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Subject:Meeting the needs of high school tennis players

To: USPTA and PTR professionals, Program Directors, and Sponsors

Topic: Meeting the needs of high school tennis players

Date: September 15, 2016

From: Gary Horvath, USPTA (tennis and platform tennis) and USAV

As a parent, former educator, and teaching professional I think there is more that can be done to meet the needs of high school tennis programs in Colorado and other states. I am asking you and other stakeholders in the tennis industry to share your thoughts and assistance in making this happen.

The largest junior tennis program in Colorado is high school tennis. The most recent data from NFHS shows that Colorado has more than 7,000 participants in high school programs. That's the good news. On the other hand, the data shows that recent participation is trending downward. A reasonable estimate suggests that less than 10% of these athletes are USTA members. Most likely a majority are infrequent players who do not play outside the short tennis season.

What can the USPTA, PTR, and other programs do at the national, regional, and local level to help create more value for the tennis players who participate in high school programs in Colorado and other states and convert them into lifetime tennis players? For that reason I prepared the attached document that raises questions about high school tennis in Colorado and have shared it with various stakeholders across the country.

As I have talked to coaches, athletic directors, teaching professionals, parents, sales reps, and various stakeholders I have noticed that each group thinks high school tennis is important for different reasons, i.e. high school tennis has many purposes. Are high school tennis programs a means of meeting Title IX requirements, are they simply another market for sporting goods stores and doctors, or are they an introductory level course, a derivative of intramural activities, or are they rigorous athletic programs - or does it matter?

High school sports are typically governed by activity associations at the state level and overseen by athletic directors at the school level. These umbrella organizations and the athletic directors are administrative-based groups and individuals that oversee many activities. Their primary responsibilities typically include making rules and establishing policy.

On a positive note, some high school associations and their member schools have established partnerships or sponsorship agreements with industry trade associations, suppliers, or businesses. At the same time their scope of work and priorities do not allow them to focus on the growth of the tennis industry. The responsibility of the association is to provide statewide programs if athletic directors feel there are a sufficient number of students at their schools interested in participating and if their schools have adequate facilities, staff, and funding to provide programs.

These comments are not meant as a criticism of high school associations or athletic directors, rather they are an attempt to describe the structure of this important segment of the tennis industry, realizing that structure may vary from state-to-state. If the USPTA, PTR, and other organizations are going to have an even greater impact on high school tennis programs, they must understand the mission of high school programs, how they operate, and how their structure is different from "traditional tennis organizations".

There are many good high school coaches, but there is a stigma that the quality of high school coaching is inadequate. I think it is safe to say that high school coaches are more qualified in 2016 than in 1976, but many parents and some players feel there is significant room for improvement. This is an area where USPTA, PTR, USTA, and others have made an effort to provide support for high school programs. It is

my understanding that those efforts are ongoing and can be strengthened with support from individuals such as you. As a teaching professional, program director, or sponsor how can you support efforts to improve the quality of coaching in high school tennis?

When I started gathering information and formalizing ideas for the attached document, I originally planned to prepare a personal position statement about how to better meet the needs of high school players. The more I thought about my experiences, observations, and the comments of other stakeholders, I found that there were many questions, but very few answers.

I definitely have opinions about how high school tennis can better meet the needs of its players, but I thought it would be best to compile the questions I have come up against and share them with other industry leaders in hopes they can work together to prioritize the issues and find ways to address them.

The bottom line is that it is important for the USPTA, PTR, and other organizations to continue to build on the support that it has provided high school tennis in the past. This is a great opportunity for teaching professionals to increase their bottom lines or "grow the game."

I know you are busy, but hope you will take some time to think about what the USPTA, PTR, and others can do as an organization and what you can do individually to help high school programs better meet the needs of its players. I would be interested in hearing your thoughts, but hope you will also share your knowledge and opinions with coaches, athletic directors, state associations, and other stakeholders in the tennis community.

Thank you for your consideration and assistance.

Meeting the Needs of High School Tennis Players
Observations and Analysis of
Colorado High School Tennis

Prepared by Gary Horvath
For High School Tennis Stakeholders in Colorado and Other States

July 20, 2016

The purpose of this document is to raise questions that encourage stakeholders in high school tennis (Colorado and other states) to entertain discussions about how to better meet the ever-changing needs of the boys and girls who participate in high school tennis programs.

A number of people provided input that shaped the comments and questions presented in this document and several contributors reviewed preliminary copies of this document.

Because of their roles in high school tennis, copies of this document were initially sent to the following people prior to sharing it with other members of the high school coaching community:

- Diane Wolverton, Colorado High School Activities Association (CHSAA) Tennis Representative and High School Coach
- Fritz Garger, Executive Director, Colorado Tennis Association (CTA)
- Jack Michalko, United States Professional Tennis Association (USPTA) Vice President.

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Executive Summary

High school tennis is the largest junior tennis activity in Colorado. As such, it is loosely aligned with other organizations in the tennis industry. Depending on your perspective this may be one of the reasons it is successful or it may be a reason the sport is not more successful.

Between 2007 and 2014 the state population increased by about 600,000 people, but the total number of boys and girls high school tennis programs declined slightly between the 2008-2009 and 2014-2015 seasons. Tennis has remained popular, but it faces stiff competition from lacrosse, hockey, soccer, cross country and commercial club sports. As well, some students work and others participate in a variety of non-school activities. In addition, schools and athletic programs have been further challenged to adequately fund tennis programs and maintain facilities because of reduced funding caused by the 2001 and 2007 recessions and the subsequent weak recovery.

The purpose of this document is to raise questions that will encourage industry stakeholders to address challenges and opportunities facing high school tennis program. The intended outcome is that students will be able to participate in tennis as a high school sport for many years to come. The key topics are listed below.

- **Purpose** - High school tennis serves many purposes. These purposes differ greatly among the various stakeholders. What are the primary and secondary purposes of high school tennis? How can the leaders of high school tennis better communicate their vision to their stakeholders? What can other members of the industry do to help high school tennis leaders better achieve their primary and secondary goals? If appropriate, how can high school tennis stakeholders work together to better integrate high school programs into the tennis industry?
- **Participation** - NFHS data shows that participation in Colorado boys high school tennis has been flat since the 2008-2009 season while participation in girls tennis has declined. Is this systematic or unsystematic volatility? Is there cause for concern? If so, what should be done to address the unsystematic issues? Are these trends similar to trends in other junior programs in Colorado and the U.S? What can high school programs do to retain players from season-to-season? What can high school programs do to attract new players each season?
- **Costs** - It is estimated that minimum mandatory costs for students to participate in high school programs are \$150 for a season. The season is about 65 calendar days and includes about 35 days of practices and matches. There are about 68 hours of time on the court and that time is split evenly between competition and practice. Indirect costs associated with tennis programs may be up to 3 three times that amount. Are the mandatory and indirect costs appropriate for the educational, social, and athletic experiences that are provided by the programs? How do these costs compare to private sector program costs? Do the mandatory and indirect participation costs prevent students from playing high school tennis? What can be done to control the mandatory and indirect/expected costs of playing high school tennis? How should programs be altered to make them more cost effective and sustainable?
- **Stakeholders and Spending by High School Tennis Players:** Compared to the major team sports, these cumulative investments are small; however, the revenues generated, wages, and expenses for each of the stakeholder groups is significant. Is it possible for the stakeholder

groups to work together more closely to better meet the needs of the athletes in a more efficient and cost effectively manner?

- **Length of the Season** - The high school season lasts about 65 calendar days. The weather is often an inconvenience to participants in all outdoor spring sports, but historically they have found ways to make spring sports programs successful. Would extending the spring sports season into June be a feasible option? Could changes be made to current formats and times when matches are played to reduce weather-related challenges? Should matches be played on weekends instead of school days? Could matches be played during dead-time at indoor clubs?
- **Levels of Play** - There are 3 distinct ability levels of high school players (competitive, semi-competitive, and novice) with very different coaching and playing needs. What can programs do to better meet the distinct needs of all three ability levels? Would high school tennis programs better meet the needs of the athletes if it was an intramural sport? Would high school tennis better meet the needs of the athletes if programs for the competitive players were run in conjunction with the indoor clubs?
- **Match Competitiveness** - Data compiled for this document shows that many high school matches are "not competitive". Is this lack of competitiveness a problem? Is this lack of competitiveness normal for junior tennis? What is the feasibility of developing divisions within each school size category (4A, 5A) based on ability as measured by a rating system such as UTR, Tencap, or the NTRP? Should larger schools be allowed to have multiple teams compete in league play, similar to club volleyball?
- **Format** - The format for Colorado high school tennis match play consists of 3 singles and 4 doubles. Players are only allowed to play singles or doubles. Can the format be changed to allow athletes to play both singles and doubles? Could a team tournament be included as part of the state championships? Could special events be held for JV and players on the no-cut roster? Can match maximums for competition be raised so players can play more matches during a season? Should match maximums be based on the individuals and not the team? Should there be more tournaments and fewer team matches to allow for more competition?

At times weather cancellations have made it necessary for some teams to condense multiple matches into 2 or 3 weeks. As a result schools may play 3 or more regularly scheduled and makeup matches in a week. As a result, some parents and teachers think students unnecessarily miss too much class. Matches on back-to-back days also increase the chance of injuries. Can some of these challenges be addressed by changing the match format to align with the number of courts to shorten the time of a match (most facilities have 6 courts or fewer)? Would a shorter match format make it easier to play matches indoors during non-prime time hours at local clubs? Should in-season athletes be given the final period of classes off (study hall) so they miss fewer classes? Should travel time to matches against neighboring schools occur after the final period of classes?

- **Number of Courts** - A small sample of schools shows the most common number of courts on campus is 6. How much are high school tennis courts used? Can high schools justify building tennis courts? What are the best practices for better year-round usage of high school courts?

Can high schools justify the expense of properly maintaining their existing courts and building new courts? What are best practices for public private partnerships to build additional courts?

- **Quality of Coaching** - Right or wrong, the biggest criticism of high school tennis programs is the quality of coaching. Is this an accurate perception? What are the criteria for defining whether a person is a good coach or a bad coach? Do the bad coaches unfairly receive a disproportionate amount of attention? What are best practices for attracting and retaining quality coaches? What type of education or continuing education programs are needed to help improve the quality of coaching? What can coaches and athletic directors do to better align their programs with the academic missions of their school districts? Should Colorado high school coaches start their own coaching association or should they more closely align with existing organizations? Will high schools participate in the USPTA high school program category?
- **Expectations of Coaches** - Just as parents expect to have quality teachers in the classroom, they expect to have quality coaches on the court. Over the years the USPTA, USPTR, and USTA have raised the bar for "qualified coaching" with their education and certification programs. In addition, parents have come to expect qualified coaching as costs to participate in high school tennis programs have risen. Are parents justified in expecting qualified coaches? Is it appropriate to compare high school coaches to certified professionals? What qualifications are needed for a person to coach a program that lasts 65 days and includes mostly novice players? If most high school coaches are doing a good job, is it necessary to change the perception that they are not qualified?
- **Community** - Anecdotal evidence suggests that most programs lack traditions or a sense of community. What can be done to strengthen the tennis communities that feed high school programs and support the growth of the sport? How can coaches strengthen the culture and traditions within their programs?
- **Relationship with Allied Organizations** - Currently high school tennis is loosely aligned with the USTA and the teaching organizations. Should CHSAA pursue a low-cost/no-cost USTA high school membership for giving juniors access to the USTA network and encouraging them to play tennis on a year-round basis? Should CHSAA adopt the Universal Tennis Rating program (<http://universaltennis.com/>)?
- **CHSAA regulations** - CHSAA provides an invaluable service to high school athletes by overseeing, interpreting, and seeking compliance with the CHSAA Bylaws. To that point, questions can be raised about the following areas of oversight.
 - Are there additional ways CHSAA can provide guidelines to better protect the health and well-being of athletes - academically and athletically on and off the court?
 - Are there ways that tennis teams can increase their number of matches and decrease their time away from the classroom? What can be done to reduce time away from school for matches that are within a 30 minute radius?
 - As a way of helping athletes learn to manage their performance, should CHSAA consider eliminating on-court coaching?
 - Given the short season, disparate abilities of the athletes, and the lack of competitiveness, is it realistic for CHSAA to have so many regulations addressing stacking in match play?

- Should CHSAA consider complementing MaxPreps with tennis-specific services and programs provided by the USTA or UTR?

As the state's largest junior tennis program, high school tennis faces a number of challenges. In addition it also faces a number of opportunities. Hopefully industry stakeholders choose to address the issues raised in this document as a way of taking advantage of those opportunities. Ultimately, those answers will be determined by the answer to the question, "What is the purpose of Colorado high school tennis?"

Introduction and Intent

I became interested in tennis when one of my fifth-grade classmates won a tennis racquet in a drawing at the neighborhood drug store. He proudly brought the racquet to show-and-tell. He never became a tennis player, but as a result of his presentation, I signed up for city recreation tennis lessons that summer and went on to play on my junior high, high school, and college teams.

Over the years I have been fortunate to have a number of unforgettable life experiences as a result of playing and coaching tennis, platform tennis, and volleyball. This includes certification in all three sports, coaching and playing at a competitive level, serving in policy making positions on national boards, promoting these sports at the grassroots level, and pursuing formal post-secondary education in business and education. A more comprehensive background of my coaching experience can be found at <http://garyhorvath.com/about/>

This document was not commissioned by any group nor is it intended to represent the viewpoints of any organization. It was prepared to raise questions that encourage tennis industry stakeholders in Colorado and other states to continually address issues facing high school tennis so they can better meet the ever-changing needs of the boys and girls who participate in high school tennis programs.

The information in this document is based on the following:

- Observations, thoughts, and opinions from industry leaders and coaches in tennis and other sports from throughout the U.S.
- Observations, thoughts, and opinions of parents, athletes in tennis and other sports, manufacturers, and sponsors.
- Whenever possible, data analysis has been prepared. In some cases where limited samples were used, additional analysis is recommended.
- My education, industry experience, observations, thoughts, and opinions.

The tennis industry is much different in 2016 than it was when I started playing 50 years ago. Over the years there have been changes in equipment, sports and tennis specific research, training techniques, and scoring systems that have changed the way the sport is played and taught. In addition, commercialization of the sport has had both positive and negative impacts on the sport.

Today, Colorado high school tennis is the largest junior program in the state, yet it has changed very little since my initial exposure to it 40+ years ago. It has become overshadowed by USTA activities and programs at tennis clubs, country clubs, and recreation centers. In addition, there is competition from other sports and activities.

Colorado high school tennis could continue along its current path and continue to enjoy some level of success - that may be a high level of success or a low level of success. Having said that, it seems essential for the sport's stakeholders to continue to look for ways to make high school tennis an even better experience for the athletes, coaches, programs, and governing bodies.

Purpose of Colorado High School Tennis

What is the purpose of Colorado high school tennis?

Over the years I have had numerous discussions with industry leaders, coaches, tennis professionals, parents, athletes, and athletic directors about the purpose of high school tennis. These purposes vary greatly among the stakeholders. Additional discussions would likely produce other great reasons for having high school tennis programs.

The most significant purposes of high school tennis are listed below.

- Provide athletes with a team sports experience.
- Provide athletes with an opportunity to play an individual sport.
- Provide athletes with an opportunity to play an individual sport that includes team scoring.
- Maximize the number of participants rather than focus on the quality of instruction or coaching in the program.
- Provide an athletic program for students who lack the skills to play traditional team sports.
- Be a feeder system for college tennis.
- Be a program for athletes who will not play sports after high school.
- Be a feeder program for local tennis clubs, recreation programs, and USTA programs.
- Be the capstone program for players from other programs - local tennis clubs, recreation programs, and USTA programs. This perspective views high school tennis as the center of tennis for youth.
- Be a glorified intramural program.
- A program that gives junior players a different setting for playing the sport during the school year.
- Be a social activity for students who want to be with their friends outside the classroom.
- An alternative form of receiving academic credit for participation in some form of physical activity, i.e. it is a physical education class.
- Entry level programs where players learn to play a sport in a no-pressure, no-cut environment.

Comments - Purpose: All of these perceptions about the purpose of high school tennis have merit; however, high school tennis cannot be all things to all people.

- What are the primary and secondary purposes of high school tennis - as defined by high school leaders (CHSAA)?
- How can CHSAA better communicate their primary and secondary purposes for tennis programs to the principals, athletic directors, and coaches? How can they ensure that the principals, athletic directors, and coaches support the broader goals of high school tennis?
- Based on the defined primary and secondary purposes of high school tennis, what can other members of the industry do to help CHSAA better achieve their goals?
- If appropriate, how can high school tennis stakeholders work together to better integrate high school programs into the tennis industry?

Participation in Colorado High School Tennis (NFHS)

Nationally, TIA data shows that the long-term rate of growth for tennis has been less than the rate of growth in the U.S. population. In addition, the long term nominal rate of growth of the industry, measured in shipments \$\$, is below the rate of growth of the U.S. economy, as measured by the nominal GDP. The Colorado Tennis Association claims there are about 500,000 players in the state and there are roughly 25,000 USTA members in Colorado. (<http://www.colorado.usta.com/>). About 9.5% of the state plays tennis; this rate is greater than the participation rate for the U.S. It is estimated that 60,000 to 90,000 Coloradans play tennis on a regular basis. Most are adults.

A review of the NFHS data shows that:

- For the academic years 2004-2005 to 2014-2015 the number of Colorado boys high school programs fluctuated between 110 and 142 while the number of girls programs varied from 100 to 153. The most recent data shows the boys have 130 and the girls have 153 programs. The average number of players on a boys team is about 22.
- The total number of boys participants peaked at 3,061 in the 2010-2011 season. The number of girls participants peaked in 2008-2009 season at 4,901. The average number of players on a girls team is about 30.
- Total participation topped out in the 2010-2011 season. Participation is expected to increase in 2017 when programs will be added at the 3A level.

Season	Boys Teams	Girls Teams	Boys Participants	Girls Participants	Total Participants
2004/2005	110	110	2,372	4,085	6,457
2005/2006	136	140	2,651	4,265	6,916
2006/2007	114	138	2,625	4,602	7,227
2007/2008	144	144	2,752	4,601	7,353
2008/2009	142	151	2,923	4,901	7,824
2009/2010	122	146	2,942	4,530	7,472
2010/2011	140	150	3,061	4,821	7,882
2011/2012	140	150	3,002	4,675	7,677
2012/2013	124	143	2,976	4,575	7,551
2013/2014	124	143	2,876	4,437	7,313
2014/2015	130	153	2,868	4,552	7,420

Source: NFHS

Comments - Participation: Colorado high school tennis is the largest junior tennis program in the state, including USTA Junior Team Team, USTA Junior Tournaments, and seasonal USTA programs. The following questions arise regarding the program:

- Does the downward trend reflect systematic or unsystematic volatility? Is it a cause for concern? If so, what should be done to address the issues causing the unsystematic risk?
- Are these trends similar to trends in other junior programs in Colorado and the U.S.?
- A review of Colorado high school tennis participation statistics shows it has been a successful program since the late 1960s. Would increased partnerships with tennis manufacturers, distributors, and trade associations foster future success of high school tennis?
- What can be done to retain players from season-to-season?
- What can be done to attract new players to high school tennis?

Costs to Play Colorado High School Tennis

There are direct and indirect/expected costs that players incur when they choose to play high school tennis. The costs for high school tennis vary based on the district and the schools within that district.

Anecdotal evidence suggests that direct fees range from \$150 to \$200 per player and there may be discounts in some programs for families and multiple sport athletes.

In most cases the indirect or expected costs to play are much greater than the mandatory fees. A list of the most common indirect or expected costs follows:

- Players may be required to purchase uniforms and practice attire.
- Players and parents may also be expected to participate in fundraisers, i.e. contribute money.
- Purchase team pictures or additional school clothing from the spirit pack.
- Provide food for the coaches and players (15 people) at matches.
- Purchase gifts for senior players.
- Host team dinners during the season.
- Purchase gifts for the coaches at the end of the season.
- Pay for indoor court time for optional practices.

The total mandatory and indirect/expected cost to play high school tennis can be \$500 to \$600 per player per season. During the season there are 30 to 35 days totaling about 68 hours on the courts (matches and practices). To put this in perspective, the cost of playing high school tennis for one athlete is the same amount as paying for two months of a family tennis membership at a Northwest Denver country club. The total cost of playing high school tennis is about the same as paying entry fees to play in about 20 local USTA sanctioned tournaments.

These mandatory and indirect/expected costs to play high school tennis do not include optional expenses such as racquets, shoes, strings, other equipment, travel, lessons, medical expenses associated with significant injuries, and club memberships or additional indoor court time. Anecdotal evidence suggests that average annual optional expenses per player are \$4,000 to \$8,000, but they may range from \$200 to \$20,000.

Comments - Costs: The cost of playing high school tennis may deter athletes from playing the sport. At the same time it is difficult for schools to provide adequate funding for programs from fees, fundraising efforts, or sponsorships.

- Do costs to participate prevent students from playing high school tennis?
- How can schools more effectively address the issue of costs?
- Should tennis programs be altered to make them more cost effective?
- What can be done to control the mandatory and indirect/expected costs of playing high school tennis?
- Are the mandatory and indirect costs appropriate given the value of the educational, social, and athletic experiences provided by the programs?
- Should CHSAA or the schools set up foundations to support tennis and other minor sports?

Stakeholders and Investment

The primary stakeholders for high school tennis are:

- Organizations - CHSAA, USPTA,USPTR, USTA, NFHS.
- School administrators- Principals, athletic directors, and high school coaches and trainers.
- Service providers - Private tennis clubs, country clubs, parks and recreation programs, college programs, physicians, and physical therapists.
- Retail providers - Sporting goods stores and manufacturing representatives.
- Athletes.

The following estimates have been made to understand the general magnitude of some of the spending and expenses associated with Colorado high school tennis programs. These estimates are based on 7,420 athletes and 283 programs. The purpose of presenting these estimates is to show that each group of stakeholders has a significant, vested financial interest in high school tennis.

Wages and Salaries

- The total estimated salaries, including benefits, of principals at schools with tennis programs are \$25.4 million.
- The total estimated salaries, including benefits, of athletic directors at schools with tennis programs are \$24.1 million.
- The total estimated salaries of the tennis coaches are \$850,000.

Mandatory and Expected Expenses to Play

- The total estimated cost of fees paid to schools for high school tennis programs is \$1.1 million.
- The total estimated expected team expenses (photos, team gifts, team functions, and other non-tennis expenses not included in the team fee) are \$742,000.
- The total estimated expenses for each participant to purchase one new racquet per year are \$862,000 retail value and \$630,700 wholesale value.
- The total estimated expense for each participant to purchase one new pair of tennis shoes per year are \$556,500 retail value and \$371,000 wholesale value.
- The total estimated expenses for each participant to purchase practice and match clothing per year are \$1.1 million retail value and \$667,800 wholesale value.
- The total estimated amount of money spent on lessons or clinics directly related to high school tennis programs is \$705,000 million.

These estimates do not include travel by students to practices and matches, membership fees at clubs or with the USTA, year-round coaching or instruction, medical bills, or playing/tournament fees during the off-season.

Comments - Stakeholders and Investment:

Compared to the major team sports, these cumulative investments are small; however, they are significant for each of the stakeholder groups. For this reason, it is important understand the purpose of high school tennis, as earlier discussed.

Is it possible for the stakeholder groups to work together more closely to better meet the needs of the athletes in a more efficient and cost effectively manner?

Length of Colorado High School Tennis Season

In Colorado, the tennis programs for the boys are held in the fall and the programs for the girls are held in the spring. The total number of days is similar; however, the weather in the fall is usually better than the spring weather.

The girls high school season spans 65 days, which includes weekends, holidays, and spring break. A typical season includes 30-35 days of activity. The season for the boys may have a few more days of activity. These numbers may vary slightly from season-to-season and between programs.

The girls spend about 68 hours on the court, split evenly between practice and match play. The season will also be slightly longer for teams that qualify for the state tournament.

Estimated Length of Season for Colorado Girls High School Tennis Programs

Activity	Days	Percent	Hours	Percent
Matches and tournaments	15	23.1%	34.50	50.9%
Practice	19	29.2%	33.25	49.1%
Days off - weekends/spring break	23	35.4%		
Inclement weather/school days off	8	12.3%		
	65	100.0%	67.75	100.0%

Note: A best case scenarios assumes there are 20 matches per player and each individual match and practice is assumed to be 1.75 hours. This assumes there are no planned activities on inclement weather days or on days when school is not in session.

Comments - Length of Season: The weather is often an inconvenience to participants in spring sports. New Mexico has wind, Oregon has rain, and Colorado has snow and cold. Would extending the season for spring sports into June be a feasible option?

- If the length of the season was extended, would this conflict with USTA and commercial club programs?
- Could changes be made to current formats to reduce the inconvenience caused by inclement weather? For example, should competition include multiple teams and be similar to club volleyball tournaments?
- Could the times when matches are played be altered to address weather-related challenges?
- Could more matches or tournaments be played on weekends?
- Could matches be played during dead-time at indoor clubs?

Ability Level of Colorado High School Players

This section provides an estimate of the number of high school players who are USTA members and a breakdown of high school players by their ability. The assumptions and the calculation of these estimates follow.

Each year the CTA ranks juniors based on their participation in tournaments. Over the past two years data from their annual rankings shows that CTA has ranked about 110 boys in the satellite/challenger divisions (14U, 16U, and 18U) and 175 players in the open divisions. On average there have been about 75 girls ranked in the satellite divisions and 115 girls ranked in the open division. There is some overlap in these rankings because some players are ranked in multiple age and ability categories.

Estimate of Colorado high school players who are USTA members - Based on the above data, the following assumptions follow:

- There are 225 unique boys and 150 girls with CTA rankings in the 14, 16, and 18 divisions.
- If these ranked players with USTA memberships represented half of the competitive players there would be 450 competitive-level boys and 300 competitive-level girls in high school programs.
- Approximately 10% of the boys and girls high school tennis players are USTA members.

Estimate of Colorado high school girl tennis players by ability - Based on the above assumptions, the estimated number of players at each level for the girls programs are:

- 300 competitive players - they play at least 350 hours per year and typically have access to indoor courts, private coaches, or they are part of organized programs run by certified professionals. Most likely they are USTA members.
- 600 semi-competitive players - they may play up to 100 hours outside the high school season, or about 175 hours per year. They may play in club or recreation programs and usually do not have a regular private coach.
- 3,600 novice players - they may play up to 100 hours per year, which means they may play 25-30 hours per year outside the high school season.

Match and tournament results indicate these players are not evenly divided between the CHSAA teams.

Level	Number	Percent
Competitive (Primarily USTA open/some USTA challenger)	300	6.7%
Semi-competitive (Some USTA open/primarily USTA challenger)	600	13.3%
Novice players (Primarily USTA future/some USTA challenger)	3,600	80.0%
Total	4,500	100.0%

Comments - Ability Level of Players: This analysis shows there are three distinct groups of players with very different needs.

- What is the purpose of high school tennis? What can be done to better meet the needs of each of these 3 distinct groups of players during and outside the high school season?
- Should schools set up special programs for novice players outside the season?
- How should programs/coaches deal with athletes who have year-round private coaches?
- Would the athletes be better served if they were USTA members?
- What can high school programs do to support the programs in commercial programs?

Match Competitiveness of Colorado High School Tennis

Match play for the 2016 Girls Front Range League (FRL) was analyzed to evaluate the competitiveness and level of play (See Appendix - Tables I and II). Key findings are:

- There is a wide range of abilities in the FRL.
- The league is dominated by 3 teams.
- Only a handful of teams have 11 strong players. Some have one or two strong singles players and others have good doubles teams.
- It is estimated that 55% to 60% of the sets played are won by scores of 6-0, 6-1, and 6-2.

In summary, the ability levels of athletes are not evenly distributed between teams.

Match play for the 2016 CHSAA Girls State 5A tournament was analyzed to evaluate the competitiveness of play (See Appendix - Tables III, IV, V, and VI). Key findings are:

- *Number of State Tournament Qualifiers (Teams)* - Thirty three teams had athletes who qualified for the 5A state tournament. A similar number of 4A teams qualified players for the state tournament. In other words, approximately 40% to 45% of the total teams had players who qualified for the 4A and 5A state tournaments.
- *Number of State Tournament Qualifiers (Players)* - In the 5A tournament there were 48 singles players and 128 doubles players - a total of 176 athletes. Assuming the number of 4A qualifiers was similar then about 8% of all players qualify for their state tournaments each year.
- *State Singles* - In the 2016 5A state tournament, 85% of the singles matches were won in two sets and 71% of the sets had scores of 6-0, 6-1, or 6-2. All of the first round singles matches were won in 2 sets and 93% of the playback matches were won in two sets.
- *State Doubles* -The 2016 5A state doubles tournaments were more competitive than the singles tournaments; 69% of the matches were won in two sets. Forty-three percent of the sets were won by scores of 6-0, 6-1, 6-2 and 41% were won by scores of 6-4, 7-5, or 7-6.
- *State Tournament Overall* - Three to five teams dominated the 2016 5A state tournament. A formal analysis of the 4A tournament was not prepared; however, an informal review suggests that a handful of teams dominated the 2016 4A tournament.
- Twenty-one teams and 60 athletes scored team points in the 5A tournament.

Match Competitiveness: Based on this small set of data analysis, a case can be made that many high school matches are "not competitive."

- Should CHSAA realign teams so more matches were competitive?
- Is it appropriate that 40% to 45% of the programs and 8% of the athletes qualified for state?

The following questions were raised in discussions about making high school tennis more competitive:

- Should CHSAA adopt the UTR as a rating system and establish ability divisions within each school category (4A and 5A)?
- Should schools be allowed to have multiple teams in league play similar to what is done in club volleyball? For example, should programs with more than 60 athletes be allowed to have multiple teams in league play?
- Should CHSAA alter the match format to allow athletes to play both singles and doubles?
- Should programs host more special all-day events for JV and players on the no-cut roster?
- Should CHSAA include a true team tournament as part of the state championships?

Of these ideas, the most frequent discussions focused on increasing in the number of matches during the season, allowing players to play singles and doubles (at least during the regular season), and adding a true team championship event at the state tournament.

Match Format for Colorado High School Tennis

For at least 40 years Colorado high school tennis has been an individual sport with team scoring. Match play has consisted of 3 singles matches and 4 doubles matches. CHSAA regulations have provided disincentives for players to switch between singles and doubles. During a team match, a point is awarded for each individual match won. Eleven players are required to play each match.

Team points are awarded at post-season tournaments. During the post season points are awarded on a weighted-basis, i.e. better players earn more points for their team than weaker players. Because of the manner in which points are awarded, these points may or may not accurately determine the best team in the state. Two examples are cited:

- Fairview scored the most team points at the 2016 state championships, yet they only played two matches against runner-up Cherry Creek during the tournament. Those head-to-head matches were split.
- In other instances, programs with losing records during the season finished in the top 10 because they had 1 or 2 good singles players who score a lot of points.

Comments - Format: An informal sample of industry stakeholders suggests that the format of matches should be reviewed.

- Is the 3 singles/four doubles match format still the best format for Colorado? Are there other formats that would better meet the needs of the players?
- Should a team state championship be held for the top teams in each league or conference?
- Should a different format be held that better meets the needs of the athletes in the three ability levels described earlier?
- Some players play four years and only play singles or doubles. Can a different format allow athletes to play singles and doubles - at least during the season?
- Can a different format be used that allows matches to be completed in a shorter time frame? Should no-ad scoring and 3rd set tiebreakers be used to make it easier to complete matches prior to daylight savings time? Should schools be required to have lights on their courts?
- Could matches be played during down times at indoor clubs?
- Would it be acceptable to have a format where multiple teams competed on a weekend and used a format similar to club volleyball?
- Could more tournaments be held that increase match play and possibly decrease program costs?
- What are the best practices for match play at post-season competition from other states?
- Should JV and no-cut programs utilize different formats for match play?
- This past season, would Fairview have defeated Cherry Creek if there had been a true team championship?
- Is it appropriate for teams that only have one or two good players to finish high in the regional state and team rankings?

Number of Courts on Colorado High School Campuses

Every school has a different number of courts on campus. Many schools utilize public courts because they do not have courts or they have an insufficient number of courts for their programs. Understanding court limitations may be useful in evaluating the feasibility of the current format and the maximum number of athletes that programs can support.

The following sample of high schools shows the most common number (mode) of courts on campus was 6. Of these 26 programs, 12 schools had 6 courts, 3 schools had more than 6 courts and 11 schools had fewer than 6 courts. It is reasonable to think that a program with 6 courts could realistically accommodate 22 to 25 athletes. That would equate to 1 varsity and junior varsity team. Obviously, schools with programs larger than this are required to use courts at multiple facilities and rely on their top players to receive instruction from private coaches.

The number of courts was determined by viewing aerial maps of the schools in Google (April 26, 2016). The 4A high schools are represented by Region 5 and the 5A high school are represented by the Front Range League. The number of courts on campus varied from 0 to 12.

Estimated Number of Courts on Campus							
0	3	4	5	6	8	9	12
Front Range League 5A							
	Boulder	Legacy	Poudre	Fort Collins	Fairview		Loveland
		Monarch		Fossil Ridge			
		Mountain Range		Greeley West			
		Broomfield		Horizon			
				Rocky Mountain			
Region 5 4A							
Holy Family		Skyline		Alexander Dawson		Berthoud	
Peak to Peak		Standley Lake		Niwot			
Skyview				Centaurus			
				Erie			
				Frederick			
				Longmont			
				Silver Creek			

Comments - Courts: Key questions regarding the number of courts follow:

- Many high school programs are effective at leveraging scarce resources for practices and match play when they don't have a sufficient number of courts. What are their best practices?
- Should CHSAA and the high school programs consider shorter individual and team match formats as a way of completing more matches?
- Should the format of Colorado high school tennis matches be aligned with the number of courts at most facilities, i.e. a maximum of 6 matches should be played instead of 7? Would this make it more likely that matches could be completed in a shorter amount of time which would reduce the impact of weather and darkness?
- What can be done to encourage the construction of public/private facilities or facilities funded by local governments and the school system?
- What can schools do to encourage better use of their courts - thus helping justify their programs?

Quality of Colorado High School Coaches

The USPTA recently established a membership category for high school programs. When putting together this category the committee polled coaches and teaching professionals across the country and found the biggest problem in high school tennis was unqualified coaches. Anecdotal evidence from parents, players, and teaching professionals would support the findings of the USPTA. These discussions indicate there are a number of reasons for dissatisfaction with high school coaches ranging from lack of knowledge about the sport, poor communication and management, lack of knowledge about relevant training and how to coach during practice and during a match, and coaches making too many rules that don't add value to their programs. The USPTA committee also discovered that 17 states had high school coaches associations. Texas is reported to have over 500 coaches in their trade association (<http://www.texasstenniscoaches.com/>).

Based on the most current NFHS data, there are 153 girls high school programs and 130 boys high school programs in Colorado. As a point of reference, the USPTA Find-a-Pro website indicated there were 253 certified Colorado professionals on May 14, 2016. In other words, there is a small pool of tennis professionals and coaches in Colorado.

An unscientific sample of high school coaches shows that 2 of 23 coaches are currently USPTA members, or about 10%. The sample included Front Range League head coaches, as identified by Max Preps, and the CHSAA tennis committee. Most likely this percentage is representative of all high school coaches, i.e. most of them lack the preferred credentials to teach tennis in the private sector.

Historically, the most successful Colorado High School programs typically have had certified professionals on their staff or certified professional are informally affiliated with the program. In other cases many of the top players have private coaches who are certified professionals.

For at least 35 years USPTA Intermountain has supported Colorado high school tennis by providing instructional and league programs for juniors. In addition they have conducted workshops for CHSAA tennis coaches prior to the start of the girls season. The consistency and content of these instructional programs and workshops has varied based on the leadership of USPTA Intermountain.

Comments - Coaches. The following questions address the quality of high school coaching:

- What are the minimum skills necessary to be a high school coach? Is certification necessary?
- If desired, would high school coaches benefit from having mentors or "consulting coaches" from local clubs? Will high school programs take advantage of the new USPTA program?
- Should high schools hire coaches with weak credentials to avoid not having a tennis team or should they wait until they find a qualified coach?
- Knowledge of CHSAA regulations is critical. What type of training/education/certification do the coaches need beyond knowledge of the CHSAA regulations?
- Who is the best group to provide additional training information for high school tennis coaches? CHSAA? USPTA? USPTR? USTA?
- Why have only 17 states started high school coaches associations? Should the high school coaches start a Colorado high school coaches association?
- Will Colorado high school coaches sign up for the USPTA high school coaches program?

Expectations of Colorado High School Coaches

Forty-five years ago high school tennis programs were often lucky to find people to fill coaching positions. This was prior to the tennis boom, there were limited coaching resources, the USPTA had fewer than 2,500 members and there were less than 10 million players in the United States.

Coaches often included chemistry teachers, bus drivers, and wrestling coaches who likely had a limited knowledge of tennis. The top teams had the coaches with the best drill books.

In 2016 the tennis industry is much larger and coaching information is more readily available than 45 years ago. Expectations for high school coaches have been raised by education and/or certification programs offered by the USPTA, USPTR, USTA, WTA, ATP, and ITF.

Just as parents expect to have quality teachers in the classroom, they expect to have quality coaches on the court. Over the years the USPTA, USPTR, and USTA have raised the bar for "qualified coaching" with their education and certification programs. In addition, parents have come to expect coaching that is similar to certified professionals as costs to participate in high school tennis programs have risen.

In addition to having a solid understanding of tennis, high school coaches are expected to be knowledgeable about communications, event programming, legal aspects of coaching, mental toughness, periodization, performance-based goal setting, physical conditioning, policies (school and CHSAA), relevant training, sports nutrition, sports psychology, sports research, theories of learning, and much more. Anecdotal evidence suggests that most high school coaches enjoy the sport and the athletes, but lack solid knowledge of these topics. Ironically, many of the current high school coaches would have been solid coaches based on the standards of the 1970s, but they may be weak coaches based on 2016 standards because the expectations for a quality coach have been raised significantly.

Comments - Expectations of Coaches. The following questions address issues related to the expectations of high school coaches:

- Is it appropriate for parents to have high expectations for high school coaches?
- What percentage of high school coaches meet these high expectations?
- Is it appropriate to compare high school coaches to private sector coaches?
- How can high school coaches efficiently learn about the many topics listed above? Since many of these topics are general education or sports topics, can CHSAA provide an online library of these topics for all their coaches and/or should CHSAA partner with sports-specific trade associations to share their education information that is in the public domain?
- How closely can coaches align their programs with the academic missions of their schools?
- The quality of relevant training in practice is important. (See Table VII in Appendix - Player Contacts). How can coaches be taught to increase the amount of relevant training in practice?
- The importance of properly motivating athletes is important. How can athletic directors and coaches be encouraged to motivate their athletes with intrinsic motivation? (See Table VII in Appendix - Motivate Athletes to Attend Practice.
- What information do high school coaches think they need to become better coaches?
- What qualifications are needed for a person to coach a program that lasts 65 days and includes mostly novice players? If most high school coaches are doing a good job, is it necessary to change the perception that they are not qualified?

Building a Community for Colorado High School Programs

There may be a dozen teams in the state that have developed a tradition of winning. Part of that tradition is having a supportive community that includes alumni, parents, tennis professionals, and members of the local tennis community.

Comments - Community: Schools that value all the sports in their athletic programs develop traditions and a "community" for their sports. In many cases these "communities" extend beyond the booster club.

- What are best practices for developing traditions and tennis communities around high school programs?
- What are the best practices for retaining players for four years?
- What can be done to encourage coaches to use the high school courts during the offseason for activities that will support their high school program and allow them to generate extra revenue for the coach or the program?
- What do high school coaches need to do to develop a relationship with the full-time coaches of the top players on their team? How can high school coaches support the athletes who have year-round coaches? How can this support be parlayed into support for the high school program?
- How can programs be organized for the semi-competitive or novice players that will strengthen participation in local high school programs?
- How can the coaches work more closely with the local clubs in their area? Is it possible to hold practices or matches at indoor facilities during their non-peak hours?
- What ideas do the tennis coaches and school leaders have for strengthening their local tennis communities?

In some instances it may be beneficial for schools or districts to work together to develop a regional community.

- What are best practices for schools working together in offseason practice sessions?
- How can coaches build a database of local players and encourage competitive match play outside the season?
- In Oregon and Texas, coaches host a tennis activity called the Blast to create and maintain interest in high school tennis on a year-round basis. Would it make sense for coaches to work with neighboring schools to host summer events similar to the Blast that are catered to semi-competitive and novice players at the various levels?
- What can be done on a regional basis to support activities that benefit the competitive players?
- Should coaches host regional introductory activities or promote existing programs during the offseason so the high school teams aren't tennis 101 programs?
- What CHSAA regulations or guidelines can be added or modified to encourage the development of stronger local and regional tennis communities?

Expanding Relationships with Allied Organizations

There are opportunities for CHSAA and high school tennis programs to work more closely with the industry stakeholders.

The most notable allied organizations include the USTA, USPTA, USPTR, and NFHS. Colorado is also fortunate to have the USOC Training Center located in Colorado Springs. In addition there are coaching and education organizations, sponsors, booster clubs, industry manufacturers, and service providers that provide support for high school tennis.

From an economic perspective, the outlook for Colorado points to continued strong population growth for at least the next decade. Barring a recession, that will translate into continued job growth and increased demand for tennis. Unfortunately, there are concerns that K-12 funding may increase at a slower rate than the state's economic growth.

Comments - Allied Organizations: Key questions follow:

- What allied organizations should high school programs consider aligning with?
- How would alliances between high school programs and industry stakeholders benefit both parties?
- Should the high school coaches form their own coaching association or should they more closely align with the USPTA, USPTR, or USTA efforts to provide more quality coaches?
- How can high school tennis programs benefit from having the USOC and various governing bodies for other sports located in Colorado Springs?
- Should high school programs adopt the Universal Tennis Rating program and use it for setting lineups and seeding for tournaments?
- Should CHSAA work with the CTA to establish a low-cost/no-cost USTA high school membership for getting high school players more involved in the sport?
- How can the wisdom of the veteran coaches or professionals who have directly or indirectly had strong ties with high school tennis be integrated into the continued development of high school tennis?
- Should parents formally have input into high school tennis programs?
- Should CHSAA work with allied organizations to develop a foundation to ensure that Colorado's minor sports can be properly funded in the years ahead? Would it be appropriate for such a fund to be used for court construction and maintenance, indoor court time, or training programs for coaches?
- How will changes in economic conditions affect state funding for schools and athletic programs? If there is an economic downturn or insufficient funding, will it be necessary for programs to create stronger relationships with allied organizations or sponsors?

CHSAA Regulations

This section includes thoughts and questions about the following CHSAA regulations:

- Health of players/academics.
- Match tracking.
- Stacking/substitutions.
- On-court coaching.

Comments - Regulations - Health/Academics/Attendance

One of CHSAA's many objectives is the oversight of the health and wellness of the high school athletes in their programs. The following questions address that from health and academic perspectives.

- Has there been a need to review or strengthen CHSAA regulations 1710 and 1780, regarding eligibility and physical examinations?
- Are the provisions for the submission of conditional physical examinations adequate?
- Should athletes be required to attend practice when they are injured?
- Do all schools have policies for determining when injured players should return to practice and what is required for them to return to practice? Are these policies adhered to?
- Should guidelines be set for the amount of time students are out of the classroom for competition at nearby schools?
- Is it necessary to miss classes when matches are within a 30 minutes distance of the school?
- Athletes may be forced to miss 6th and 7th hour classes 4 to 8 times during a 2 to 3 week period late in the season. Is that too much?
- There are situations when teams play matches on 3 consecutive days. In an effort to reduce injuries and missed classes, should guidelines be set to restrict the number of consecutive school days that teams can play matches?

Comments - Match Tracking

The concept of MaxPreps is sound because it covers all or most CHSAA sports. From the tennis perspective its value is diminished because the scores are often inaccurate and the rankings are somewhat meaningless.

- Would it make sense to align with the USTA or other tennis organizations so match play could be recorded in their system?
- Is it realistic to expect any rating or ranking system to accurately rank players in about 15 matches played over a 65 day period?
- Should USTA rankings or their process be used to complement or replace information from MaxPreps?
- Should high school players be given junior UTR, NTRP, or Tencap ratings? Should these rankings be allowed for purposes of establishing lineups and tournament seedings?

Comments - Stacking

It appears that CHSAA has had a number of thoughtful discussions in the development of multiple anti-stacking regulations. At the same time, it is obvious that stacking occurs on a regular basis, i.e. the current rules don't prevent it. Stacking will be an issue for the following reasons:

- There is no foolproof way of establishing a lineup and there is not enough time during the season to conduct challenge matches.
- Elaborate round robins and documented match play do not provide results that prevent stacking.
- Coaches may provide paperwork to show they have complied with stacking rules, but those papers are often falsified.
- Some players get injured and others improve at different rates over the season. It is possible for them to move several positions on a team ladder during the season.
- The substitution rule is a form of stacking.
- Teams may stack as a way of getting more points for a certain position.

The following questions relate to stacking.

- Is it possible to eliminate or even control stacking? How much effort should be spent trying to control it?
- Can stacking be eliminated by altering the match format? For example, could the 3 singles players compete against each other in dual match competitions? (#1 vs. #2, #1 vs #3, 2 vs. #3); the competition could be a set or pro set? Similarly, could the top 2 doubles teams could play against each other and the bottom two teams could play?
- What other formats could be used to minimize stacking? For example, could all 3 singles positions be combined into one bracket for the league, region, and state tournaments?

Comments - On Court Coaching

On-court coaching is allowed in Colorado high school tennis on changeovers. In principle it makes sense, but realistically it is counterproductive for the following reasons:

- Most high school coaches do not know how to coach a player on changeovers. Many of the competitive players ignore what their coaches say and play better when they are not interrupted.
- Very seldom does on-court coaching have any impact on the outcome of the match.
- The constant coaching interruptions are disruptive to the flow of a match and increase the time of a match.
- High school tennis is boring to watch when coaches make themselves the focus of the tennis match, rather than letting the athlete be the center of attention.
- In practice, players should be coached to think for themselves on the court, manage mistakes, and develop strategies based on their skills. Matches should be a place where the athletes demonstrate what they have learned in practice.

The following questions relate to on-court coaching:

- What is the justification for allowing on-court coaching?
- How does on-court coaching benefit the athletes?
- Should CHSAA eliminate on-court coaching?

Summary of Comments

The purpose of this document is to raise questions that will encourage industry stakeholders to address the issues related to challenges and opportunities facing high school tennis programs. The intended outcome is that students will be able to participate in tennis as a high school sport for many years to come. The key topics are listed below.

- **Purpose** -What is the purpose of Colorado high school tennis?
- **Participation** - Participation in Colorado high school tennis is trending downward. Is this systematic or unsystematic volatility?
- **Costs** - Do students choose not to play high school tennis in Colorado because of the costs?
- **Stakeholders and Investment** - Is it possible for the stakeholder groups to work together more closely to better meet the needs of the athletes in a more efficient and cost effectively manner?
- **Length of the Season** - How can Colorado high school tennis programs get more meaningful competition during their short season?
- **Levels of Play** - How can high school programs better meet the needs of the 3 distinct groups of athletes?
- **Match Competitiveness** - Does it matter that most Colorado high school matches are not competitive?
- **Format** - From a competitive and academic perspective, Is Colorado high school tennis using the most appropriate match format?
- **Number of Courts** - What can Colorado high schools do to better utilize their courts year-round and match the number of courts to competition and the size of their high school program?
- **Quality of Coaching** - Right or wrong, the biggest criticism of high school tennis programs is the quality of coaching. Is this an accurate perception?
- **Expectations of Coaches** - What qualifications are necessary for someone to coach a program than lasts 65 days and includes mostly novice players?
- **Community** - What can be done to strengthen the tennis communities that support high school programs and the growth of the sport?
- **Relationship with Allied Organizations?** Should Colorado high school coaches start their own coaching association? If appropriate, should they align with allied organizations?
- **CHSAA regulations** - CHSAA provides an invaluable service to high school athletes by overseeing, interpreting, and seeking compliance with the CHSAA Bylaws. To that point, questions can be raised about the following areas of oversight?
 - Are there additional ways CHSAA can provide guidelines to better protect the health and well-being of athletes - academically and athletically on and off the court?
 - Are there ways that tennis teams can increase their number of matches and decrease their time away from the classroom? What can be done to reduce time away from school for matches that are within a 30 minute radius?
 - As a way of helping athletes learn to manage their performance, should CHSAA consider eliminating on-court coaching?
 - Given the short season, disparate abilities of the athletes, and the lack of competitiveness, is it realistic for CHSAA to have so many regulations addressing stacking in match play?
 - Should CHSAA consider complementing MaxPreps with tennis-specific services and programs provided by the USTA or UTR?
- **Other issues** - A discussion with a group of stakeholders would produce additional topics that should be discussed.

As the state's largest junior tennis program, high school tennis faces a number of challenges. In addition it also faces a number of opportunities. Hopefully industry stakeholders choose to prioritize the issues raised in this document along with other issues they think are important as a way of addressing challenges and taking advantage of opportunities.

Appendix - Competitiveness of Front Range League (Tables I and II)

Table I shows the rank order and points won for teams in the Front Range League Tournament (FRLT). In addition it shows the season win-lost records for FRLT participants. Finally it shows how many positions each FRLT teams qualified for state at their respective regional tournaments. Teams are sorted based on their FRLT rank order. Key findings are:

- The combined season record for the teams in the league was 70-53. Obviously FRLT teams play weaker teams from outside the conference to strengthen their win-loss records.
- Seven of the FRLT teams had winning records and five had losing records for the season.
- There is not a strong correlation between the performance of a team during the season and their finish at the FRLT. For example, the fourth place finisher for the FRLT won two matches during the season. They finished fourth in the FRLT competition on the strength of 2 strong singles players. This suggests the FRLT ranking are not a reliable indicator of the true strength of the teams. These results make the case that high school tennis is not a team sport, but an individual sport with team scoring.
- At the regional tournaments, 10 of the FRLT teams qualified positions for the state tournament. This is noted by the 1st and 2nd place finishes.
- Two teams qualified all their positions for state and 1 team qualified 6 positions and had an alternate. The top 3 teams earned 72.8% of the points awarded in the FRL tournament. This suggests the FRLT is not a competitive event.

Front Range League Tournament Ranking and Points, Season Wins/Losses, State Qualifiers - Table I

FRLT Rank	School	FRLT Points	Season Wins	Season Losses	1S	2S	3S	1D	2D	3D	4D
1	Fairview	93	11	0	1st	1st	1st	1st	1st	1st	1st
2	Fossil Ridge	53	8	1	1st	1st	1st	1st	2nd	1st	1st
3	Poudre	50	6	4	1st	1st	1st	2nd	Alt	2nd	1st
4	Mountain Range	22	2	8	1st	1st	Alt				
5	Broomfield	18	6	4		2nd		2nd	Alt		Alt
6	Boulder	13	6	3	1st					Alt	Alt
7	Fort Collins	6	4	6		2nd			Alt		
7	Monarch	6	7	3			2nd		1st		Alt
9	Greeley West	3	10	3	2nd		2nd	Alt		Alt	
9	Loveland	3	3	8	Alt						
11	Legacy	2	4	6				Alt	2nd		
12	Horizon		3	7							

source: MaxPreps, chsaa.now. Note: State qualifiers finished 1st or 2nd. Alternates are also listed.

Table III (next page) summarizes the records for each of the positions for Fairview, Broomfield, and Legacy. These 3 teams finished 1st, 5th, and 11th in the FRLT. The data shows the match scores, sets won, and the margin of the sets won. Set scores of 0-2 = 6-0, 6-1, 6-2; set scores of 3 = -6-3; set scores of 4-6=6-4, 7-5, 7-6. About 64% of the sets played by these 3 teams were not competitive. Non-competitive sets include set scores of 6-0, 6-1, 6-2 and half of the 6-3 sets.

Appendix - Competitiveness of Three Schools from Front Range League (Top, Middle, Bottom) -Table II

	Fairview		11		0		1st in Front Range League				
	Match Score		Sets Won		Fairview			Opponent Set Scores			
	Fairview	Opponent	Fairview	Opponent	0-2	3	4-6	0-2	3	4-6	
s1	10	1	20	4	13	4	3	2	0	2	
s2	10	1	21	5	13	5	3	0	1	4	
s3	11	0	22	2	17	4	1	0	0	2	
d1	11	0	22	1	11	5	6	0	0	1	
d2	10	1	20	3	15	1	4	1	1	1	
d3	7	4	16	10	5	3	8	5	1	4	
d4	8	3	18	6	11	5	2	2	0	4	
Total	67	10	139	31	85	27	27	10	3	18	
Pct	87.0%	13.0%	81.8%	18.2%	50.0%	15.9%	15.9%	5.9%	1.8%	10.6%	

	Broomfield		6		4		5th in Front Range League				
	Match Score		Sets Won		Broomfield Set Scores			Opponent Set Scores			
	Broomfield	Opponent	Broomfield	Opponent	0-2	3	4-6	0-2	3	4-6	
s1	4	6	8	12	3	1	4	11	1	0	
s2	5	5	12	11	7	1	4	7	0	4	
s3	3	7	9	13	5	2	2	6	5	2	
d1	8	2	16	8	10	2	4	2	3	3	
d2	9	1	18	4	13	0	5	2	0	2	
d3	6	4	15	10	8	0	7	5	2	3	
d4	7	3	14	6	12	1	1	2	1	3	
Total	42	28	92	64	58	7	27	35	12	17	
Pct	60.0%	40.0%	59.0%	41.0%	37.2%	4.5%	17.3%	22.4%	7.7%	10.9%	

	Legacy		4		6		11th in Front Range League				
	Match Score		Sets Won		Legacy Set Scores			Opponent Set Scores			
	Legacy	Opponent	Legacy	Opponent	0-2	3	4-6	0-2	3	4-6	
s1	3	7	9	14	4	2	3	9	1	4	
s2	5	5	10	10	7	0	3	6	3	1	
s3	4	6	14	9	6	3	5	3	3	3	
d1	5	5	9	12	6	2	1	6	2	4	
d2	6	4	16	8	7	3	6	4	1	3	
d3	3	7	7	15	5	1	1	8	3	4	
d4	5	5	12	12	8	2	2	5	3	4	
Total	31	39	77	80	43	13	21	41	16	23	
Pct	44.3%	55.7%	49.0%	51.0%	27.4%	8.3%	13.4%	26.1%	10.2%	14.6%	

Source: MaxPreps Note: Set scores of 0-2 = 6-0, 6-1, 6-2; set scores of 3=-6-3; set scores of 4-6=6-4, 7-5, 7-6.

Appendix - Competitiveness of Three Schools from Front Range League (Top, Middle, Bottom) - (Continued)

Comments

The following comments are based on the season results for the 1st, 5th, and 11th place teams in the Front Range League. Their ranking is based on their finish at the FRL tournament.

Fairview won:

- 100% of its team matches
- 87% of its individual matches
- 82% of its sets played
- Each of the 7 positions had winning records with the most losses being at the number 3 and 4 doubles position.

Broomfield won:

- 60% of its team matches
- 60% of its individual matches
- 59% of its sets played
- Each of the 4 doubles positions had winning records.

Legacy won:

- 40% of its team matches
- 44% of its individual matches
- 49% of its sets played
- Only the #2 doubles position had a winning record.

An axiom of the NTRP is that "matches are not competitive" when there is more than one service break (0-2). "Matches are competitive" when there is one service break (4-6). Matches with a set score of 6-3 may have one or two service breaks. For purposes of this analysis, it was assumed that half the 6-3 sets were competitive and half were not.

An analysis of the sets played by Fairview follows:

- 50% of the sets won and 6% of sets lost were by scores of 6-0, 6-1, 6-2.
- 16% of the sets won and 2% of sets lost were by scores of 6-3.
- 16% of the sets won and 11% of the sets lost were by scores of 6-4, 7-5, 7-6.
- 65% of the sets played were not competitive.
- The #3 singles position had the highest number (17) of 0-2 sets while the #3 doubles position won the lowest number (5) of 0-2 sets.

An analysis of the sets played by Broomfield follows:

- 37% of the sets won and 22% of the sets lost were by scores of 6-0, 6-1, 6-2.
- 5% of the sets won and 7% of the sets lost were by scores of 6-3.
- 17% of the sets won and 11% of the sets lost were by scores of 6-4, 7-5, 7-6.
- 65% of the sets played were not competitive.
- The #1,2,4 doubles position had the highest number of 0-2 sets while the #1 and #3 singles position won the lowest number of 0-2 sets.

An analysis of the sets played by Legacy follows:

- 27% of the sets won and 26% of the sets lost were by scores of 6-0, 6-1, 6-2.
- 8% of the sets won and 10% of the sets lost were by scores of 6-3.
- 13% of the sets won and 25% of the sets lost were by scores of 6-4, 7-5, 7-6.
- 62% of the sets played were not competitive.
- The #2 and 4 doubles position and the #2 singles position won the highest number of 0-2 sets.

Appendix - Competitiveness of Colorado State 5A Tournament (Tables III, IV, V, and VI)

This section analyzes scores from the 2016 5A Singles State Tournament. Key findings from Tables III and IV are:

- 85% of the singles matches and 69% of the doubles matches were decided in 2 sets.
- 77% of singles sets and 50% of doubles sets were not competitive.

2016 5A Singles -Table III

	Sets Played by Set Score				Sets Played in Match	
	0,1,2	3	4,5,6	Total Sets	2 sets	3 sets
#1 singles						
1st Round	14	1	1	16	8	0
Quarters	5	2	4	11	1	3
Semis	2	1	3	6	0	2
Finals	1		1	2	1	
Playbacks	7	4		11	4	1
Total	29	8	9	46	14	6
#2 singles						
1st Round	13	1	2	16	8	0
Quarters	6	1	2	9	3	1
Semis	3	1		4	2	0
Finals	2			2	1	
Playbacks	6	2	2	10	5	
Total	30	5	6	41	19	1
#3 singles						
1st Round	13		3	16	8	0
Quarters	8			8	4	0
Semis	3	1	1	5	1	1
Finals				0		1
Playbacks	6	3	1	10	5	
Total	30	4	5	39	18	2
Singles						
1st Round	40	2	6	48	24	0
Quarters	19	3	6	28	8	4
Semis	8	3	4	15	3	3
Finals	3	0	1	4	2	1
Playbacks	19	9	3	31	14	1
Total	89	17	20	126	51	9
	70.6%	13.5%	15.9%		85.0%	15.0%

Source: CHSAAnow. Note: Set scores of 0-2 = 6-0, 6-1, 6-2; set scores of 3=-6-3; set scores of 4-6=6-4, 7-5, 7-6.

Appendix - Competitiveness of State Tournament - Doubles

This section analyzes scores from the 2016 5A Doubles State Tournament.

2016 5A Doubles - Table IV

	Sets Played by Set Score				Sets Played-Match	
	0,1,2	3	4,5,6	Total Sets	2 sets	3 sets
#1 doubles						
1st Round	9	4	5	18	6	2
Quarters	4		5	9	3	1
Semis			6	6	0	2
Finals		1	1	2	1	
Playbacks	7		4	11	4	1
Total	20	5	21	46	14	6
#2 doubles						
1st Round	8	4	6	18	6	2
Quarters	3	1	5	9	3	1
Semis	2		4	6		2
Finals	1		1	2	1	
Playbacks	3	2	5	10	5	
Total	17	7	21	45	15	5
#3 doubles						
1st Round	8	7	4	19	5	3
Quarters	4	1	4	9	3	1
Semis	1	2	2	5	1	1
Finals			2	2	1	
Playbacks	8	1	3	12	3	2
Total	21	11	15	47	13	7
#4 doubles						
1st Round	9	3	7	19	6	2
Quarters	4	1	5	10	2	2
Semis	1		3	4	2	0
Finals	1	1		2	1	
Playbacks	6	3	3	12	2	3
Total	21	8	18	47	13	7
Doubles						
1st Round	34	18	22	74	23	9
Quarters	15	3	19	37	11	5
Semis	4	2	15	21	3	5
Finals	2	2	4	8	4	0
Playbacks	24	6	15	45	14	6
Total	79	31	75	185	55	25
	42.7%	16.8%	40.5%		68.8%	31.3%

Appendix - Competitiveness of State Tournament - Totals for Singles and Doubles

This section summarizes scores from the 2016 5A singles and doubles. Key findings are that:

- 76% of all matches were won in two sets.
- 62% all sets were not competitive.

2016 5A Singles and Doubles - Table V

Singles	Sets Played by Set Score				Sets Played in Match	
	0,1,2	3	4,5,6	Total Sets	2 sets	3 sets
1st Round	40	2	6	48	24	0
Quarters	19	3	6	28	8	4
Semis	8	3	4	15	3	3
Finals	3	0	1	4	2	1
Playbacks	19	9	3	31	14	1
Total	89	17	20	126	51	9
	70.6%	13.5%	15.9%		85.0%	15.0%
Doubles	0,1,2	3	4,5,6	Total Sets	2 sets	3 sets
1st Round	34	18	22	74	23	9
Quarters	15	3	19	37	11	5
Semis	4	2	15	21	3	5
Finals	2	2	4	8	4	0
Playbacks	24	6	15	45	14	6
Total	79	31	75	185	55	25
	42.7%	16.8%	40.5%		68.8%	31.3%
Total	0,1,2	3	4,5,6	Total Sets	2 sets	3 sets
1st Round	74	20	28	122	47	9
Quarters	34	6	25	65	19	9
Semis	12	5	19	36	6	8
Finals	5	2	5	12	6	1
Playbacks	43	15	18	76	28	7
Total	168	48	95	311	106	34
	54.0%	15.4%	30.5%		75.7%	24.3%

Source: CHSAAnow.

Note: Set scores of 0-2 = 6-0, 6-1, 6-2; set scores of 3=-6-3; set scores of 4-6=6-4, 7-5, 7-6.

The singles data shows the following:

- 100% of the first round singles matches were decided in two sets.
- 85% of the matches were decided in two sets.
- 71% of the sets had scores of 6-0, 6-1, and 6-2.
- 93% of the playback matches were decided in two sets.

The doubles data shows the following:

- 72% of the first round doubles matches were decided in two sets.
- 69% of the doubles matches were decided in two sets.
- 43% of the doubles sets had scores of 6-0, 6-1, and 6-2.
- 70% of the playback matches were decided in two sets.

Appendix -Competitiveness - State 5A Championship Results

This section summarizes team points, individual points scored by position, and number of scorers.

School	Team Points		Individual Points Scored							# of Scorers
	Points	% Points	1S	2S	3S	1D	2D	3D	4D	
Fairview	69	21.0%	17	9	15	6	8	3	11	7
Cherry Creek	66	20.1%	12	16	12	9	13	0	4	6
Mountain Vista	41	12.5%	10	11	10	1	1	0	8	6
Poudre	29	8.8%	14	13	1	0	0	0	1	4
Heritage	19	5.8%	0	2	8	2	1	4	2	6
Fossil Ridge	18	5.5%	1	1	1	3	0	12	0	5
Ponderosa	18	5.5%	2	0	0	14	1	0	1	4
Denver East	15	4.6%	0	0	0	0	6	9	0	2
Chatfield	13	4.0%	0	0	0	0	10	3	0	2
Arapahoe	12	3.6%	0	0	1	11	0	0	0	2
Regis Jesuit	6	1.8%	0	0	1	0	0	5	0	2
Rock Canyon	5	1.5%	0	0	0	0	0	0	5	1
Grandview	3	0.9%	0	0	0	0	2	1	0	2
Ralston Valley	3	0.9%	0	0	0	0	0	0	3	1
Mountain Range	3	0.9%	2	1	0	0	0	0	0	2
Grand Junction	2	0.6%	0	0	2	0	0	0	0	1
Legend	2	0.6%	0	2	0	0	0	0	0	2
Lakewood	2	0.6%	0	0	0	0	1	1	0	2
Fruita Monument	1	0.3%	1	0	0	0	0	0	0	1
GJ Central	1	0.3%	0	0	0	1	0	0	0	1
Thunderidge	1	0.3%	0	0	0	0	0	1	0	1
Greeley West	0		0	0	0	0	0	0	0	
Broomfield	0		0	0	0	0	0	0	0	
Greeley West	0		0	0	0	0	0	0	0	
Highlands Ranch	0		0	0	0	0	0	0	0	
Doherty	0		0	0	0	0	0	0	0	
Columbine	0		0	0	0	0	0	0	0	
Coronado	0		0	0	0	0	0	0	0	
Pine Creek	0		0	0	0	0	0	0	0	
Eaglecrest	0		0	0	0	0	0	0	0	
Boulder	0		0	0	0	0	0	0	0	
Fort Collins	0		0	0	0	0	0	0	0	
Monarch	0		0	0	0	0	0	0	0	

Source: CHSAAnow.

Key data from the state 5A Championships

- 48 singles players and 120 doubles players from 33 high schools were represented; 21 teams scored points. Only 5 teams had 5 or more positions score points.
- The top 3 teams scored 54% of the total points; the top 8 teams scored 79% of the total points.
- Positions from only 4 teams won individual championships - FV 3, CC 2, FR 1, RC 1.

Appendix - Player Touches/Hits/Contacts in Practice (Table VII)

This is an example of an article, written by a member of the local tennis community that might be included in an online CHSAA library.

The following table illustrates the impact of relevant training for a two-hour practice based on the number of game-like touches, hits, or contacts. This analysis assumes there are 4 players per court for the entire practice and that a total of 15 minutes throughout the practice are spent on the practice overview, discussions, water breaks, and a summary of the practice. Although there are no touches associated with these activities, they are essential for running an organized practice.

The following two examples of practice activity estimate a theoretical ceiling on the number of contacts in a practice. These examples help put the concept of "contacts" in perspective.

- A ball machine releases a ball every 2 to 3 seconds, depending on the pace, angle of the ball, and type of shot. In one minute the ball machine can produce 20 to 30 shots. A player hitting non-stop for 1 hour and 45 minutes would hit between 2,100 and 3,150 shots - and would be exhausted.
- If players practicing their serve hit the ball every 4 to 6 seconds, they would hit 10 to 15 serves per minute. A player serving non-stop during a 1 hour 45 minute practice would hit 1,050 to 1,575 serves - and have a very sore arm.

While it is theoretically possible to hit this many shots in practice it is unlikely that players will have more than 390 game-like touches per hour, the top row in the table. The operative phrase is game-like.

The top four rows of data (green) show the result of coaches whose practices are driven by relevant training and game-like activities whereas the practices in the bottom four rows (red) of the table are likely flawed for a variety of reasons. Anecdotal evidence suggests that most high school coaches will fall in the latter category. During the course of a season, players on teams with quality coaching may get two to three times as many meaningful touches (see final column) as players on teams with weaker coaches. Coaches can "extend the season" by increasing their relevant training in every practice.

Daily and Season Player Contacts for Two Hour Practices						
Practice Minutes	Number of Players per Court	Group (4) Touches Per Practice	Player Touches Per Practice	Player Touches Per Practice per Hour	Player Touches per Season (19 practices)	
105	4	3,120	780	390	14,820	
105	4	2,920	730	365	13,870	
105	4	2,720	680	340	12,920	
105	4	2,520	630	315	11,970	
105	4	2,320	580	290	11,020	
105	4	2,080	520	260	9,880	
105	4	1,600	400	200	7,600	
105	4	1,360	340	170	6,460	
105	4	1,120	280	140	5,320	
105	4	840	210	105	3,990	
105	4	560	140	70	2,660	
105	4	280	70	35	1,330	

Appendix Motivate Athletes to Attend Practice (Table VIII)

This is an example of the type of an article that could be written by a member of the local tennis community or the high school coaches that might be included in an online CHSAA library.

This article was included because there are high school athletic directors and tennis coaches who set policies that athletes missing practice must sit out the next competition. While it is important to have athletes attend practice, research has demonstrated that extrinsic motivation is counterproductive. The following comments discuss the difference between intrinsic and extrinsic motivation and point out why intrinsic motivation will be most productive for tennis coaches.

Have a Greater Impact on Your High School Players with Intrinsic Motivation
By Gary Horvath, USPTA Master Professional, USA PPTA Professional, USAV CAP I Coach

There is a saying that high school coaches have the opportunity to positively impact more people in one season than the average person impacts during their lifetime. High school tennis participation data for 2014-2015, provided by the National Federation of State High School Associations, shows tennis coaches for almost 20,000 boys and girls high school teams had an opportunity to positively impact 340,000 athletes. What an opportunity!

Initially, coaches set the stage for the success of their team by understanding the potential impact they can have on young athletes. Then they must develop a plan for properly motivating the athletes to attend practice on a regular basis.

Some coaches choose extrinsic motivation as a means of forcing attendance and learning. Extrinsic motivation occurs when coaches dictate expected behaviors and provide a reward or induce a punishment based on the actions of the athletes.

For example, a tennis coach may try to require attendance at practice by dictating that if athletes miss a practice they must sit out the next match. It is difficult to justify such a mandate for several reasons. First, it does not align with the accepted academic principles in most schools. Second, it is difficult to write such a rule in a manner that can be fairly enforced. Finally, this mandate fails to recognize that even the most dedicated athletes will inevitably have to miss practice because of legitimate reasons such as studies, school activities, injuries, illness, lack of transportation, personal or family reasons. In addition, some athletes are playing two sports or they have a part-time job.

Research has shown that intrinsic motivation is generally regarded as a more effective way for coaches to engage their athletes than extrinsic motivation. This statement recognizes that coaches must establish basic rules for their programs and there are isolated instances when extrinsic motivation is effective.

Intrinsic motivation occurs when a person engages in an activity because it is personally rewarding. For example, athletes who are intrinsically motivated will attend tennis practice regularly because they know the coach cares about them and will conduct practices in a manner that allows them to learn from and enjoy the process of improving their skills.

The following is a list of ideas for incorporating intrinsic motivation into your high school practices. Talk to other successful USPTA high school coaches for additional ideas.

1. Respect the athlete's time. Conduct an organized practice that start and ends on time. Be succinct in discussions, have an upbeat tempo, and keep the practices moving.
2. Demonstrate how to deal with adversity. Teach athletes how to solve problems. If students miss practices, find ways they can make it up.
3. Make practice activities more match - like. There is greater transfer to competition when training activities are match-like.
4. On-court coaching during matches should be concise. Feed-forward comments help the athletes maintain their focus about what to do next. Teach the athletes to think for themselves so they can excel without on court coaching.
5. Help athletes develop a growth mindset, as defined by Carol Dweck in her book *Mindset*.
6. Create an environment where athletes are not afraid to fail. Teach them to learn from making mistakes, rather than criticizing them, or inadvertently teaching them to fail.
7. Teach athletes to communicate with their coaches and teammates. Practice communicating.
8. Help the players set goals that are performance based as opposed to outcome based.
9. Periodically have the top players mentor their teammates.
10. Encourage players to play tennis outside of scheduled practices and during the offseason. For example, high school coaches in Oregon put together a special event called the Blast. Support players who want to cross-train by playing other sports.
11. Prevent eligibility surprises, show athletes you care about their performance in the classroom.
12. Provide guidelines for athletes to establish nutrition and mental toughness goals. Teach them the importance of periodization and conditioning in sports.

Intrinsic motivation is a great way for coaches to keep the athletes in their programs excited about learning the skills and life lessons that come from playing high school tennis. What a great opportunity to positively impact young athletes for the rest of their life!