

FAIR MARKET VALUATION REPORT:

**PERSONAL COMMUNICATIONS SERVICE
PIONEER'S PREFERENCE LICENSE**

QUALCOMM, INC.

AS OF DECEMBER 31, 1999

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January 27, 2000

Dear Mr. Kelley:

PricewaterhouseCoopers LLP was retained to perform valuation services for QUALCOMM, Inc. ("QUALCOMM" or "QCOM") in connection with determining the current value of a Federal Communications Commission ("FCC") Pioneer's Preference Personal Communications Service ("PCS") license. We understand that our value determination will be used for litigation purposes resulting from a 1993 denial of an FCC Pioneer's Preference PCS license to QUALCOMM for the City of Miami, Florida and a subsequent granting of restitution by the U.S. Court of Appeals in July 1999. The effective date of our valuation is December 31, 1999. We have not been engaged to make specific purchase, sale, or financing recommendations and our valuation should not be construed as a fairness opinion. Our work may not be included or referred to in any Securities and Exchange Commission Filing or other public document, or relied upon by shareholders or potential investors for investment decisions.

Our valuation analysis was prepared in conformance with the Uniform Standards of Professional Appraisal Practice of the Appraisal Foundation and is subject to the Statement of General Assumptions and Limiting Conditions that is attached to this report.

The basis of value in our analysis is Fair Market Value. Fair market value is the amount at which property would change hands between a willing seller and a willing buyer when neither is acting under compulsion and when both have reasonable knowledge of all relevant facts. This concept of value is supported by definitions set forth by the Internal Revenue Service and has been further established and elaborated upon in numerous court decisions dealing with Fair Market Value.

The scope of the engagement involved (to the extent appropriate):

- Review and analysis of the FCC Pioneer's Preference PCS licensing process.
- Review and analysis of recent PCS license auctions held by the FCC.
- Review and analysis of transactions involving the original three Pioneer's Preference PCS licenses.
- An analysis of current sales of other PCS systems as well as any available FCC license values as documented in publicly available purchase price allocation information.
- Analysis and determination of potential adjustments to market data in order to arrive at the Fair Market Value of the Miami A-block PCS License.
- A presentation and discussion of our findings in a narrative report detailing and supporting our findings and conclusions of value.

Based on the analysis discussed in this report and presented in the attached Exhibits, it is our opinion that, as of December 31, 1999, the Fair Market Value of the Federal Communications Commission Pioneer's Preference Personal Communications Service License denied to QUALCOMM was \$186,000,000, as shown in Exhibit J.

Very truly yours,


PricewaterhouseCoopers LLP

VALUATION REPORT:

**THE FAIR MARKET VALUE OF
FCC PIONEER'S PREFERENCE PCS LICENSE
FOR QUALCOMM, INC.
AS OF
DECEMBER 31, 1999**

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I. INTRODUCTION

A. Background

Pursuant to your request, we have prepared this valuation report relating QUALCOMM, Inc.'s ("QUALCOMM") 1992 denial of a Federal Communications Commission ("FCC") Pioneer's Preference Personal Communications Service ("PCS") license for the Miami Major Trading Area ("MTA") (the "License"). QUALCOMM applied for the License based on their work with CDMA technology but was originally denied the application. A subsequent court ruling determined that the FCC had used different criteria to evaluate the QUALCOMM application than other applications, and that QUALCOMM was unjustly denied the License. In July of 1999, the U.S. Court of Appeals in Miami, in *QUALCOMM v. FCC*, ordered the FCC "forthwith to grant a pioneer's preference to QUALCOMM and to take prompt action to identify suitable spectrum and award QUALCOMM the license for it."

B. Purpose of the Engagement

We understand that our valuation will be used by QUALCOMM in negotiations with the FCC to assist in the assignment of suitable spectrum. The effective date of this analysis is December 31, 1999 (the "Valuation Date"). This report presents our estimation of the fair value of the denied License.

C. Sources of Information

In the course of our valuation analysis, we relied upon financial and other quantitative and qualitative information obtained from various public, financial, and industry sources. Our conclusions are dependent on such information being complete and accurate in all material respects. However, as is customary in the business valuation profession, the scope of our work does not enable us to accept responsibility for the accuracy and completeness of such provided information.

The principal sources of information used in performing our valuation included:

- *US PCS Marketplace:1999, US PCS Marketplace:1998 and US PCS Marketplace:1997* published by The Strategis Group
- *Wireless Telecom Investor* newsletters published by Paul Kagan Associates

- Equity Analyst's reports published by Donaldson, Lufkin and Jenrette ("DLJ"), Salomon Smith Barney, Goldman Sachs, and Credit Suisse First Boston
- Standard & Poor's *Communications: Wireless Industry Guide*
- The First, Second, Third and Fourth *Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Radio Services* published by the FCC
- Recent articles regarding trends in the wireless telecommunications industry
- Compustat's PC Plus database of publicly traded companies
- Bloomberg's on-line database covering financial markets, commodities, and news
- Telecommunications Reports' on-line database of news and information about the telecommunications industry
- Kagan.com's on-line database covering telecommunications services, transactions, and news, and
- Other information deemed to be relevant.

D. Scope of Work

In general, our procedures included, but were not limited to, the following:

- Analysis of conditions in, and the economic outlook for, the telecommunications services industry
- Analysis of general market data, including economic, governmental, and environmental forces
- Analysis of the FCC Pioneer's Preference PCS licensing process
- Analysis of primary and secondary sales of FCC PCS licenses
- Analysis of transactions involving the three issued FCC Pioneer's Preference PCS licenses
- Analysis of operating and financial results of public companies operating PCS systems
- Valuation computations for the License and
- Analysis of other facts and data considered pertinent to this valuation to determine the fair value of the License

II. COMPANY DESCRIPTION¹

A. Overview and History

QUALCOMM, Inc. is a wireless telecommunications industry leader. The Company was originally incorporated in California in 1985 and incorporated again in 1991 in Delaware. The Company made Code Division Multiple Access ("CDMA") technology commercially viable through its innovations, inventions and research. QUALCOMM develops advanced chipsets and system software products for subscribers, and mobile information management systems. QUALCOMM has licensed its CDMA technology to over 65 communications manufacturers worldwide.

The Company is the worldwide leader in the development of the CDMA technology, which is used in mobile phones, wireless telecom equipment and satellite ground stations. QUALCOMM manufactures wireless phones and chipsets. QUALCOMM currently has plans to sell off its handset business to Kyocera of Japan, however it will continue to develop its CDMA chipsets and license the technology to others. QUALCOMM is also responsible for the OmniTRACS global positioning system, used by the trucking industry, as well as the Eudora e-mail software program.

Through its many lucrative mobile phone patents, QUALCOMM was one of the leading stock performers in 1999 with its market value up 112.02 percent to close 1999 at \$116.3 billion. QUALCOMM closed the year with its stock price at \$176.25, up 2,621 percent after the stock split 4-for-1 on December 30, 1999. Analysts expect the stock price to double in 2000.

B. Pioneer's Preference Background

QUALCOMM applied for a license for wireless spectrum through the FCC's Pioneer program. The program was created to spur the development of new services and technologies in wireless communications by offering incentives to applicants who were developing cutting-edge technology. Participants received discounts and preferential treatment on licenses. The recipients of the Pioneer's Preference received additional benefits such as favorable, long-term payment plans and a first mover advantage in the marketplace.

¹<http://www.qualcomm.com> and <http://www.hoovers.com>

The FCC first denied QUALCOMM's application for a Pioneer's Preference in 1992 claiming that they did not deserve the award because their CDMA technology was only an adaptation of an existing technology. The FCC rejected QUALCOMM again in subsequent reviews, until QUALCOMM appealed to the U.S. Court of Appeals in 1994. The Court ruled against the FCC in 1997 on the grounds that the FCC regulators' decision had been arbitrary and capricious. The Court also stated that QUALCOMM had "performed significant new work." The remand only gave the FCC the responsibility to find QUALCOMM an equivalent license to the Miami license and not to review the case itself. However, by the time the Court made its ruling, the FCC said it no longer had authority to grant Pioneer licenses.

In 1997, Congress passed the balanced budget act that ended the Pioneer's Preference practice and replaced it with wireless auctions. On July 23, 1999, the U.S. Court of Appeals for the District of Columbia reversed the 1997 and 1998 FCC decisions not to issue a Pioneer's Preference license to QUALCOMM. QUALCOMM at one point was lobbying for Sprint PCS (the Miami A-block PCS license holder) or PrimeCo Personal Communications, LP ("PrimeCo") (the Miami B-block PCS license holder) to give up their licenses to make space in the spectrum for the Miami MTA. Sprint PCS and PrimeCo acquired their respective licenses through the FCC wireless auction that concluded in March 1995.

III. GENERAL ECONOMIC OUTLOOK²

A. Objective

The following discussion and analysis describes the U.S. economic environment in 1999. This data consists of information pertaining to leading economic indicators such as unemployment rates and inflation levels. In addition to evaluating the state of the economy, we also examined the performance of the financial markets over time and described any recurring trends and/or anomalies that occurred throughout the period.

B. General Economic Environment

The U.S. economy closed out another remarkable year in 1999, with steady growth and low inflation driving the ninth consecutive year of expansion. Spurred by strong consumer confidence, which led to robust spending as well as tight labor markets, the U.S. economy soared to continue its record expansion. Although in 1998, Asia (Japan specifically) experienced severe economic contractions, Russia incurred massive debt defaults, and the Brazilian currency was devalued, the U.S. was still able to experience strong growth. Three interest rate cuts implemented by the Federal Reserve Board ("Fed") also played a significant role in the U.S. economy's success throughout this year. This strong economic performance fueled another record year on Wall Street, with the Dow Jones Industrial Average soaring to all time highs and the NASDAQ Composite leading the way.

Analysts' growth expectations were exceeded in 1999. The high level of consumer confidence led to buoyant consumption, which in turn drove the financial markets to record highs. Although many analysts still believe the market is overvalued and that a correction is pending, general economic indicators all support a continued thriving economy. The economy's current expansion of 107 consecutive months began in the second quarter of 1991 and set a record for the longest peacetime expansion ever experienced by the U.S.

²The Dow Jones Retrieval Service, the Bureau of Labor Statistics, Bloomberg Business News, the Federal Reserve Board, the Atlas of Economic Indicators, and the Wall Street Journal

C. Economic Indicators

This segment discusses and highlights leading economic indicators and their significance to the economic welfare of the nation.

- *Index of Leading Indicators* - The Index of Leading Economic Indicators ("LEI") is a composite of several different indicators designed to predict future aggregate economic activity. As a rule of thumb, turning points in the economy are signaled by three consecutive monthly LEI changes in the same direction. The LEI fell 0.1 percent in August for the second time in 11 months. Analysts had expected this decrease as the index increased by 0.03 percent in each of the prior three months. In November the leading index increased 0.3 percent, the coincident index increased 0.2 percent, and the lagging index increased 0.3 percent. Six of the ten indicators that comprise the leading index increased in November. Some of the contributors to the increase were stock prices, manufacturers' new orders of consumer goods and materials, and the money supply. The three composite indexes together with their components show a healthy economy. The leading index rose to 108.3 in November.
- *GDP* - Real or inflation adjusted GDP, the market value of all final goods and services produced in the U.S., witnessed levels of \$8.80 trillion and \$8.87 trillion during the first and second quarters respectively. First quarter GDP experienced a 4.3 percent annual growth rate compared to a 1.6 percent annual growth rate for the second quarter. The second quarter's figure marks the U.S. economy's slowest expansion since a 0.4 percent rate in the second quarter of 1995. Analysts believe the low level of growth was primarily due to business's slow pace in accumulating inventory, which rose just \$7.4 billion during the period. Third Quarter GDP closed at \$9.29 trillion up 5.7 percent annually, the fastest since 5.9 percent in the fourth quarter of 1998.
- *Inflation* - The Consumer Price Index ("CPI") is the most widely used index of price changes over time. This is a key indicator, as it measures the level of inflation and the purchasing power of the dollar. The CPI closed the fourth quarter of 1998 at 163.9. The latest monthly increase, for November 1999, was 0.4 percent, a 2.6 percent increase year over year. This increase brought the CPI to its current level of 167.10. This was the largest monthly escalation since March 1997, when the index rose by 0.2 percent. The current CPI movement calmed concerns that inflation is accelerating. In fact, the Core CPI, which excludes volatile energy and food prices, increased by only 0.2 percent in November. This represents an increase of 2 percent from last year. Energy prices remained constant after a slight 0.1 percent decrease in October. Food prices rose 0.1 percent in November after a 0.2

percent rise in October. Air fares rose slightly while new vehicle prices and transportation costs overall remained largely unchanged.

The Producer Price Index ("PPI") is another inflationary measure that pertains specifically to prices charged by factories, refineries and food processing plants. The PPI experienced a downward trend for much of the past two years. The PPI for finished goods rose 1.1 percent in September of 1999. This marks the largest increase since September 1990, when prices of finished goods rose 1.3 percent. According to analysts, however, the increase did not reflect a general upswing of the index, but rather sharp increases in select items. Accounting for the bulk of the increase were tobacco, energy and food prices. This is not surprising for tobacco, as many tobacco companies raised prices in order to pass on high legal settlement costs to their customers. In September, wholesale cigarette prices increased by 9.5 percent while tobacco prices climbed 8.4 percent. The energy sector experienced price increases with wholesale energy prices rising 2.2 percent, gasoline prices increasing by 2.2 percent, and residential gas prices experiencing an upswing of 2.5 percent. Food prices also were affected, as crisis-hit economies in Asia and Latin America continue to recover. Food prices, which account for 23 percent of the overall index, rose by 1 percent during the month of September. In October the index decreased 0.1 percent and rose again in November by 0.2 percent. The core index, which excludes food and energy prices, remained unchanged in November. Most of the increase in November was attributable to a 1.4 percent increase in energy prices, due to increases in prices for heating oil and residential natural gas.

- *Consumer Confidence* - Consumer Confidence is a leading gauge of economic activity. The Consumer Confidence Index ("CCI") is the measuring stick for this statistic, which when high is characterized by high consumer demand, general optimism and increased spending. After a downward trend, the Consumer Confidence Index rose from 104.2 percent to 105.4 percent in December, a 0.2 percent increase. Confidence levels finished the year at all-time highs, as there does not seem to be any decline in consumer spending. According to analysts, the slow down in consumer confidence during the year was not significant and still implies optimistic attitudes about the economy and job prospects.
- *Employment Statistics* The unemployment rate continued to be historically low throughout 1999 finishing the year at 4.1 percent, down from 4.4 percent in the fourth quarter of 1998. The rate for September was 4.2 percent, virtually unchanged since March of this year. Manufacturing employment decreased by 21,000, government jobs fell 23,000, and 49,000 jobs were lost in the retail trade. This trend was also observed at the end of 1998 when manufacturing jobs declined by 13,000 in the month

of December. The high level of productivity the economy recently experienced was boosted by the large infusion of low-cost labor into the job markets. This is at least partially a result of the government restricting welfare benefits to only those in legitimate need, thus forcing a larger percentage of the population to go out and seek work. As noted by Alan Greenspan in a May 6, 1999 speech, "A pickup in the growth of labor productivity—beyond the effects of the business cycle—appears to have been an essential factor behind the slowing in inflation."

- *Trade Balance* - This indicator measures a country's exports in relation to its imports. A positive trade balance indicates that a country exports more goods than it imports. The U.S. trade deficit rose to another monthly record of \$25.9 billion in October. Foreign oil bills led the surge with the deficits with Japan and China increasing as well. The October deficit was the seventh monthly record in the U.S., an increase of 7.4 percent from September. U.S. exports decreased 0.1 percent to \$81.9 billion while imports rose 1.6 percent to a record \$107.9 billion. The key factor in the widening gap has been rising oil prices as the average price has doubled since January. Throughout the year the trade deficit ran at an annual rate of \$262 billion, which is a significant increase from the record deficit of \$164.3 billion in 1998. The strength of the American economy has caused the demand for imports to outpace the demand for exports thus leading to a widening trade deficit. As economies in Asia, Latin America and Europe improve, the demand for American exports of goods and services rises. This may cause the Fed to become wary about revived inflation.
- *Construction Housing and Real Estate* - The housing sector, which accounts for roughly 5 percent of the overall U.S. economy, continued to soar for the first three quarters of 1999, as 30-year mortgage rates fell to 7.82 percent in September from 7.94 percent a month earlier (a 0.015 percent decrease). New single family home sales were up 7 percent for the year through August and new home sales rose to their second-highest level on record, to a seasonally adjusted rate of 983,000 units. New housing construction fell in September, slowed by hurricane Floyd, higher interest rates and shortages of workers and materials. Housing starts, a leading indicator of economic activity, fell 3.2 percent in August to a seasonally adjusted annual rate of 1.62 million units. Likewise, building permits fell to their lowest level in nine months to 1.50 million down from 1.62 million during August, a 7.3 percent decrease. This marks the lowest rate since 1.46 million in December of 1997.

November construction spending rose 0.3 percent from October despite mortgage rates near 8.5 percent. New home sales rose 16.3 percent in October to a record 986,000 units. The National Association of Home Builders' housing market index fell to 72 in December from 73 in November.

The index scale runs from zero to one hundred with zero representing the weakest economic conditions. The Standard & Poor's homebuilding index rose 4.12 percent to 106.28 for December. Since the housing sector accounts for such a large percentage of the overall U.S. economy, it is regarded as a leading indicator. It is usually the first indicator to turn down when the economy goes into recession and the first to turn up when the economy is in a boom.

- *National Association of Purchasing Managers Index ("NAPM")* - NAPM, a survey of purchasing executives, is a major indicator of overall factory sector trends. Historically, rates above 50 have represented an expanding manufacturing sector and overall economic growth near 2.5 percent. Rates that fall between 44 and 50 have been associated with a contracting manufacturing sector and rates below 44 denote a contraction in both the manufacturing sector and the overall economy. Recently, NAPM represented the highest level since November 1994 (59.2 percent), as orders and production soared. The NAPM factory index rose to 57.8 percent in September compared to 54.2 percent in August. It then declined slightly to 56.2 percent in November. The indexes gauging factory production, deliveries, and exports all surged, indicating strong demand for goods at all levels.

D. Equity Markets

The Dow Jones Industrial Average ("Dow") rose 25.2 percent to close at 11,497 in 1999, up from the December 31, 1998 close of 9,181. The Dow experienced strong growth as it has closed at 9,786, 10,970 and 10,336 in the first three quarters, respectively. The quarterly percentage changes for 1999 were 6.58 percent, 12.09 percent, -5.78 percent, and 11.22 percent (quarter over quarter) respectively. The worst decline occurred on the 15th of October, when Alan Greenspan issued a warning to investors about the dangers of underestimating the risk in owning shares and implied a rising inflation rate. This caused the Dow to decrease by 266.90 points or 2.6 percent to 10,017, the biggest drop since October 1, 1998. This setback was temporary as solid corporate earnings and rising consumer confidence helped the Dow rebound to close at 10,470 the following week.

The NASDAQ Composite Index also continued on an upward trend from 1998. On November 3, the index closed at 3,028, propelled by enthusiasm for technology stocks. This was the first time that the index closed above 3,000. This composite has more than doubled in value since early October of 1998. The NASDAQ finished 1999 at 4,069 up 48 percent from the third quarter. The NASDAQ Composite Index rose an unprecedented 85.6 percent.

The Standard and Poor's Composite Index ("S&P 500") climbed above 1,400 during July, attaining record levels. The index closed the year at 1,469, up 19.53 percent from December 31 of 1998. The quarterly percentage changes for the year were 4.65 percent, 6.71 percent, -6.56 percent, and 14.54 percent, respectively. The S&P and the Dow finished with double-digit increases for the fifth consecutive year in 1999.

E. Interest Rates and The Bond Market

U.S. Treasuries, considered a safe haven for most investors, exhibited rising yields for most of 1999 causing the prices of bonds to fall. This year saw rising interest rates, inflation worries and concern about year-2000 computing disruptions. All these factors sunk bond prices in nearly every bond category. The only positive for the bond market this year was the lack of inflation, which would have only added to the decline in fixed-income market. The total return on 30-year benchmark treasury bills fell 14.78 percent, after a 17.06 percent rise in 1998. Analysts put forth two reasons for rising bond yields. Firstly, the Fed is thought to be reacting slowly to inflationary pressure such as a tight labor market and rapid growth in consumer spending. Secondly, the growth elsewhere in the world is picking up as foreign economies improve, thus offering more attractive investments than risk-free treasuries.

In 1999, the Fed has raised the federal funds target interest rate on three separate occasions, adopting the decision to tighten monetary policy and keep a hold on inflationary pressure. The fed funds rate increased by a total of 75 basis points. The rate increased from 4.75 percent to 5.00 percent and eventually stayed steady at its current rate of 5.50 percent since November 16th. The yield on 30-year Treasuries ended the month of December at 6.35 percent, the highest since September 1997. This is probably a sign of market expectations of another increase in interest rates.

F. Future Outlook

Many market analysts and economists expect the economy to continue its steady growth going forward. Exports are expected to improve aided by a global recovery and the economy is expected to grow at a 3.1 percent annual rate, down from the expected 3.9 percent for the economy this year. Economists expect the gap between short and long-term interest rates to remain fairly constant over the next two years. Growth will slow slightly due to a decrease in interest sensitive spending because of slightly higher interest rates. Housing construction is expected to be the hardest hit as home buyers choose to wait for the mortgage rate to drop from its current 8.50 percent. Economists predict inflation to be around 2.4 percent in 2000 based

on decreases in the CPI. Growth in compensation and global competition will limit pricing power, offsetting the growth in productivity.

The key factor in the economy for next year will be Federal Reserve policy. While some analysts believe the Federal Reserve will not raise interest rates to keep price gains in check, most analysts believe that more rate hikes are probable and the key is how much. Consumer and business demand will be the main driver of Federal Reserve policy, as the Fed will work to keep the economy growing steadily while keeping a keen eye on inflation. Chairman Alan Greenspan is expected to be asked to stay on for another four years. If he does, slight rate hikes should be expected.

In the months ahead, jobs should remain plentiful. The unemployment rate ended 1999 at 4.1 percent, tying a 29-year low. Foreign economies, namely in Asia, Russia and Latin America, seem to be on the mend and should no longer remain grave concerns for the U.S. economy. The stock market soared this year led by communications, technology and media firms. These three sectors will probably continue to lead the market boom as information continues to become more important in business and commerce across the globe. People bullish on the market cite the unprecedented tech-stock gains as evidence of a new era in technological innovation that is changing the rules of the economy and market dynamics. Many analysts are skeptical however, continuing to believe that security prices are overvalued and that the market is due for a correction in the near future. However, with the expectations of positive GDP growth, high consumer confidence, increasing levels of productivity and controlled levels of inflation, it appears that the business climate in the United States will remain fairly favorable throughout the year 2000 and the following year.

IV. INDUSTRY OUTLOOK³

A. The History of the Wireless Industry

Early wireless communications, such as citizens band ("CB") radios, were limiting in that they only allowed for one-way communication. Communication through such a radio relied on verbal cues to indicate when a user was finished speaking. The next generation of wireless communication introduced "full-duplex" platforms, where the networks transmit and receive at the same time. Another challenge of wireless networks was one of convenience – the ability to use the wireless technology while moving. In order to accomplish this, wireless networks had to be able to "hand off" calls to adjacent networks, allowing customers to travel without dropping a call.

Cellular

Cellular service was developed by Bell Laboratories in the 1960s and operates with five basic components: the cell, or the small regions into which a service area is divided, the cell site, the Mobile Telephone Switching Office ("MTSO"), the subscriber handset and the Public Switched Telephone Network ("PSTN"). The cell generally covers a geographic area of 1-20 miles in diameter, the size of which is based on topography and estimated usage demand. The cell site is located within the cell and consists of the transmitter/receiver containing the equipment to provide communication for the channels assigned to that cell. The MTSO is the building that houses the mobile telephone switch, which is connected to the cell sites and controls the cellular system. The switch connects the caller to the landline or other cellular customer and relays the cellular caller from one cell to the next. The handset contains equipment that transmits and receives as well as allowing it to communicate with the closest cell site. Cellular service operates in the 824 MHz to 849 MHz and 869 MHz to 894 MHz bands and may operate using analog or digital technology.

PCS

Personal Communications Services was introduced in the 1990s and is based on digital technology. It is defined by the FCC as "radio communications that encompass mobile and ancillary fixed communication that provides services to individuals and businesses and can be integrated with a variety of competing networks."⁴ PCS comprises numerous wireless services such as telephony, paging and data transmission and technically operates similarly to cellular. The radio signals are transmitted from towers that operate the

³ The Strategis Group, 1999, Standard & Poor's *Telecommunications: Wireless*, and the DLJ Wireless Telecom Report

⁴ FCC: <http://www.fcc.gov/wtb/pcs/bbfctsh.html>

same as cell sites. The difference between PCS and cellular is that PCS can operate at lower power levels than cellular and utilize capacity more efficiently. Accordingly, PCS cells are smaller and require more cell sites to cover a given area.

In 1996 the landscape changed dramatically for the wireless operators. Whereas wireless markets were once set up as licensed duopolies, the FCC PCS auctions created the possibility of having up to nine wireless operators in each market, including one provider of Enhanced Specialized Mobile Radio ("ESMR"). Cellular, as the incumbent, was still the driving force behind the market, representing 95 percent of the total 1996 wireless telecommunications revenue of \$23.6 billion, but it was expected that competition would heat up in the coming year.⁵

ESMR

Enhanced Specialized Mobile Radio ("ESMR") is an alternative method to provide wireless service that is based on digital TDMA technology and operates with individual base stations. ESMR operates in the 800 MHz to 900 MHz band. The main player in ESMR was Nextel Communications, led by Craig McCaw. Nextel planned to deploy a nationwide network on 800 MHz frequencies providing digital cellular service, voice mail and alphanumeric paging.

Satellite Technology

Low earth orbit ("LEO") satellite-based systems will potentially provide significant competition for the land-based mobile phone networks. LEO mobile satellite services operate in the band between one and three GHz, while new systems will transmit in the 20 GHz to 30 GHz spectrum. The service provides enhanced quality and ubiquitous coverage than the land-based wireless service, but is expensive. The expected service costs range from \$0.70 per minute to \$3.00 per minute – well above the cost per minute of other wireless carriers. The transition from idea to actual network and service has been difficult so far for the mobile satellite sector. Companies have had significant difficulty attracting customers, as well as numerous distribution and technical problems due to pricing and market acceptance.

License Auction

The Federal Government seemingly gained approximately \$18 billion in proceeds from the auctions for the A, B, and C-blocks. The A and B-block licenses were auctioned simultaneously and, after 112 rounds of bidding, yielded \$7.7 billion with an average net price per potential customer ("POPs") of \$15.57. The C-

⁵ Telecommunications: Wireless, Standard & Poor's, July 1997

block auction was much more intense, even though it offered half the amount of spectrum of the A and B block licenses and was reserved for "entrepreneurs" as defined by the FCC.

The C-block net price per pop averaged \$39.88 with net bids totaling approximately \$10.2 billion. Although there were 89 winning bidders, the three largest bidders accounted for over 66 percent of the net bids made at the auction.⁶ However, although the C-block auction yielded much higher bids, the bidders only had to pay 10 percent upfront, had 10 years to pay off the remaining balance at favorable financing terms and received a 25 percent bidding credit.

The D/E/F-block auctioned off 1,479 Basic Trading Area ("BTA") licenses, three in each geographic area, and raised approximately \$2.5 billion. There was less interest in these licenses because they were for 10 MHz spectrum, much smaller spectrum than that offered in the A, B and C-blocks. Additionally, potential bidders might have been scared off by the high prices paid during the C-block auctions. The D and E-blocks were open to anyone, while the F-block was restricted to entrepreneurs to lessen their barrier of entry into the market.

FCC Re-auctions

Following the bankruptcy of many C-Block companies and their subsequent inability to pay, the FCC organized a reauction of the licenses. The C-Block reauction raised \$904.6 million in total net revenues, compared with \$874.2 million in the original auction for the same licenses. The 18 license coverage areas contain a total of 15.5 million POPs. The auction began July 3, 1999 with 32 bidders, and lasted 8 days, closing with seven winning bidders.

The reauction for the C, D, E, and F-Blocks began March 23, 1999 with 67 bidders, and ended after 78 rounds of bidding on April 15. A total of 347 licenses were up for auction covering 30 MHz, 15 MHz and 10 MHz of spectrum space. The reauction raised more than \$412 million in net bids. The licenses issued were for 10 year terms from the initial grant date with certain bidders receiving bidding credits based on gross revenues and other factors. The winning bidders were not given favorable financing terms in this reauction. The two most expensive licenses sold were for Chicago and Dallas at \$117.9 million and \$62.4 million respectively.

⁶ Cellular Overview: Duopoly to Competition - Industry Report. Bankers Trust Research, March 10, 1997

Pioneer's Preference

Prior to selling the above licenses at auction, the FCC awarded three Pioneer's Preference Awards for broadband PCS service in the cities of New York, Los Angeles and Washington, D.C. These licenses were designed for companies that were developing new spectrum-using communications services and technologies and were ultimately awarded to American Personal Communications, Cox Enterprises Inc. and Omnipoint Communications Inc. In 1995, the FCC modified the pioneer's preference rules to state that in services in which licenses were awarded by competitive bidding, the pioneers must pay 85 percent of the average price paid for comparable licenses. The payments could be in a lump sum or in installment payments, but could not extend beyond a period of five years.

The pioneer's preference program gave a distinct advantage to the PCS companies that were granted licenses through it. American Personal Communications ("APC") had the first active PCS network in the U.S. in the Washington D.C./Baltimore area. Omnipoint was granted a license for New York and Cox California PCS ("Cox") was granted Los Angeles/San Diego through the program.

B. Wireless Industry Trends and Projections

The wireless industry has been an explosive industry, experiencing tremendous growth in the 90s, particularly through the advent of PCS technology.

The wireless industry has been able to ride growing globalization and increased intersecting of computers, telecommunications and the Internet. As prices continue to fall and the technology keeps getting better, the demand for wireless telecommunications is increasing. Many high-end consumers are beginning to see wireless telephony as a clear alternative to more traditional landline telephone service. In developing countries across the globe, governments and businesses are looking to wireless telecommunications to build a communications infrastructure that would be expensive, time intensive and cumbersome through traditional land line construction.

Pricing

The tremendous growth in subscribers has more than offset the decline in prices to drive revenues up. Service and equipment pricing has continued to decline as the PCS industry begins to achieve economies of scale and competition increases. Cellular carriers have been forced to lower their prices significantly to compete with the upstart PCS providers who offer expanded services at a competitive price. Wireless telephony providers are competing for customers through a combination of rate cuts, multiple free minutes,

flexible pricing plans, enhanced service and expanded coverage. Pricing has fallen as much as 28 percent over the past year showing the effects of competition on pricing.

Equipment pricing continues to fall as well. The cost of expensive handsets was one of the main barriers to adoption by consumers. In the early years of the wireless industry cellular phones were an expensive business tool, exclusive to high-income customers. Today many subscribers receive their phones for a nominal fee or at no costs at all, provided they sign a service contract. However, this is not true yet for digital phones which are more expensive than cellular phones. Subscribers can often expect to pay \$100 to \$300 for digital cellular and PCS handsets and the price can serve as a barrier to increased digital adoption. According to a survey by the Strategis Group, users chose their phone primarily based on price, with promotional offers, and size following in importance.⁷ CDMA is the most popular platform for PCS subscribers in the U.S. CDMA is also the most expensive of the more popular platforms

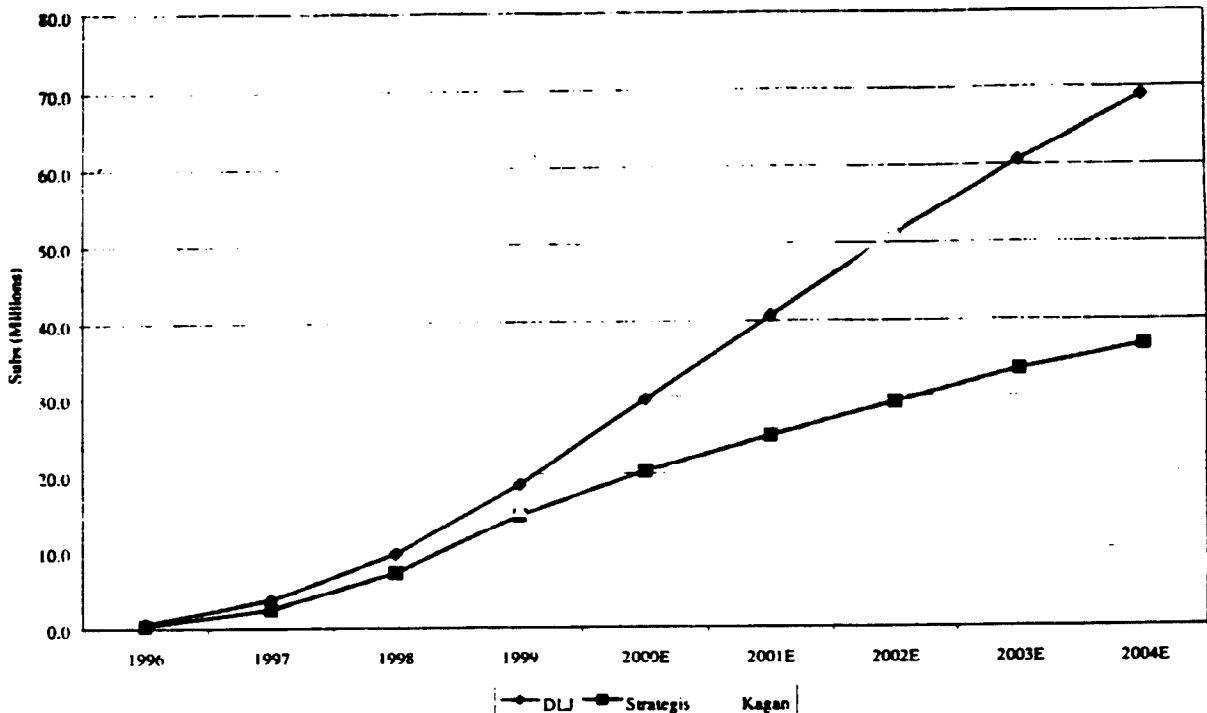
Subscriber Growth

PCS revenues continue to be driven by subscriber growth despite falling prices in airtime, access, equipment and roaming. In 1993, the mobile phone industry had close to 16 million subscribers. By the end of 1998 the industry had grown to almost 70 million subscribers.⁸ Cellular and PCS accounted for 66 million of those subscribers with PCS taking up 11 percent of the base. Published CTIA figures show that annual revenues for the mobile phone industry grew from \$178 million in 1984 to more than \$33 billion in 1998. Subscriber penetration has exceeded analyst's expectations with companies bundling coverage, fixed price and service to attract customers. PCS subscribers are expected to achieve 13 percent penetration of the U.S. population by the year 2004. Estimates for PCS subscribers in 2004 vary from 37 million to 76 million.

⁷ The Strategis Group, 1999, p.306

⁸ The Strategis Group, 1999, p.223

U.S. PCS Subscriber Forecast



Sources: DLJ, The Strategis Group, 1999, and Kagan

Enhanced Services

Enhanced services are being used to differentiate carriers more and more in markets where they are newly deployed. However, competitors can copy virtually all enhancements. Some of the enhanced services are used to capture and retain the most attractive subscribers in the market. Whereas enhanced services used to be offered at market premiums, they are now often being bundled to help retain and attract subscribers. Call waiting, voice mail and caller ID are the most widely used enhanced services, used by 24 percent, 25 percent and 20 percent of wireless users respectively.⁹ In 1998 roaming accounted for 14 percent of subscribers' airtime.

Data Services

The latest trend for the end of 1999 and the beginning of 2000 is data transfer and web access to mobile telephones. Mobile wireless web access has been in the works for a while but now through recent

⁹ The Strategis Group, 1999, p.7

technology it is becoming a viable service to wireless customers. This expanded service could prove to be very lucrative to PCS companies as customers will likely have to trade in old handsets for the newer ones. Average minutes will probably go up as well with the added feature. "Smart" phones have an emphasis on data and could be very popular with business users. The Internet and e-mail are increasing in popularity and the increased reliance on their services could drive demand for smart phones. There is some concern over whether or not voice and data functionality will be built into a universal device or if people will prefer to carry the two in separate devices. The market potential for smart phones is attracting the attention of major companies who are allocating tremendous resources to strengthen and enhance the service. The success and impact of these phones will depend largely on the buildout and enhancement of wireless networks around the world.

Of particular interest is the Wireless Application Protocol ("WAP") group, an industry organization working towards creating standards for wireless micro-browsers. As faster data speeds approach, broadband wireless operators are expected to change to Internet Protocol ("IP"), or packet-based systems for transmitting data. WML is a wireless version of HTML, which allows wireless data to be converted to Internet-ready language. WML is optimized for wireless handsets which have numeric keypads, small displays, limited memory, and limited processing power and battery life. Creating standards for WML will be a large step toward creating true Internet mobility through wireless technology. At present there are a few main groups who are fighting to dominate the market for data transfer technology with regards to wireless phones.

Consumer Trends

Brand awareness is increasing among cellular and PCS users as well as among the general public. Nationwide marketing campaigns and high visibility by companies such as AT&T, Sprint PCS and Airtouch are making the public more aware of wireless companies and the services they provide. Studies show that the lower priced phones are still by far the biggest sellers while minutes of use remains steady after years of decline. More subscribers are seeing wireless as an alternative to traditional landline phones with the most usage coming from business subscribers who average 304 minutes per month.

Safety and emergency use is the leading reason for purchase among cellular users with 44.2 percent of users citing this reason for acquired service. These users have much lower minutes of usage compared to other subscribers. The average age of wireless users continues to decrease as prices continue to fall. Users in the 18 to 24 age group increased to 7.9 percent in 1998. More than 53 percent of non-users between the

ages of 18 and 29 express interest in beginning wireless service with 72 percent likely to begin service within the next year.¹⁰

Regulation

The total licensed spectrum is 120 MHz with PCS operating in the 1850-1910 MHz and 1930-1990 MHz bands. The PCS service areas are defined by the FCC according to the Rand McNally definitions of 51 MTAs and 493 BTAs.

Frequency (MHz)				
Band	Bandwidth	Mobile	Base	Service Area
A	30 MHz	1850-1865	1930-1945	MTA
B	30 MHz	1870-1885	1950-1965	MTA
C	30 MHz	1895-1910	1975-1990	MTA
D	10 MHz	1865-1870	1945-1950	BTA
E	10 MHz	885-1890	1965-1970	BTA
F	10 MHz	1890-1895	1970-1975	BTA

Source: Federal Communications Commission

The expansion of companies in the market and the ability to obtain financing in the industry has been limited due to financial difficulties in the C-block. Almost 80 percent of the net prices bid in the C-block auction are tied up in bankruptcies or have been returned to the FCC.¹¹ On March 23, 1999 the FCC began a reauction of 356 C-block licenses. This reauction included licenses returned to the FCC according to the payment options offered to financially troubled C-block licensees. The auction ended on April 15, 1999 after 78 rounds. The U.S. Treasury reportedly gained net revenues of \$412,840,945.¹² Currently, 94 percent of C-Block licenses are not in operation.

The FCC has set forth certain standards that wireless telephony companies must meet for 911 and emergency phone calls. An order voted on by the FCC in May, 1999 dictated that analog and dual-mode cellular phones must be capable of separate processing for 911 calls that permit those calls to be serviced by other carriers. The requirement will become effective in January 2000. The order sets forth emergency

¹⁰ The Strategis Group, 1999, p.2

¹¹ The Strategis Group, 1999 p.1

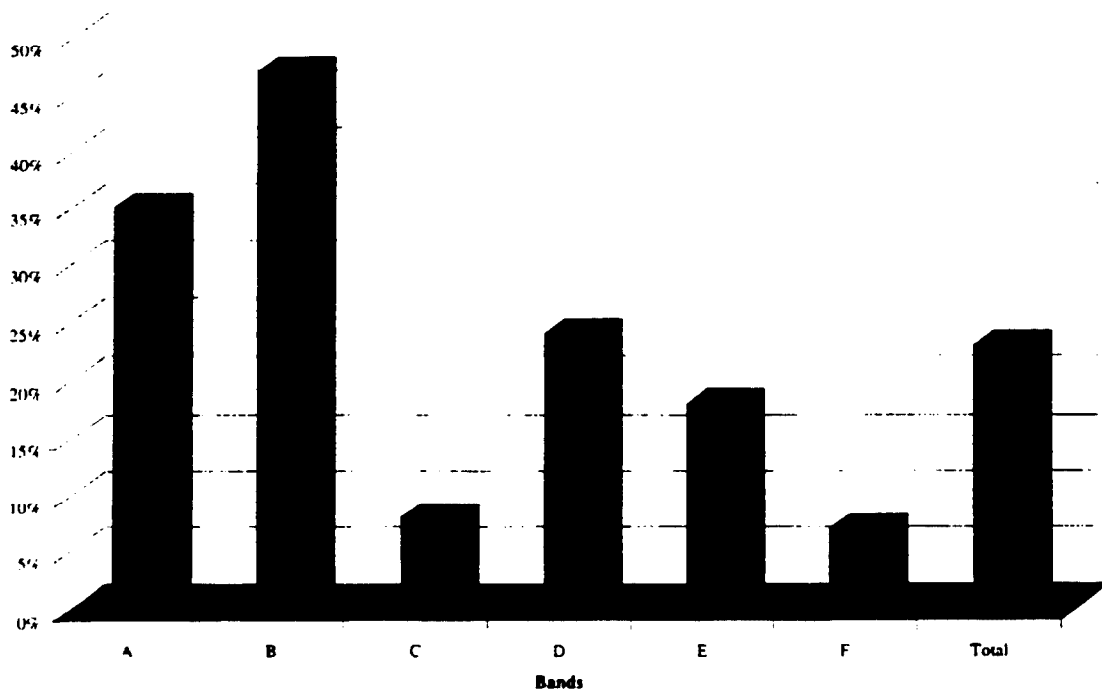
¹² The Strategis Group, 1999 p.25

call completion procedures that satisfy FCC rules. This order is designed to eliminate dead zones in service and coverage.¹³ Wireless operators must also provide the location of their mobile users within the closest cell site with an accuracy of 125 meters. The standards were put in place due to problems with state 911 operators who were unable to direct emergency assistance to mobile users because they lacked information.

C. Wireless Infrastructure and Network Build-out

According to the Strategis Group, there were close to 60,000 cellular and PCS sites in operation in 1998 and by year end 2003 there will be close to 100,000. Based on the number of BTA markets and the number of competitors in each market there are currently 2,922 possible PCS networks in the U.S. Currently 23 percent of these systems are active with the percentage varying greatly by band. A and B-block systems have launched in 35 and 47 percent of their respective licensed markets, a greater percentage than the other bands.

Percentage of Active PCS Networks, 1999



Source: The Strategis Group, 1999

¹³ The Strategis Group, 1999 p. 31

Wireless carriers made \$14.5 billion in capital investments between 1997 and 1998. These investments will continue as PCS carriers continue to buildout networks. PCS carriers have been forced to move up buildout to compete with cellular carriers who have widespread coverage. PCS rollout has slowed after an initial surge from A and B-block carriers due to difficulty in acquiring capital and emphasis on high traffic areas. 10 MHz licensees have begun to build networks though which has caught the attention of A and B-block carriers who seek to make agreements in order to expand their coverage. Through agreements the A and B-blocks can expand major markets and provide seamless service coverage, by focusing on major transit corridors.

Another important issue is the buildout of towers to expand networks. It is estimated that more than 40,000 new sites will be needed by various wireless carriers to provide adequate coverage for subscribers. PCS operators will be in particular need of gaining new sites as they are still fairly new to the marketplace. The creation of new tower sites has become a difficult and often times controversial task. There have been complaints that towers for mobile phones are an eye sore in the community and also hurt the environment. Because of these issues, of collocation, the sharing of structures by different carriers, has become more popular. This trend could become lucrative to some major wireless carriers particularly from the A and B-blocks who got an early start on tower location and can lease their space to other carriers.

Satellites

Many proposed satellite networks had early difficulties but the sector is beginning to make some headway. The companies are beginning to acquire financing and rollout their networks. The main barriers currently are prices and service. The phones used by the networks are expected to cost well over \$600 and are much more bulky than current mobile phones. Satellite phones also have long antennas and require a direct path between the satellite and receiver, making them difficult to use in highly populated urban centers with large buildings. For these reasons, widespread public acceptance is not expected for the next 5 to 7 years with satellite companies focusing on business data communications.

Mergers & Acquisition

Great consolidation and continued rapid growth describe the wireless industry in 1999. After the end of the FCC auctions for PCS spectrum, market forces began to take effect, pushing stronger companies to the top and weaker companies to be acquired or bankrupt. A major deal occurred almost every month, led by MCI WorldCom with its acquisition of Sprint and Sprint PCS. VoiceStream acquired competitor Aerial in September and also announced plans to acquire Omnipoint in a deal valued at \$4.9 billion. Vodafone and

Bell Atlantic joined each other in the U.S. in September. Dobson bought American Cellular in October, while Arch and MobileMedia won approval in bankruptcy court for their proposed merger. MCI WorldCom also announced its attention to acquire SkyTel to compete in the wireless data market.

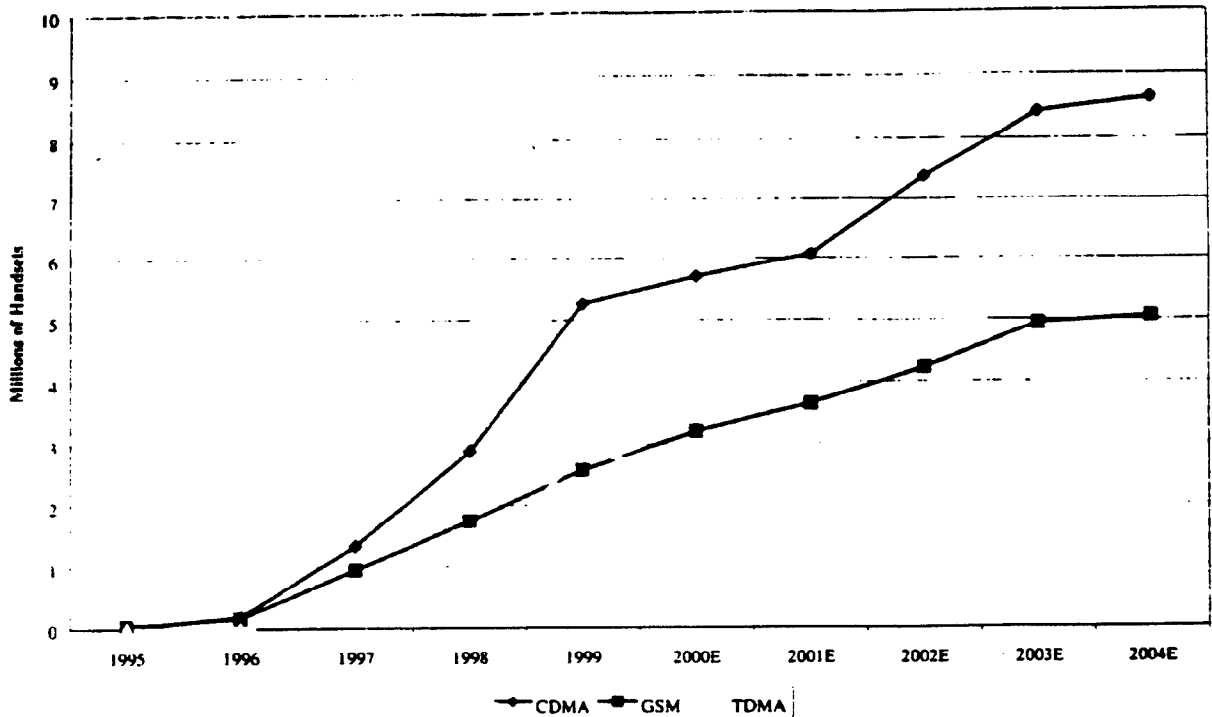
Global Crossing and Qwest Communications International are both looking to acquire Frontier Corp. and U.S. West. Global Crossing agreed to acquire Frontier and merge with U.S. West but Qwest stepped in and made counter proposals to both companies. After Qwest's stock price declined it was forced to give a better offer to both companies and now Global Crossing's deal is on hold while officials from Frontier and U.S. West review Qwest's offers. Bell Atlantic has a merger pending with GTE and SBC is looking to merge with Ameritech. Alltel acquired Aliant Communications to increase its national customer base. Consolidation within the industry is expected to continue with companies selling for high premiums.

D. Industry Outlook

It is expected that the current trends of the wireless telecommunications industry will continue into the future. Companies are racing to widen service offerings and this will increase as more firms continue to merge, form alliances and strategic partnerships in search of their optimal size. Prices will continue to fall as more firms begin to bundle services with competitive price packages.

The long distance market is expected to slowly move away from its oligopolistic nature as competition intensifies. As the local telephone companies satisfy FCC regulations and begin to offer long distance service, dial-arounds continue to offer low rates, and upstart carriers use the Internet to route phone calls, competition will increase. Long distance rates have decreased substantially from a decade ago. Some companies offer rates as low as 3.5 cents per minute. Analysts believe that a new pricing structure will emerge, similar to the Internet in which consumers pay one fee for unlimited usage. Long-distance will be just one element on a single bill as companies move towards becoming 'one-stop' shops and offer an overall package including wireless service, Internet, long distance, local service and cable service. Bundling may reduce churn, or customer turnover, as the more services consumers buy from a company the less likely they will leave. This trend is already in progress as AT&T offers local, long distance, wireless and Internet services in certain areas.

PCS Handset Sales by Technology



Source: The Strategis Group, 1999

CDMA technology is expected to take over as the dominant wireless technology worldwide as it is more efficient and provides better cost savings compared to the other PCS platforms available. CDMA has been the leader in PCS handset sales since the first networks became active. Many countries in Asia and Latin America have chosen CDMA as their primary technology including Japan, China, Brazil and Peru. GSM is the standard platform in Europe but the speed and efficiency of voice and data transmission is expected to make CDMA the worldwide favorite in the years to come. Data transmission is becoming increasingly more important. All of these factors will cause CDMA to become more popular as the platform of choice.

The wireless industry is currently growing at a pace surpassed only by the Internet. Global demand is increasing at a rapid rate as the convergence of voice and data services continues to influence prices in ways that benefit both carriers and consumers. Wireless service is particularly convenient for smaller, less developed markets where the costs to build a land line infrastructure are too great. These market forces should ensure the continued growth of the wireless telecommunications industry for years to come.

V. VALUATION METHODOLOGY

A. Valuation Approaches

Overview

The basis of value in our analysis is Fair Market Value, which we define according to the Business Valuation Standards of the American Society of Appraisers ("ASA"). Fair Market Value, as defined by the ASA, is "the amount at which property would change hands between a willing seller and a willing buyer when neither is acting under compulsion and when both have reasonable knowledge of the relevant facts." This concept of value is supported by definitions set forth by the Internal Revenue Service and has been further established and elaborated upon in numerous court decisions dealing with Fair Market Value.

There are three traditional approaches for valuing a business or specific asset: income, market, and cost. In a valuation analysis, all three approaches to value must be considered, as one or more may be appropriate in valuing the subject property. Value indications developed in applying each of the appropriate methodologies are weighted and reconciled with other facts with regard to the subject property being valued and the quantity and quality of the data available in order to form a conclusive opinion of Fair Market Value. Each of the methodologies is described below.

Income Approach

For purposes of this report, the income approach relies upon the discounted cash flow methodology. The discounted cash flow ("DCF") methodology is a method of estimating the present value of the expected future benefits arising from the ownership or operation of a business or a specific asset. The future benefits result from a stream of income, cash flow, or expected cost savings resulting from the ownership or operation of a business or specific asset over some specified period or into perpetuity. The resulting benefit is then discounted at a rate consistent with the inherent level of risk of the business or subject asset. There may be further benefits from any residual income or cash flow resulting from the disposal of the business or asset at the end of the specified period. Since the value of any asset rests upon future benefits to be received, the DCF method is recognized as being a prudent and sound valuation tool. Inherent in the use of the DCF method is a thorough understanding of the economic conditions of the industry in which the business operates.

Market Approach

The market comparative approach, or the market approach, is based upon a comparison of the business or subject asset to transactions of properties of similar utility. The market approach is based upon the principle of substitution, which states that a purchaser will pay no more for any particular asset than it would cost to acquire an equally desirable alternate asset. The validity of this approach is based on the assumption that continuity exists between similar assets with comparable levels of utility and their market values. The reliability of this technique is dependent upon the availability of sales data as well as the number and kinds of adjustments required to account for differences among the comparable sales in relation to the asset.

Cost Approach

The cost approach measures the value of an asset by the cost to reconstruct or replace it with another of like utility. The cost approach considers the current cost to reproduce or replace the asset with a substitute of similar utility or ownership benefits. The value to the owner would be the current Cost of Reproduction ("C of R") or Replacement Cost New ("RCN") of the asset. The C of R is based upon the cost to reproduce the asset in "like kind" or nearly an exact replica, whereas the RCN is based upon the replacement of the asset with one of similar utility or economic satisfaction.

Application of the Approaches

Operating wireless communications enterprises consist of intangible as well as tangible assets that contribute to their income stream. The intangible assets include the rights awarded under an FCC license to provide service, the subscriber base, various contractual rights, as well as goodwill/going concern. For the purposes of our engagement, we have valued the hypothetical License which QUALCOMM was denied by the FCC.

In valuing the hypothetical License, we utilized a combination of approaches. The application of the Income Approach via a DCF methodology was utilized to determine the business enterprise value of a hypothetical company that was awarded the License. Because the Income Approach is commonly used to determine the value of the business enterprise, we subtracted calculated values for the plant, property, and equipment, working capital, subscriber list, and goodwill/going concern in order to determine the residual value of the License. This analysis is described in Section V-B below.

We considered the application of the Market Approach to be amount of the net adjusted highest bid for an equivalent PCS license in the government PCS auctions or the resale of similar PCS licenses in the secondary markets. This analysis is described in Sections C and D below.

We considered the application of the Cost Approach to be the amount necessary to purchase an equivalent FCC license, as of the valuation date. As of December 31, 1999, there was no active market for the sale of stand alone FCC PCS licenses. The "cost" of auctioned licenses, however, would be identical to the market value of the asset. In this case, therefore, the market approach and the cost approach have some overlay.

B. Income Approach

In order to determine the value of the License using the Income Approach, it was necessary to first value a hypothetical company (the "Company") operating a PCS system in the Miami MTA using the DCF methodology. We assumed that the Company began in 1996. This is consistent with the other Pioneer's Preference PCS license holders, American Personal Communications ("APC"), Cox Communications ("Cox") and Omnipoint Communications, Inc. ("Omnipoint"), who began operations in October 1995, December 1996, and November 1996, respectively.

The DCF methodology measured the net present value of the Company's estimated future after-tax net income, plus depreciation, less capital expenditures and working capital requirements, plus the residual value of the Company. This methodology relied on estimates of future operating income which were derived from data gathered from telecommunications analysts' reports, public company information, news articles and certain assumptions based on our experience and professional judgment.

In determining the Fair Market Value of the License utilizing the Income Approach, we utilized the following steps:

- Prepared hypothetical historical and projected financials for the Company;
- Calculated the Weighted Average Cost of Capital ("WACC") for the Company;
- Determined the Fair Market Value of the Company as of December 31, 1999;
- Determined the Fair Market Value of the Company's subscriber base as of December 31, 1999;
- Derived an estimate of the Fair Market Value of the goodwill/going concern of the Company as of 12/31/99 from recent PCS transactions; and

- Determined the Fair Market Value of the License as the business enterprise value of the Company less the sum of the values of the subscriber base, tangible assets, working capital requirements and goodwill/going concern.

Analysis of Future Projections

A key factor in estimating the Fair Market Value of a wireless system is the ability to accurately assess the company's future operating characteristics and the resulting after-tax operating income and cash flow. After-tax operating income and cash flow are the primary drivers of overall Fair Market Value and the Fair Market Value of the intangible assets.

After-tax operating analyses generally take into consideration a number of system specific characteristics as well as industry characteristics. System specific considerations include population and population growth, subscriber penetration and system maturity, economic and demographic composition of the market, local area competition, marketing and administration.

We considered all of these factors when analyzing the operational and financial characteristics of the Company. The major components that we analyzed included population, subscribers, services, rates, service revenue by specific category, expenses by category, depreciation, taxes, capital expenditures and working capital. We also considered in our analyses competition and regulations in effect at the time of the valuation or likely to take effect soon after the valuation date. We then used the results of our detailed analyses in estimating the value of the Company as a whole and the value of the intangible assets. Our calculations were also based, in part, on the historical financial and operational performance of the hypothetical Company and other companies of similar configuration. Our analysis of the Company's operating characteristics, operating income and capital expenditures throughout the projection period as described above are found in Exhibit A.

The revenue and expense estimates were based on historical public company information as well as industry projections regarding population, subscribers, services and rates. Specific industry sources include documents published by The Strategis Group, Paul Kagan Associates, Goldman Sachs, Donaldson, Lufkin & Jenrette and others. In all cases, our work was based on industry expectations and our experience with comparable wireless companies.

Capital expenditures were based on historical and projected buildout costs as well as upgrades and improvements, and other expense factors that generally vary from system to system. Assumptions were based on industry sources and our experience with comparable wireless companies.

Depreciation was calculated via an estimated average asset life derived from public wireless company filings as of the valuation date.

Working capital requirements were based on industry working capital requirements of year to year incremental revenue.

A residual value was estimated in the final year of the analyzed period. The premise upon which the use of a residual value is based is the fact that significant value will be returned to the owner of a property at the end of the owner's holding period. Alternatively, the owner will continue to hold the property and realize operating profit well into the future. We calculated the residual value by first estimating the year 11 cash flow (year 10 cash flow times the long-term growth rate). The year 11 cash flow was then divided by the difference of the discount rate less the long-term growth rate (cap rate). The resulting residual value was discounted to the present at the same rate as the after-tax cash flow.

Selection of the Discount Rate

The Weighted Average Cost of Capital ("WACC") represents the required rate of return on Total Capitalization. It is comprised of a required rate of return on equity plus the current tax-affected rate of return on debt, weighted by the relative percentages of equity and debt that are typical in the industry.

The first step in calculating the rate of return on Total Capitalization was to calculate the levered beta specific to the Company. To do this, we first unlevered the betas of each of the comparable companies and then relevered the betas to account for the typical industry capital structure. Next, the risk free rate and the risk premium on equity were determined. The cost of equity was then calculated by substituting these factors into the Capital Asset Pricing Model ("CAPM").¹⁴ After determining the current yield on long-term debt, the next step was to compute the market return on Total Capitalization by weighting the equity and debt rate of return by the relative amounts of equity and debt in the capital structure of the comparable companies.

¹⁴ Investments. W.F. Sharpe. Prentice Hall: Englewood Cliffs, New Jersey (1978)

- *Step One - Determine Target's Specific Levered Beta*

The measure of risk has been developed as a result of extensive empirical research into the market pricing of risk. The risk index, or "beta", has gained wide acceptance as a measure of the degree of risk incurred by investing in an individual company as compared to the risk of investment in a well-diversified portfolio of common stocks. Investing in the stock of a company with a beta of 1.10 means that the investment is 10.0 percent more volatile and risky than investing in a well diversified portfolio of common stocks. Conversely, shares of a company with a beta of 0.90 mean that the investment is 10.0 percent less volatile, and therefore less risky, than investing in a well-diversified portfolio of common stocks.

We utilized betas as provided by Compustat, which are available only for publicly traded companies. The betas provided by Compustat reflect the actual capital structure and thus actual financial leverage of the company. As such, they can be referred to as levered betas. Because the target's overall leverage differs from that of the comparable companies, it was necessary to adjust these betas for use in the CAPM. This adjustment was performed by first computing the unlevered betas for the comparable companies. The unlevered beta is the beta each company would have if it had no debt.

The calculation of the unlevered beta was performed as follows:

$$B_U = \frac{B_L}{1 + \frac{W_d}{W_e}}$$

where:

- B_U = Beta unlevered
- B_L = Beta levered
- W_d = Percent debt in capital structure
- W_e = Percent equity in capital structure

Next, the average unlevered beta of the comparable companies was calculated. This average unlevered beta was substituted into the following formula to relever the beta for the target:

$$B_L = B_U \times \left(1 + \frac{W_d}{W_e} \right)$$

where the definitions of the variables are the same as in the aforementioned formula for computing unlevered betas.

- *Step Two - Determine the Risk-Free Rate (R_f)*

As of December 31, 1999, the average yield to maturity on the 20-year U.S. Treasury Bonds was 6.83 percent.¹⁵ Treasury bond yields are "risk free" only in nominal terms; i.e. if they are held to maturity, default risk is assumed to be negligible.

- *Step Three - Determination of the Equity Risk Premium ($R_m - R_f$)*

The market risk premium is the expected return in excess of the risk-free rate that investors require for investing in stocks generally. According to a PwC study, the average projected equity risk premium is 5 percent.

- *Step Four - Compute the Current Market Yield on Equity Capital (R_e)*

In order to determine the current market yield required on equity, we applied the CAPM.¹⁶ The CAPM is a generally accepted method for estimating an investor's yield requirement, and hence a company's cost of equity capital.

The CAPM is represented by the following algebraic equation:

$$R_e = R_f + \beta(R_m - R_f)$$

where:

- R_e = equity rate of return;
- R_f = risk-free rate of return;
- β = beta (risk) coefficient for the particular investment;
- R_m = market rate of return;

¹⁵ Per Federal Reserve Statistical Release, December 31, 1999

$R_m - R_f$ = equity risk premium expected on equity investments in a diversified portfolio of common stocks

- *Step Five - Determine the Current Yield on Long-Term Debt (R_d)*

A reasonable estimate for the cost of long-term debt capital is the average yield for recent debt offerings by public PCS companies. The average coupon rate, weighted by proceeds, for PCS operators in 1999 was 11.89 percent.

- *Step Six - Weighted Average Return on Total Capitalization*

The required rates of return on equity and long-term debt were then weighted, according to the relative proportions of debt and equity comprising the optimal capital structure of the target, in order to arrive at a weighted average return on Total Capitalization. The optimal capital structure was calculated as the weighted average of the debt to equity ratios of the comparable companies.

The weighted average return on Total Capitalization was determined in accordance with the following equation:

$$R_c = \left[\frac{E}{D+E} \right] R_e + \left[\frac{D}{D+E} \right] R_d$$

where:

- R_c = weighted average rate of return required on Total Capitalization
- E = equity
- R_e = rate of return required on the equity portion of total capitalization
- D = long-term debt
- R_d = rate of return required on the debt portion of Total Capitalization

In determining the overall WACC for the Company, we included the following publicly traded companies in our analysis: Aerial Communications, Omnipoint Corporation, Powertel, Inc., Sprint PCS Group, and Voicestream Wireless Corporation. By substituting the appropriate factors in the aforementioned equation,

¹⁰ Investments, W.F. Sharpe, Prentice Hall: Englewood Cliffs, New Jersey (1978)

we computed the WACC for the Company to be 12.34 percent as shown in Exhibit X. The WACC was rounded to 12.0 percent and utilized as the discount rate in our present value computations the Company. We added a premium of 2 percent to the WACC applicable to the Company when valuing the individual assets of the Company to account for the additional risk associated with individual assets relative to all assets operating as a going concern.

Conclusion of Fair Market Value for the Company

Based on our analysis, we estimated the Fair Market Value of the business enterprise of the Company, as a going concern, free and clear of all liens and encumbrances, as of December 31, 1999 to be \$905,450,910. This equates to approximately \$146 per 1999 EOY POP. This appears reasonable given that the comparable public companies utilized in the determination of the WACC were trading at an average enterprise value per POP of \$144, as shown below.

(in millions)	VeriTel	Omnicom	VoiceStream	Sprint	PCS	PowerTel	
Market Cap	\$ 4,482	\$ 5,158	\$ 10,562	\$ 40,239	\$ 2,555		
Preferred Equity	0	544	0	NA	152		
Total Debt	940	2,472	1,165	10,744	1,165		
Enterprise Value	5,414	7,805	11,679	50,967	3,469		
EBITDA	-139	-298	NA	NA	-77		Total
POP- Covered	28	138	64	299	30		558
EV/EBITDA	(39)	(26)	NA	NA	(45)		
							Average
(in dollars)							
EV/POP	\$ 192	\$ 57	\$ 184	\$ 171	\$ 115		\$ 144
% of total pops covered	5%	25%	11%	53%	5%		
weighted average	\$ 10	\$ 14	\$ 21	\$ 91	\$ 6		\$ 142

Source: Bloomberg

Fair Market Valuation of the Subscriber Base

A significant identifiable intangible asset inherent in service businesses is the value of existing customers. Key determinants of subscriber base value are consumer recognition of the company's brand name, the company's market share, the profitability of the service, and the longevity of the subscriber base.

In our valuation, we applied a derivative of the income approach to determine the Fair Market Value of the subscriber base of the Company. The Fair Market Value of the existing subscriber base, as of December 31, 1999, is the difference between purchasing the subscriber base and having to go out and build the subscriber base. In order to value the subscribers, we first determined the remaining economic life of the subscriber relationships.

Determination of the Remaining Economic Useful Life of the Subscriber Base

The remaining economic life of the subscriber base was determined by examining the termination characteristics of past wireless subscribers as well as projected future termination characteristics for the industry. Since there are no stated economic lives for current subscribers, past results served as the closest proxy in determining an appropriate remaining economic life for the subscriber base.

Both commercial and residential subscribers represent users of the Company's services. Churn rates, net additions, and total gross additions are all derived from industry averages and estimated subscribers in the Miami MTA. Historical churn rates and estimates of future churn rates were based on publicly available information and PwC's professional opinion. We projected a future churn rate of 2.5 percent per month, or 30 percent per annum. Using this churn rate, the Company's current subscriber base would have a weighted average remaining useful life of approximately 3 years.

Valuation Methodology

We determined the Fair Market Value of the subscriber base using the excess earnings method, a form of the income approach. According to our analysis, the value of the Company's subscriber base represents the capitalized difference in operating income between the decline in the existing subscriber level and the alternative subscriber growth required to reach the existing subscriber base.

The assumptions we used in our analysis of the decline of the current subscriber base were based on industry expectations. The assumptions we applied to the replacement of the existing subscriber base were based on our analysis of the hypothetical start-up Company and historical public company information.

We calculated the operating income stream attributable to the subscriber base served as of December 31, 1999 assuming their gradual decline to zero. We assumed an average customer churn of 30 percent per annum. We also calculated the operating income stream attributable to the new customers of the hypothetical start-up as it grows its subscriber base to the number of subscribers projected to be served by the Company as of December 31, 1999. We then computed the difference between the two streams.

The final step in our valuation analysis was to discount the positive difference between the two income streams back to the present. We selected a discount rate using the methodology as described and presented in Exhibit B. We added a premium of 2 percent to the discount rate applicable to the overall intangible

assets to account for the additional risk associated with individual assets relative to all assets operating as a going concern.

The net present value of the positive difference represents the value of the Company's subscriber base. The estimated Fair Market Value of the Company's existing subscriber base, as of December 31, 1999, was \$134,000,000, as shown in Exhibit C

Goodwill/Going Concern

An estimate of the Company's goodwill/going concern was derived from two recent transactions between public companies as well as from PwC's experience with similar PCS and wireless transactions.

Voicestream acquired two public PCS companies during 1999, Aerial and Omnipoint. We obtained preliminary purchase price information and allocation information from Voicestream's S-4/A filing dated December 3, 1999. The information is contained in the chart below.

	Aerial	Omnipoint
Total Consideration	\$ 5,343,730	\$ 5,701,120
less: Fair value of assets acquired (excluding FCC licenses)	667,690	1,293,917
less: Fair value of FCC licenses acquired	561,700	885,360
Preliminary goodwill	4,114,340	3,521,843
Goodwill/Total Consideration	77%	62%

Source: Voicestream S-4/A 12/31/99

The average amount of preliminary goodwill as a percentage of Total Consideration was 69 percent. We believe that this value includes the value of the subscriber base. Further, based on our experience involving similar markets transactions, we estimate that the percentage would be somewhat less, approximately 60 percent. Because the subscriber base of the Company is equal to approximately 15 percent of the business enterprise value, we estimate that the goodwill/going concern of the Company, as of December 31, 1999, is equal to 45 percent of the Fair Market Value of the company, or approximately \$409,000,000, as shown in Exhibit D.

Reconciliation of the Fair Market Value of the License

The Fair Market Value of the License was then determined as follows:

Fair Market Value of the Company
Less: Net Book Value of the Tangible Assets
Less: Fair Market Value of the Subscriber Base
Less: Working Capital Requirements
Less: Goodwill/Going Concern Estimate

As of December 31, 1999, the Fair Market Value of the License was determined to be \$191,249,688, approximately \$30.84 per 1999 EOY POP.

C. Market Approach

In employing the market approach, the comparable sales method was analyzed in determining the value of the FCC licenses. Under this method, primary and secondary sales of similar PCS licenses were compared to the License in order to determine a Fair Market Value. Primary market sale prices were measured and compared using the price per POP in the market and the overall price for the market. Secondary sales of PCS licenses in the open marketplace and secondary sales of similar PCS systems were also considered in our valuation approach.

Primary Market Sales

The primary markets for FCC PCS licenses were the auctions held by the FCC, discussed previously in Section IV of this report.

Price per POP

Auction prices were obtained from the FCC for the price per POP and the price per market paid for all licenses in the A/B, C, D/E/F-block auctions, and the C/D/E/F re-auction. In the case of the A/B, C, and D/E/F-block auctions, we examined the sale of the Miami MTA and BTA licenses only in our analysis. With regard to the C/D/E/F-block re-auction, we examined the sale of three 30 MHz C-block BTA licenses for Chicago, Detroit, and Dallas, metropolitan areas of similar population to the Miami MTA.

In order to compare the licenses auctioned in each block, we applied a number of adjustments to the gross high bid per POP in order to account for differences in the value of the licenses being auctioned within each

block and our License, an A-block license.¹⁷ These differences include bidding credits, ownership restrictions and transferability issues, favorable financing terms, market competition, and the bandwidth of the allocated spectrum.

Adjustment for Bidding Credits

Starting with the gross price per POP, the first adjustment applied was that of bidding credits. Bidders within the C and F-blocks were given bidding credits for meeting the entrepreneur or small business criteria set forth by the FCC. These bidding credits were in the amount of 25 percent of the winning bids. The majority of C and F-block winning bidders received the 25 percent credit. In order to compare the other blocks of licenses to the License, we applied a 25 percent discount to the C-block and F-block winning bids to determine the net bids.

Adjustment for Ownership and Transferability Restrictions

An adjustment was made for ownership and transferability restrictions within the C and F-blocks. The bidding for a license in the A/B and D/E-blocks was open to all entities. The bidders in the C and F-blocks, however, were restricted to "entrepreneurs" or entities together with affiliates which have gross revenues of less than \$125 million in each of the two years prior to filing their auction applications and total assets of less than \$500 million at the time of application filing.

Transfer of a license within all the blocks requires FCC approval. Transfer of a license in the C and F-blocks includes a number of additional restrictions. These restrictions state that no transfer of control will be granted unless:

- Transfer of control is filed after 5 years from the date of the initial license grant; or
- The proposed assignee or transferee meets the definition of an entrepreneur; or
- The proposed assignee or transferee holds other licenses in the C and F-blocks and at the time of receipt of such licenses met the definition of an entrepreneur.
- The transfer is for partial assignment of a partitioned service area or for disaggregation of spectrum and one of the three previous conditions above apply.

¹⁷ All of the Pioneer's Preference PCS licenses issued were A-block licenses

- The transfer is for an involuntary transfer to a bankruptcy trustee, a court appointed independent receiver, or a person or entity legally qualified to succeed in the event of death or disability.
- The transfer of control is pro forma.

In addition to the above restrictions, the C and F-blocks include the following restrictions:

- If a licensee utilizes installment financing and, after five years, seeks to transfer to an entity that does not meet installment financing eligibility requirements, the FCC will require the licensee to pay the remaining unpaid principal and interest through the date of assignment or transfer.
- If a licensee utilizes installment financing and, after five years, seeks to make a change in ownership structure that would result in the loss of eligibility for installment financing, the licensee shall obtain FCC approval and must make full payment of the remaining principal.
- If a licensee seeks to make a change in ownership structure in the first five years of its license term that would result in the licensee qualifying for a less favorable bidding credit, the licensee shall obtain FCC approval and adjust its payment plan to reflect its new bidding credit status and reimburse the government for the difference associated with the prior bidding credit. A licensee can not switch to a more favorable bidding credit plan.
- If a licensee that utilizes a bidding credit seeks to transfer its license to an entity not meeting the eligibility standards for bidding credits or a licensee seeks changes in ownership that result in the licensee no longer qualifying for bidding credits, the licensee must obtain FCC approval and reimburse the government for the amount of the bidding credit.

The C and F-block bids were adjusted to account for these ownership and transferability restrictions through a 25 percent premium added to the net bid. A 25 percent premium was utilized because if a C or F-block license is transferred to an entity ineligible for the bidding credits, the licensee must repay the bidding credits, 25 percent of the gross bid, to the FCC.

Adjustment for Favorable Financing

The third issue examined was the financing within each block. Owners of licenses within the A/B and D/E-blocks were required to pay the entire amount of their bids within days of the granting of the license. Owners within the C and F-blocks, except for those licenses re-auctioned in the C/D/E/F-block re-auction, qualified for installment financing which commenced upon FCC conveyance of the licenses. Financing terms varied depending on the size – namely average annual revenues - of the business.

Discounted cash flow analyses, shown in Exhibits E, and F, were utilized to determine the value of the favorable financing for the C- and F-block bidders. In our analysis, we assumed the following:

- The bidder was classified by the FCC as a "small business", having sales of less than \$40 million.
- Similar financing terms would be extended to both the "small business" and the other bidders; the economic benefit of the favorable financing would lie solely in the interest rate available to the bidder.
- The interest rate for the "small businesses" was taken as the 10-year Treasury note rate, 6.86 percent as of the May 6, 1996 (the conclusion of the C-block auction) and 6.53 percent as of January 14, 1997 (the conclusion of the D/E/F-block auction).
- The interest rate for the other bidders was derived from historical bond offerings of similar PCS and cellular operators. We concluded that the interest rate, or the cost of debt, was the median value of the comparable offerings, shown in Exhibit G as 9.81 percent as of May 6, 1996 and 9.60 percent as of January 14, 1997.

The premium for favorable financing was then determined by discounting the difference between the quarterly payments for the "small businesses" and the other bidders, including principal and interest at the cost of debt for the other bidders. This difference was calculated as a 16.8 percent discount for the C-block financing and a 10.9 percent discount for the F-block financing as of conclusion of each auction.

Had the financing been extended to bidders in all blocks, the bidders may have been willing to pay a premium for the licenses, as evidenced by Exhibits E and F. Accordingly, we applied a 16.8 percent discount to the C-block gross value per POP to represent the excess amount that the bidders would have been willing to pay for the favorable financing terms offered to the C-block bidders, as shown in Exhibit E. Similarly, we applied a 10.9 percent discount to the F-block gross value per POP to represent the excess

amount that the bidders would have been willing to pay for the favorable financing terms offered to the F-block bidders, as shown in Exhibit F.

Market Competition Adjustment

We also considered an adjustment for market competition. The bidders for A/B-block licenses were typically the third and fourth competitors in the wireless telephone marketplace. Theoretically, they paid a premium for their licenses in order to compete with the existing cellular duopoly. The C and D/E/F-block bidders, if successful, would have a late start at breaking into a highly competitive marketplace. We assumed that they took this consideration into effect when they placed their bids.

The Strategis Group projects that A/B block license holders will obtain penetration levels of approximately twice that of C block license holders. Additionally, Donaldson, Lufkin, and Jenrette projects that the A/B-block licensees will realize penetration levels of twice that of the C and D/E/F-block licensees combined.

In order to account for the degree of market competition that the A/B-block licensees would face by achieving a two year head start on the rest of the PCS blocks, we applied a premium of 50 percent to the bids per POP less adjustments for bidding credits, ownership and transfer restrictions, and favorable financing to arrive at the net adjusted bid per POP for the C and D/E/F-block licenses. Therefore, the premium reflects the analysts' predictions that the A and B-block license holders will realize penetration levels at maturity of at least twice that of the C-block license holders.

Similarly, holders of the re-auctioned C-block licenses will experience delays of 3-4 years when compared to the A/B license holders. Accordingly, we applied a 100% premium to bids per POP less adjustments for bidding credits, ownership and transfer restrictions, and favorable financing to arrive at the net adjusted bid per POP for the C/D/E/F re-auction licenses.

Spectrum Equalization

As mentioned earlier in the report, the A/B and C-block license holders were allocated 30 MHz of spectrum as compared to the 10 MHz allocated to each license holder in the D, E and F-blocks. In order to compare the high bid for a 30 MHz block to one in a 10 MHz block, the net adjusted bids per POP for the D/E/F-block licenses were multiplied by three.

Other Adjustments Considered

In addition to the adjustments mentioned above, we considered adjustments for continuous spectrum block purchase, spectrum utilization, and synergies of other licenses acquired by the acquiring companies and how they fit into the company's wireless footprint. We concluded that these adjustments were immaterial to the analysis.

Fair Market Value of the Licenses

Once all adjustments had been made to the prices for comparable licenses, the value of the License was determined. Initially, the Spectrum Equalized Net Adjusted Bid per POP was calculated for the A, B, C, D, E, and F-block bids and the re-auctioned C-block markets. The Spectrum Equalized Net Adjusted Bids per POP were \$25.64, \$24.53, \$70.15, \$31.15, \$31.13, \$29.96 and \$29.72 for the A, B, C, D, E, F and re-auctioned C-block respectively, and as shown in Exhibit H. Based on the results of this analysis, we feel that the Fair Market Value of the License is approximately \$30.00 per POP, or \$186,000,000.

Secondary Market Sales

In addition to the government placements of licenses, we examined secondary transactions between wireless operators for PCS licenses and PCS systems. Market transaction prices were obtained from the newsletter *Wireless Telecom Investor* published by Paul Kagan Associates.

Beyond the FCC auctions, there have been numerous transactions involving the original owners of PCS licenses. The transactions, as shown in Exhibit I, include both the sales of PCS licenses and the sales of PCS systems. The transactions listed involved swaps, joint ventures, or partial sales of licenses; in these cases, the prices per POP were estimated by Paul Kagan Associates. Within the A/B blocks, the average price per POP for the transactions increased from \$32 in 1997 to \$197 in 1999. Including the C, D, E and F blocks, the average price per POP increased from \$17 to \$125.

It is difficult to draw conclusions from these sales for a number of reasons:

- In the majority of cases, there is a lack of significant financial data necessary to analyze and compare the sales of minority interests, mergers, joint ventures and swaps;
- The secondary license sales were generally for areas differing in population size and demographic makeup than the Miami MTA.

- The figures include transactions of operating systems, not solely licenses but rather a business with operating cash flows, tangible assets, branding, subscriber lists, established sales force, and licenses. Because detailed financial, technical and operating information is not generally available regarding PCS system transactions, it is impossible to isolate the license values within these transactions and therefore also impossible to relate these prices to their license values of any particular market or to make a direct comparison with the subject License.

As a result of these factors, it is impossible to isolate the value of the licenses and make a reasonable comparison. Thus, we did not utilize this information in our valuation conclusion.

Secondary Sales of Pioneer's Preference Licenses

A number of secondary sales that are particularly relevant to the valuation of the License are those involving the Pioneer's Preference PCS licenses. As of the valuation date, all three had been sold or were pending sales. A brief discussion of the most recent transaction, providing the most current indication of value for a Pioneer's Preference License, for each of the licenses follows below.

New York

The New York license was awarded to Omnipoint because of their work on IS-661, a hybrid wireless service standard. The license was recently acquired by Voicestream as part of their acquisition of Omnipoint. Paul Kagan Associates independently values the acquisition of the New York system at \$114 per POP.

Los Angeles

The Los Angeles license was awarded to Cox for their efforts to operate a PCS network using cable television infrastructure. There were a number of transactions involving the Los Angeles Pioneer's Preference license, beginning in January of 1995 when Cox sold a portion of the partnership owning the license to Sprint. The most recent transaction occurred in the second quarter of 1999. Cox sold their 40.8 percent stake in Cox Communications PCS, LP to Sprint, exiting the PCS business entirely. The stock transaction which gave Sprint complete ownership of the Los Angeles MTA license was valued at approximately \$1.2 billion, or \$131.37 per POP.

Washington DC

The Washington DC Pioneer's Preference license was awarded to American Personal Communications ("APC") for their work with GSM technology. In October of 1994, APC sold a 49 percent equity interest to

a Sprint joint-venture. In November of 1997, Sprint became the managing partner of APC with their acquisition of an additional 9.5 percent equity stake. Sprint acquired full control of the license in January of 1998, acquiring the remaining 41.5 percent equity stake for approximately \$61.69 per POP.

Conclusions

While the secondary sales of the Pioneer's Preference PCS licenses should provide the best indication of the value of the License, it is difficult to isolate the value of licenses involved in the sales from the other assets involved in the ongoing business. For that reason, we did not utilize this information in our valuation conclusion.

D. FCC License Value Conclusions

Based on our investigation and analysis as described in the report, and subject to the assumptions and limiting conditions specified herein, it is our opinion that the Fair Market Value of the License, free and clear of all liens and encumbrances, as of December 31, 1999 is \$186,000,000, or \$30.00 per estimated 1999 POP, as shown in Exhibit J.

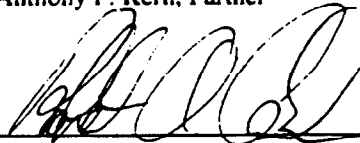
VI. CERTIFICATION

We Certify that, to the best of our knowledge and belief:

- The statements of fact contained in this report are true and correct.
- The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, unbiased professional analyses, opinions, and conclusions.
- We have no present or prospective interest in the business that is the subject of this report, and we have no personal interest or bias with respect to the parties involved.
- Our compensation is not contingent on an action or event resulting from the analyses, opinions, or conclusions in, or the use of, this report.
- Our analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice of the Appraisal Foundation.
- No one other than the person or persons listed below provided significant professional assistance to the persons signing this certification.



Anthony P. Kern, Partner



Robert A. Cerbone, Manager



Ronald D. Frazier, Associate

VII. TERMS AND CONDITIONS

The following are the terms and conditions ("the Terms and Conditions") on which we will provide the Services to you set out within the attached Proposal Letter. The Proposal Letter and the Terms and Conditions are together referred to as "the Contract" or "the Engagement". The Contract forms the entire agreement between us relating to the Services. It replaces and supersedes any previous proposals, correspondence understandings or other communications whether written or oral. The headings and titles in the Contract are included to make it easier to read but do not form part of the Contract.

1. Reports and Advice

- 1.1 Reliance on drafts** - you acknowledge that no reliance shall be placed on draft reports, conclusions or advice, whether oral or written, issued by us as the same may be subject to further work, revision and other factors which may mean that such drafts are substantially different from any final report or advice issued.
- 1.2 Use and purpose of advice and reports** - any advice given or report issued by us is provided solely for your use and benefit and only in connection with the purpose in respect of which the Services are provided. Unless required by law, you shall not provide such report to any third party or refer to us or the Services without our prior written consent which we may at our discretion grant, withhold or grant subject to conditions. In no event, regardless of whether consent has been provided, shall we assume any responsibility to any third party to which any advice or report is disclosed or otherwise made available.

2. Legal and Regulatory Requirements

You confirm and undertake that you have all necessary powers and have obtained all necessary authorizations, consents and approvals to enter validly and lawfully into the Contract.

3. Information and Assistance

- 3.1 Provision of information and assistance** - our performance of the Services is dependent upon you providing us with such information and assistance as we may reasonably require from time to time.
- 3.2 Punctual and accurate information** - you shall use reasonable skill, care and attention to ensure that all information we may reasonably require is provided on a timely basis and is accurate and complete. You shall also notify us if you subsequently learn that the information provided is incorrect or inaccurate or otherwise should not be relied upon.
- 3.3 Your responsibility for information provided** - any reports issued or conclusions reached by us may be based upon information provided by and on your behalf. While the Engagement may involve an analysis of financial information, the Engagement does not include an audit in accordance with generally accepted auditing standards of your existing business records. Accordingly, we assume no responsibility and make no representations with respect to the accuracy or completeness of any information provided by and on your behalf.

4. Fees and Additional Services

- 4.1 Fee basis** - our fees will be charged on the basis set out in the Proposal Letter.
- 4.2 Changes to Services** - either party may request changes to the Services. We shall work with you to consider and, if appropriate, to vary any aspect of the Engagement, subject to payment of reasonable additional fees and a reasonable additional period to provide any additional Services. Any variation to the Contract, including any variation to fees, services or time for performance of the Services, shall be set forth in a separate Proposal Letter which shall form part of the Contract and to which these Terms and Conditions shall apply.

- 4.3 Payment of fees** - time for payment of fees and expenses shall be of the essence. If we do not receive payment of any invoice within 30 days of the invoice date we shall be entitled, without prejudice to any other rights that we may have, to charge you interest accruing on the sum due to us at the annual rate of 15% and, after 45 days from invoice date, to suspend provision of the Services in accordance with paragraph 6.2 below until all sums due are paid in full. Further, if you disagree with or question any amount due under an invoice submitted by us, you shall communicate such disagreement to us, in writing, within 30 days of the invoice date. Any claim not made within that period shall be deemed to be waived.
- 4.4 Payment of tax** - all sums due in connection with the Services will be subject to the payment of tax where applicable.
- 4.5 Your responsibility for other parties** - you shall be solely responsible for the work and fees of any other party engaged by you to participate in the Engagement regardless of whether such party was introduced to you by us. Except as provided in the Proposal Letter, we shall not be responsible for providing or reviewing specialist advice or services including legal, regulatory, accounting or taxation matters, due diligence or any other investigative services.

5. Confidentiality

- 5.1** Neither party will disclose to any third party without the prior written consent of the other party any confidential information which is received from the other party for the purposes of providing or receiving Services which if disclosed in tangible form is marked confidential or if disclosed otherwise is confirmed in writing as being confidential or, if disclosed in tangible form or otherwise, is manifestly confidential. Both of us agree that any confidential information received from the other party shall only be used for the purposes of providing or receiving Services under this or any other contract between us. These restrictions will not apply to any information which:

is or becomes generally available to the public other than as a result of a breach of an obligation under this clause;

is acquired from a third party who owes no obligation of confidence in respect of the information; or

is or has been independently developed by the recipient.

- 5.2** Notwithstanding clause 5.1 above either party will be entitled to disclose confidential information of the other (i) to our respective insurers or legal advisors, or (ii) to a third party to the extent that this is required, by any court of competent jurisdiction, or by a governmental or regulatory authority or where there is a legal right, duty or requirement to disclose, provided that (and without breaching any legal or regulatory requirement) where reasonably practicable not less than 2 business days notice in writing is first given to the other party.

Notwithstanding the above we may disclose any information referred to in this Clause 5 to any other PricewaterhouseCoopers entity or use it for internal quality reviews.

6. Termination

- 6.1 Termination of Contract upon 30 days' notice** - at any time during the term of the Contract, either party may terminate the Contract for whatever reason upon the expiry of 30 days notice to be given in writing to the other commencing upon the date when that notice of termination is sent.

- 6.2 Immediate suspension of the Contract** - at any time during the term of the Contract, either party may give immediate notice to the other suspending the performance of its duties and obligations under the Contract in the event that:

circumstances exist or arise which, in the reasonable opinion of that party, materially and adversely affect the performance of, or the ability to perform, that party's duties and obligations under the Contract;

either party becomes aware that the other party has failed (whether before or after the date of the Proposal Letter) to disclose to it information which in the reasonable opinion of that party is material to the performance of its duties and obligations under the Contract:

we do not receive payment from you of any invoice within 45 days of the invoice date.

6.3 Termination following suspension - either party may terminate the Contract forthwith by notice in writing to the other if the period of suspension of the Contract referred to at paragraph 6.2 above exceeds 30 days.

6.4 Variation following suspension - if we suspend the performance of the Contract pursuant to paragraph 6.2 above, we shall be entitled reasonably to vary our fees for the resumed performance of the Contract.

6.5 Actions following termination - upon termination of the Contract:

each party shall upon written request from the other return to the other all property and documentation of the other that is in its possession save that we shall be entitled to retain one copy of such documents that we require to maintain a professional record of our involvement in the Engagement;

you shall pay forthwith upon request all fees and expenses due in respect of the Services provided up to the date of termination together with our reasonable costs and expenses incurred in connection with the termination of the Contract.

6.6 Date of termination - for the avoidance of doubt, the date of termination shall be the date upon which any period of notice expires.

6.7 Accrued rights - termination of the Contract shall be without prejudice to any accrued rights of both parties.

6.8 Continuation of terms - the terms of the Contract which expressly or by implication are intended to survive its termination or expiry will survive and continue to bind both parties.

7. Liability Limitation

7.1 Limitation of our liability - our liability to pay damages for all losses, including consequential damages, economic loss or failure to realize anticipated profits, savings or other benefits, incurred by you as a direct result of breach of contract or negligence or any other tort by us in connection with or arising out of the Engagement or any addition or variation thereto shall be limited to that proportion only of your actual loss which was directly and solely caused by us and in any event our liability shall in no circumstances exceed in the aggregate the amount set forth in the Proposal Letter.

7.2 Liability limitation and the provision of information - notwithstanding paragraph 7.1 above, in no circumstances shall we be liable to pay any damages to you for losses arising out of or in any way connected with the provision of information to us by you or your failure to provide information to us either punctually or at all or any fraudulent act, misrepresentation or willful default on your part.

7.3 Legal proceedings - notwithstanding our liability for the acts and omissions of our partners, principles, directors, staff and employees, you accept and acknowledge that no legal proceedings arising from or in connection with the Engagement (or any variation or addition thereto) will be commenced against any of our partners, principals, directors, staff or employees personally.

7.4 Commencement of legal proceedings - you accept and acknowledge that any legal proceedings arising from or in connection with the Engagement (or any variation or addition thereto) must be commenced within 2 years from the date when you become aware of or ought reasonably to have become aware of the facts which give rise to our alleged liability and in any event not later than 4 years after any alleged breach of contract or act of negligence or commission of any other tort.

8. Warranties

You accept and acknowledge that we have not made any warranties or guarantees of any nature in respect of the Services or satisfactory conclusion of the Services or with respect to the economic, financial or other results which you may experience as a result of the provision of the Services.

9. Governing Law

9.1 Applicable law - this Contract shall be governed by and interpreted in accordance with the laws of the District of Columbia, USA. The Courts of that district shall have exclusive jurisdiction in relation to any claim, dispute or difference concerning the Contract and any matter arising from it. The parties irrevocably waive any right they may have to object to any action being brought in those Courts, to claim that the action has been brought to an inconvenient forum or to claim that those Courts do not have jurisdiction.

9.2 Resolving disputes - If any dispute arises between us we will attempt to resolve the dispute in good faith by senior level negotiations. Where both of us agree that it may be beneficial we will seek to resolve the dispute through mediation. If the dispute is not resolved through negotiation or mediation both of us agree that the courts of the country or state set forth in the Proposal Letter will have exclusive jurisdiction in connection with the resolution of the dispute.

10. Personnel

Neither party shall directly solicit the services of any employee, agent or representative of the other without the prior written consent of the other during the term of the Contract or for the period of six months after the termination of the Contract. If during the term of the Contract or for the period of three months after the termination of the Contract any employee of either party accepts an offer of employment made by the other party as a result of an introduction in the course of the Engagement, that party shall pay to the other a sum equivalent to six months gross salary of the employee concerned including any monetary bonuses payable to that employee during the term of the Contract or for the period of six months after termination of the Contract.

11. Year 2000

We will not perform any procedures to validate any information obtained from you regarding Year 2000 issues nor to evaluate the adequacy of either your processes or plans nor the processes or plans of your suppliers, customers or any other person or party that is connected with or is the subject of the Engagement ("Any Other Party") for identifying Year 2000 matters nor your or Any Other Party's plans for dealing with them. Accordingly, we will not provide any assurance as to whether your or Any Other Party's processes are Year 2000 compliant nor whether your or Any Other Party's plans are sufficient to address and correct the problems that may cause systems not to function as intended as a result of the Year 2000 issue. You acknowledge that the Services provided by us shall not be relied upon to assess possible damage, costs or disruption that Year 2000 issues may have upon you or Any Other Party nor to estimate in any form any probable costs, either direct or indirect which may be incurred by you or Any Other Party in the avoidance or mitigation of damage or disruption, including the costs of installing new hardware, software and systems to deal with Year 2000 issues.

12. Miscellaneous Provisions

12.1 Validity of Contract terms - if any provision of this Contract is held to be invalid, in whole or in part, such provision shall be deemed not to form part of the Contract. In any event the enforceability of the remainder of the Contract will not be affected, provided always that if any such deletion substantially affects or alters the commercial basis of these Terms and Conditions, the parties shall negotiate in good faith to amend and modify them as may be necessary or desirable in the circumstances.

12.2 Address for service - any written notice to be given hereunder may be delivered in person, by letter or by facsimile transmission to our address, clearly marked for the attention of the engagement partner, appearing within the Proposal Letter in the case of notices to us and to the address last notified by you in the case of notices to you. All such notices shall be deemed to have been received at the times when in the ordinary course they would have been received.

12.3 Actions required by law - nothing in the Contract shall prevent us from taking all such action as may be required by law or statute or to comply with the regulations of any relevant professional body.

12.4 Force Majeure - neither of us will be liable to the other for any delay or failure to fulfil obligations caused by circumstances outside our reasonable control. If such reasons continue to prevent performance of either party's duties and obligations for a period of more than 60 days we will consult each other for the purpose of agreeing what action should be taken.

12.5 References - for the avoidance of doubt, "we" and "our" refers to PricewaterhouseCoopers and "you" and "your" refers to the company on whose behalf the attached Proposal Letter was acknowledged and accepted.

13. Working for Other Clients

We will not be prevented or restricted by anything in the Contract from providing services for other clients. We will take steps to ensure that confidential information communicated to us during the course of this engagement will be maintained confidentially and separate from partners and staff assigned to engagements in which there is a manifest competing interest of another client.