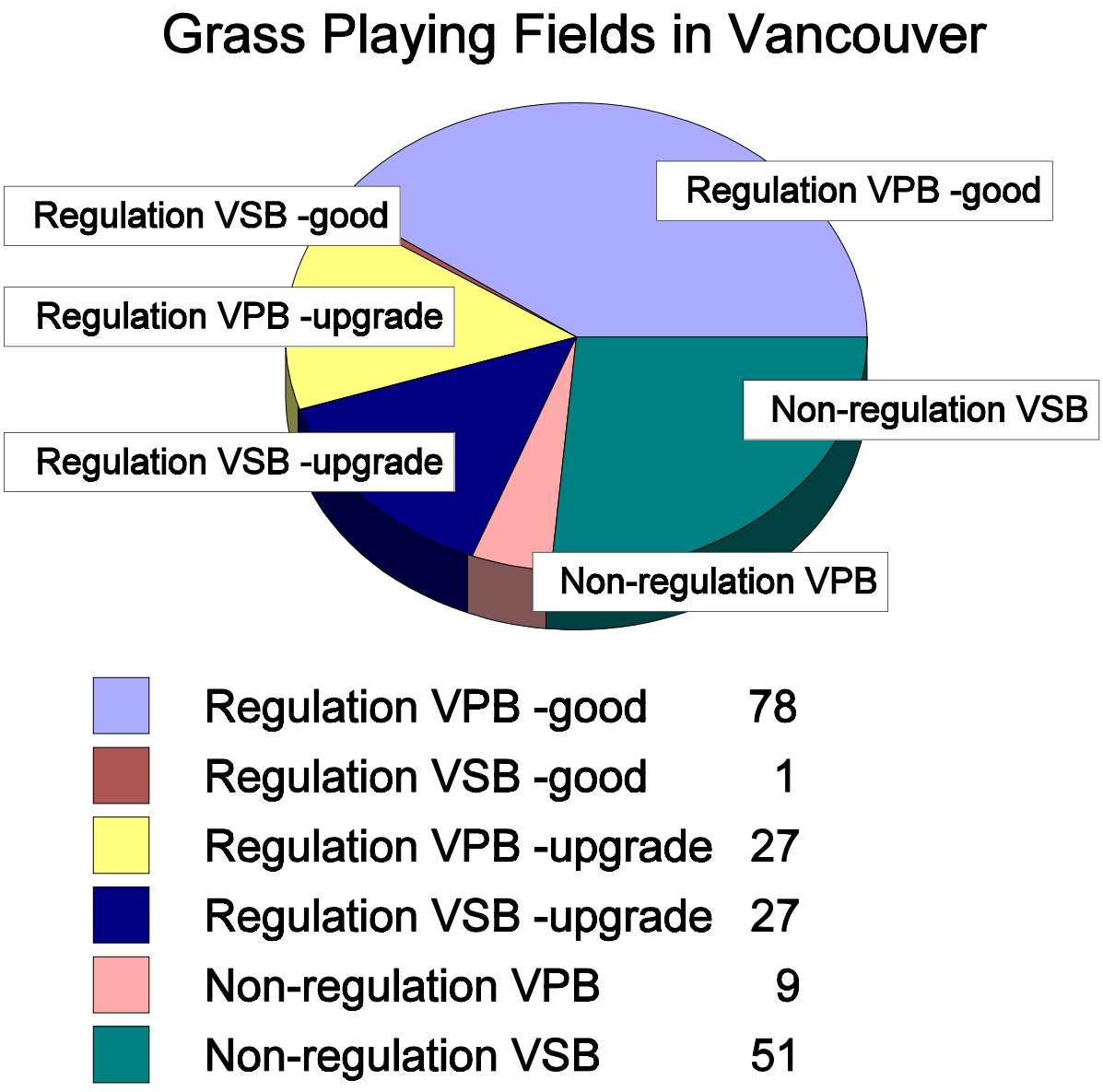
** The dimensions of baseball diamonds vary depending on the age of the participants:

*** The Park Board has one AW and one artificial turf softball diamonds.

Activity	Age	Dimension of Diamond
T-ball	5-7	45-150
Little League	8-12	60-200
Bantam	13-15	80-320
Midget	16-Adult	90-400

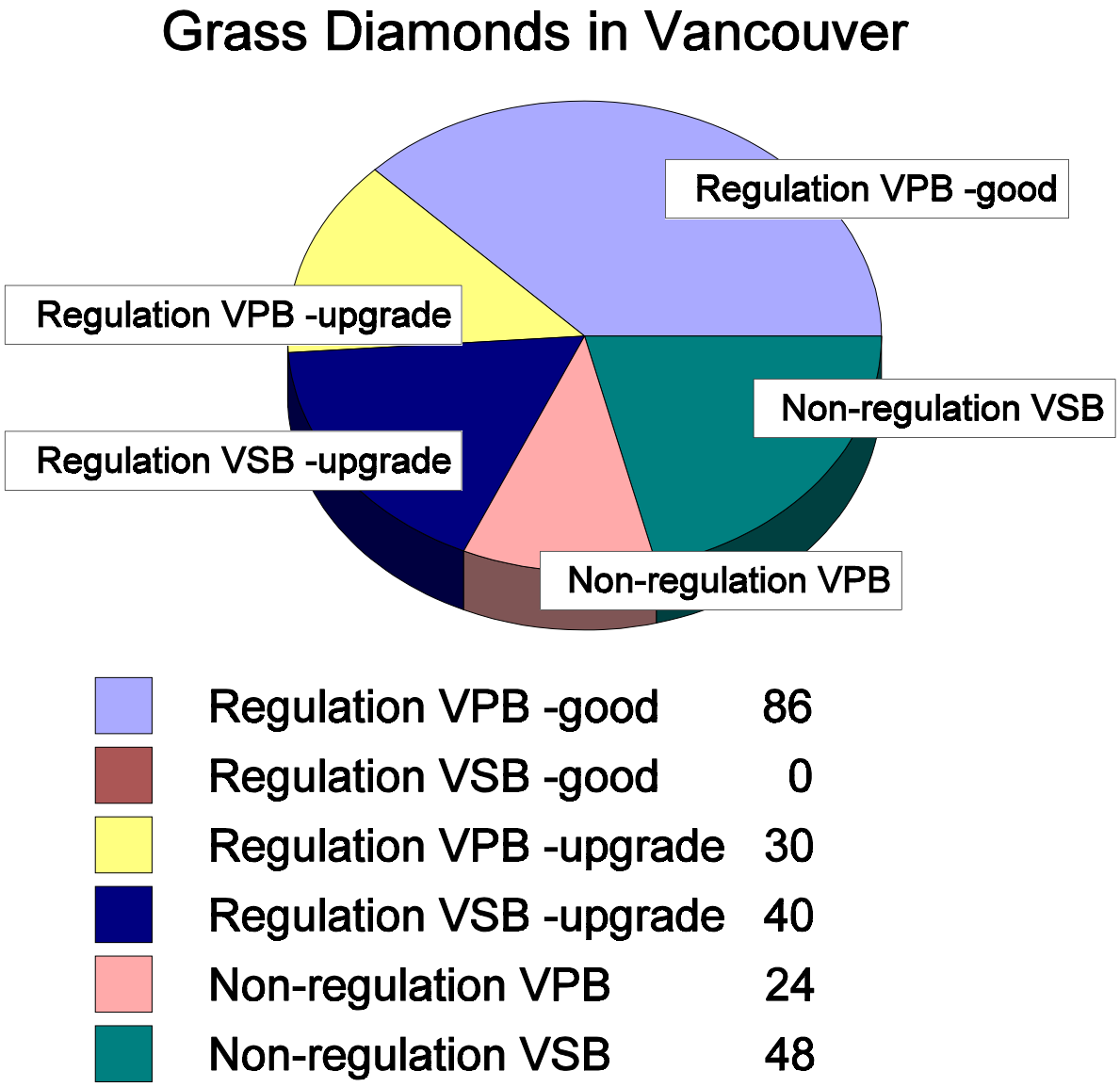
Current Field Conditions

In 2002, the VPB and VSB assessed the condition of their grass fields. Of the 193 grass fields in the city, there are 133 regulation size (full size soccer) fields and 60 non-regulation size fields. The regulation size fields comprise 79 in good condition and 54 that are in need of upgrade.



Current Diamond Conditions

In 2002, the VPB and VSB assessed the condition of their grass diamonds. Of the 228 grass diamonds in the city, there are 156 regulation size diamonds and 72 non-regulation size diamonds. The regulation size diamonds comprise 86 in good condition and 70 that are in need of upgrade.



Projected Annual Field Maintenance Costs for Grass Fields

To adequately maintain grass fields require an ongoing annual program of aeration, liming, dethatching, fertilizing, gang mowing, overseeding, top dressing, turf repair and watering. The extent of these programs depends on the type of field being maintained. Following are the VPB costs to maintain sand-based A fields, soil-based A fields and soil-based B fields.

Irrigated sand-based grass fields cost $12,919 per field per year to maintain.
Irrigated soil fields cost $9,744 per field per year to maintain.
Non-irrigated soil fields cost $5,837 per field per year to maintain.

The annual cost to maintain the Park Board's 114 grass fields and 140 diamonds at optimal maintenance standards would be $1,135,891. The annual cost to maintain the School Board's 79 grass fields and 88 diamonds at optimal maintenance standards would be $343,544.

Annual Cost by Field Quality

	Optimal Maintenance Annual Cost	**Current Annual Budget**	**Difference**
Park Board	$1,135,891	$861,028	-$274,863
School Board	$343,544	$260,075	-$83,469
Total Costs	**$1,479,435**	**$1,121,103**	**-$358,332**

Sand-based grass fields are designated as A quality fields.
Soil-based grass fields that are irrigated are designated as A quality fields.
Soil-based grass fields that are not irrigated are designated as B quality fields.

Park Board Projected Annual Field Maintenance Detail

Sand-based grass fields drain exceptionally well and are the best grass fields during the winter months. However, sand-based grass fields are not a good growth medium for grass, therefore, these fields require more fertilizer, watering and grooming than soil fields. The cost to maintain sand-based grass fields is subsequently much higher on an annual basis than soil-based grass fields. Soil grass fields that have irrigation systems are also maintained at a higher standard than non-irrigated soil grass fields.

	Optimal Maintenance	**Current Annual Budget**	**Difference**
Sand/Soil Field -A	$721,464	$655,275	-$66,189
Soil Fields -B	$414,427	$205,753	-$208,674
Total Costs	**$1,135,891**	**$861,028**	**-$274,863**

School Board Projected Annual Field Maintenance Detail

	Optimal Maintenance	**Current Annual Budget**	**Difference**
Sand Fields -A	$222,547	$178,152	-$44,395
Soil Fields B	$120,997	$81,923	-$39,074
Total Costs	**$343,544**	**$260,075**	**-$83,469**

APPENDIX B - DEMAND

Current Demand

Vancouver Park Board and Vancouver School Board

Available Capacity and Current Requirements for Sports Teams -Winter

Sport	Available Team Capacity	Current Team Requirements	Trend By 2011
Disc (1 x wk)	132	108	++
Field Hockey (2.5 x wk)	60	48	+
Football -tackle (1 x wk)	24	14	Stable
Football -touch (1 x wk)	44	51	++
Lacrosse (1 x wk)	4	4	Stable
Rugby (1 x wk)	148	118	Stable
Soccer (1 x wk)	742	537	++
Soccer -mini (1 x wk)	222	320	++

NB. Due to field quality and availability issues, some leagues, such as disc, have “capped” their membership and have turned people away.

Capacity for Team Practices -Winter

Sport	Available Team Capacity	Current Team Requirements	Trend By 2011
Regulation Field	220		
Non-Regulation Field	164		
Practice Field	40		
Total Teams	424	537	++

Vancouver Park Board and Vancouver School Board

Available Capacity and Current Requirements for Sports Teams -Spring/Summer

Sport	Available Team Capacity	Current Team Requirements	Trend By 2011
Cricket (1 x wk)	26	25	Stable
Baseball -T (3 x wk)	168	87	Stable
Baseball 60 ft (3 x wk)	240	180	Stable
80 ft (3 x wk)	48	15	+
90 ft (3 x wk)	32	12	+
Softball (1 to 3 x wk)	1,806	1,674	+
Disc (1 x wk)	198	246	+++
Field Hockey (2.5 x wk)	56	48	+
Football -touch (1 x wk)	68	61	+
Soccer (1 x wk)	300	327	++++
Soccer -Mini (1 x wk)	160	96	+++
Volleyball (1 x wk)	230	250	++

Annual Participant Visits By Sport

Following is a benchmark of the annual participant visits (user visits) to VPB and VSB playing fields by organized community sports participants. These numbers do not include the visitations by school organizations, casual groups or individuals.

Sport	Park Board	School Board	Total
Baseball	39,380		39,380
Cricket	6,750		6,750
Field Hockey	27,360		27,360
Football	13,590	96	13,686
Rugby	35,400		35,400
Soccer	392,335	182,426	574,761
Softball	426,870	86,055	512,925
Ultimate	101,160	350	101,510
Volleyball -Grass	25,500	360	25,860
Total Participant Visits	**1,068,345**	**269,287**	**1,337,632**

Park Board -Sports Participation by Organized Leagues

The following chart identifies the members of organized community sports teams in Vancouver.

Sport	Youth	Adult	Total
Baseball	3,612	80	3,692
Cricket	75	360	435
Field Hockey	800	700	1,500
Football	479	1,624	2,103
Rugby	1,000	750	1,750
Soccer	5,992	6,247	12,239
Softball	1,188	9,825	11,013
Ultimate	80	3,000	3,080
Volleyball -Grass	0	2,596	2,596
Volleyball -Sand	300	2,794	3,094
Total Sports Members	**13,526**	**27,976**	**41,502**

The following chart identifies VSB organized sports teams.

V.S.B. School Sports	Boys Teams	Girls Teams	Total
Secondary Athletics			
Field Hockey		24	24
Rugby	39		39
Soccer	39	47	86
Softball		10	10
Tennis			10
Ultimate			13
Elementary Athletics			
Football, Flag	16		16
Softball	17	16	33
Soccer	55	44	99
Total Teams	**166**	**141**	**330**

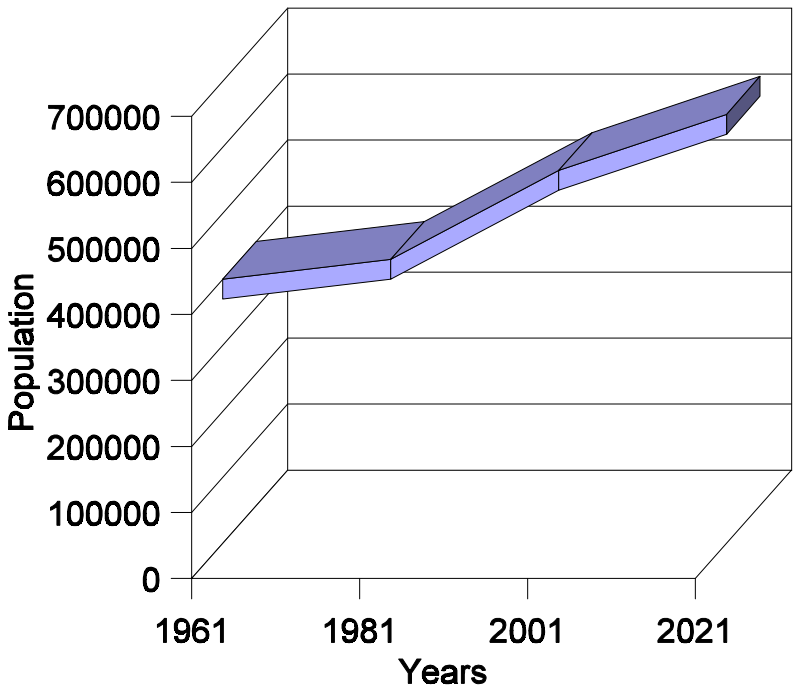
Future Trends

This study reviewed the anticipated trends that will influence field use in the next decade. There are three major trends that will have a significant impact.

Population growth is anticipated to increase an additional 101,000 people by 2021
Increased female participation in sports
Organizational capacity

Vancouver Population Growth

Over the past 10 years, the population of Vancouver has increased at an average rate of 1.7% per year. This has resulted in an additional 80,000 residents as the city grew from a population of 470,000 in 1991 to 550,000 people in 2001. It is projected that the city will have a population of 635,000 people by 2021.

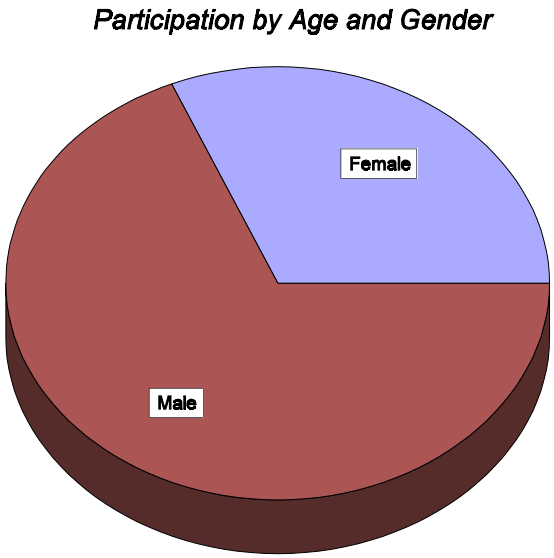


Increased Female Participation

More girls and women are participating in outdoor field sports than in the past. Every year the female leagues are requesting more fields and diamonds to accommodate their increasing membership. As economic and cultural barriers are reduced, it is expected that females will participate equally in outdoor field sports. The 2001 participation rate by gender shows that 31.6% of all organized sports team participants are female and 68.4% are male.

Organized Field Sports Members
Breakdown By Age and Gender

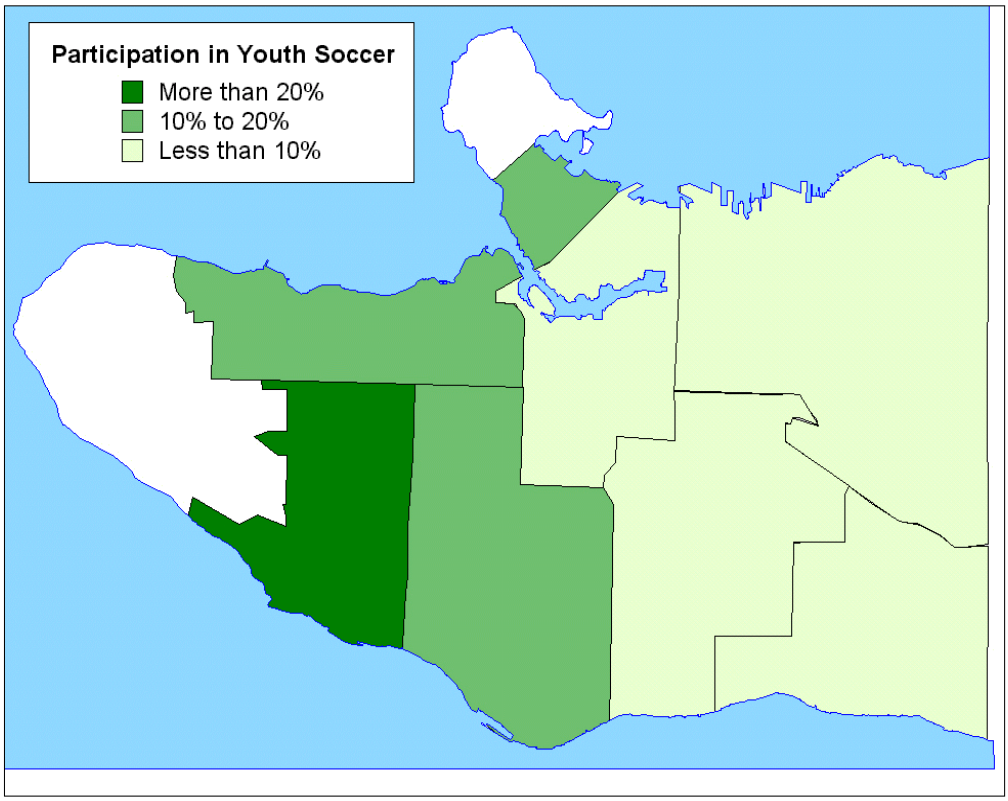
Girls	3,580	
Women	9,526	
Total Females	**13,106**	**31.6%**
Boys	9,946	
Men	18,439	
Total Males	**28,385**	**68.4%**



Regional and Gender Participation in Outdoor Field Sports

There are marked differences in participation rates in outdoor field sports. Regional and gender participation rates are quite apparent. The following chart on youth soccer is a good example of these differences.

On a regional basis, there is significantly larger number of youth participating in organized sports on the west side of the city. In the Dunbar area, 28% of all youth aged five to 19 participate in organized youth soccer. In the Grandview/Kensington area only 6% of youth participate in organized youth soccer.



On a gender basis, 12.1% of all Vancouver boys participate in organized youth soccer but only 6.6% of girls participate. This is starting to change as more girls participate in organized outdoor sports. It is important to note that more girls play soccer than boys in the Dunbar area. However, the participation of girls drops of dramatically as you move from west to east across the city.

Following is a chart of the 2001 Vancouver Youth Soccer members sorted by region and gender.

Vancouver Youth Soccer Demographics										
January 29, 2002										
	East or	Girl	Boy	Total	Girls	Boys	Total	Girls	Boys	Total
	West	Players	Players	Players	Pop. aged	Pop. aged	Pop. aged	Particip.	Particip.	Particip.
					5 to 19	5 to 19	5 to 19	Rate	Rate	Rate
Dunbar	West	850	900	1,750	2,970	3,255	6,225	28.6%	27.7%	28.1%
Point Grey	West	429	795	1,224	3,300	3,490	6,790	13.0%	22.8%	18.0%
Kerrisdale/ Marpole	West	476	892	1,368	5,040	5,030	10,070	9.4%	17.7%	13.6%
Douglas	West	120	280	400	2,365	2,290	4,655	5.1%	12.2%	8.6%
Killarney	East	230	625	855	5,640	5,810	11,450	4.1%	10.8%	7.5%
Grandview/ICFS	East	181	743	924	10,360	10,735	21,095	1.7%	6.9%	4.4%
Kensington Little Mountain	East	47	291	338	6,940	7,610	14,550	0.7%	3.8%	2.3%
Vancouver Selects (city-wide elite)		87	84	171						
Total Youth		**2,420**	**4,610**	**7,030**	**36,615**	**38,220**	**74,835**	**6.6%**	**12.1%**	**9.4%**