Attachment 010: SSF obtained this document from SCRRA in response to SSF's California Public Records Act Request

SPECTRUM BRIDGE

Fair Market Valuation

AMTS (Automated Marine Telecommunication Service) Spectrum in Southern California

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Spectrum Bridge, Inc.

November 2009

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Disclaimer

The sole purpose of this fair market analysis is to assist the recipient in determining fair market value for the spectrum as described herein. The Fair Market value will be derived from factors including recent sales of similar spectrum, current market conditions, current and future demand from users of similar spectrum, impacts from FCC guidelines, rules, and restrictions, and availability of equipment and applications.

The information in this analysis has been provided by Spectrum Bridge and is, to the best of our knowledge, complete and accurate. No representation or warranty, expressed or implied, is or will be made, and no liability is or will be accepted by the seller or Spectrum Bridge as to the accuracy or completeness of this analysis or any other written or oral communication made available to interested parties. Any liability therefore is expressly disclaimed. Only those particular representations and warranties which may be made in a sale and purchase agreement, when and if finally executed, and subject to such limitations and restrictions as may be defined shall have any legal effect.

License Summary

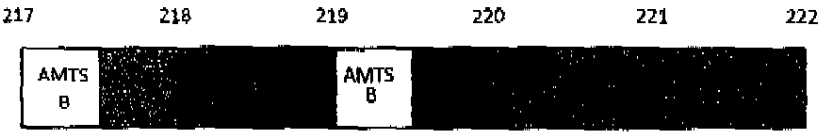
This analysis seeks to present an accurate and fair market valuation for portions of a market based spectrum license WQGF318 (AMT006: Southern Pacific, Channel Block A) located in the greater Los Angeles, CA area.

AMTS spectrum was allocated by the FCC in the 217-218 and 219-220 MHz band. The use of AMTS spectrum is defined by 47 CFR Part 80. The AMTS service consists of a specialized system of coast stations providing integrated and interconnected marine voice and data communications, somewhat like a cellular phone system, for tugs, barges, and other vessels on waterways. Service to units on land is permitted, so long as marine-originating communications receive priority. Several companies bid on this spectrum (auctions 57 and 61) and augmented operation of maritime communications systems (examples: Mobex, Watercom). Over the years these companies have ceased operations, primarily because of competition from cellular service. Cellular service has become virtually ubiquitous, has many more features, is integrated into other communications systems and much less expensive. As a result, most dedicated maritime communications systems have become dormant.

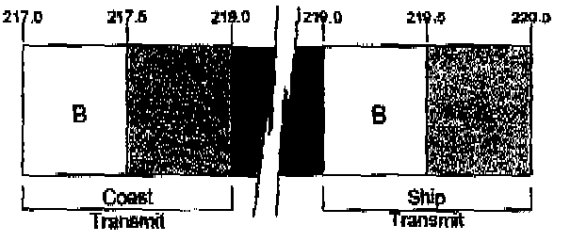
Maritime Communications / Land Mobile, Inc (FRN: 0013587779) holds licenses for spectrum in the AMTS (Automated Marine Telecommunication Service). AMTS spectrum licenses can be market based (defined by geography) or site-specific (defined by RF parameters including transmit power, tower height and radio propagation characteristics). Market based AMTS spectrum licenses were allocated via FCC Auction 57 and 61. Altogether, market based AMTS licenses represent a 2 MHz nationwide allocation of spectrum allocated across 10 regions. AMTS spectrum is allocated in 2 x 500 KHz (paired) contiguous blocks - A Block 217.5-218.0 / 219.5 – 220.0 and B Block 217.0-217.5 / 219.0 – 219.5 MHz.

This box does not cover any text in the original document. The above statements clearly show that the incumbent licensees, Mobex and Watercom, "ceased operations" and were "dormant" (i.e. they permanently discontinued operations). The FCC has already determined in MO&O, FCC 10-39 (the "Chicago Order") re: MCLM's Chicago AMTS station that permanent discontinuance results in termination of the station. As Petitioners have already shown and argued in their petitions to deny of MCLM, MCLM bought these permanently discontinued incumbent licenses that had "ceased operations" in order to block competition in Auction No. 61. This is further evidenced by the Spectrum Bridge statements below. Also, MCLM is offering for sale all of its AMTS licenses via Spectrum Bridge, which, as Petitioners have stated previously, is additional evidence that the Mobex and Watercom incumbent stations are not in operation. Spectrum Bridge is the broker for MCLM's AMTS licenses, including its bogus incumbent stations that it purchased from Mobex and Watercom, who according to Spectrum Bridge "ceased operations" and were "dormant". Spectrum Bridge receives a commission from any sale of MCLM's licenses and is actively marketing for sale all of MCLM's AMTS licenses. Thus, as MCLM's broker and marketer, Spectrum Bridge has conducted due diligence of MCLM's incumbent licenses and has intimate knowledge of what is in operation and what has ceased operation and laid dormant (i.e. been permanently discontinued). Therefore, from the Spectrum Bridge statements herein it can only be concluded that the Mobex and Watercom incumbent operations permanently discontinued at minimum before MCLM's acquistion of them over 5 years ago. Petitioners refer the FCC to the WCB Proceeding that contains facts that confirm these statements by Spectrum Bridge as accurate (e.g. Mobex and Watercom did not operate as PMRS, they took down their interconnect lines (Mobex and Watercom's AMTS had to be interconnected). In addition, as shown in this Petition and in other filings by Petitioners, Donald DePriest, the real controlling interest behind MCLM, has stated that he has no assets (they have been fully collateralized) and little income. Therefore, it is unbelievable that MCLM could be maintaining over 100 AMTS incumbent stations across the country and paying sites leases, equipment costs, maintenance, insurance, etc. The Enforcement Bureau should immediately investigate the MCLM incumbent AMTS station licenses, including by conducting site visits and doing an audit of MCLM's records of construction and operation (including station logs, customer logs, etc.) As Spectrum Bridge states below, MCLM was able to use these bogus incumbent stations to artificially keeps prices down at auction by blocking out competition from other bidders--those included ITL and ENL, who were damaged by these actions including by not being able to raise more funds. In addition, this is evidence of anticompetitive actions by MCLM (and Mobex and Watercom) and the FCC should refer it to the DOJ antitrust division.

AMTS Band Plan



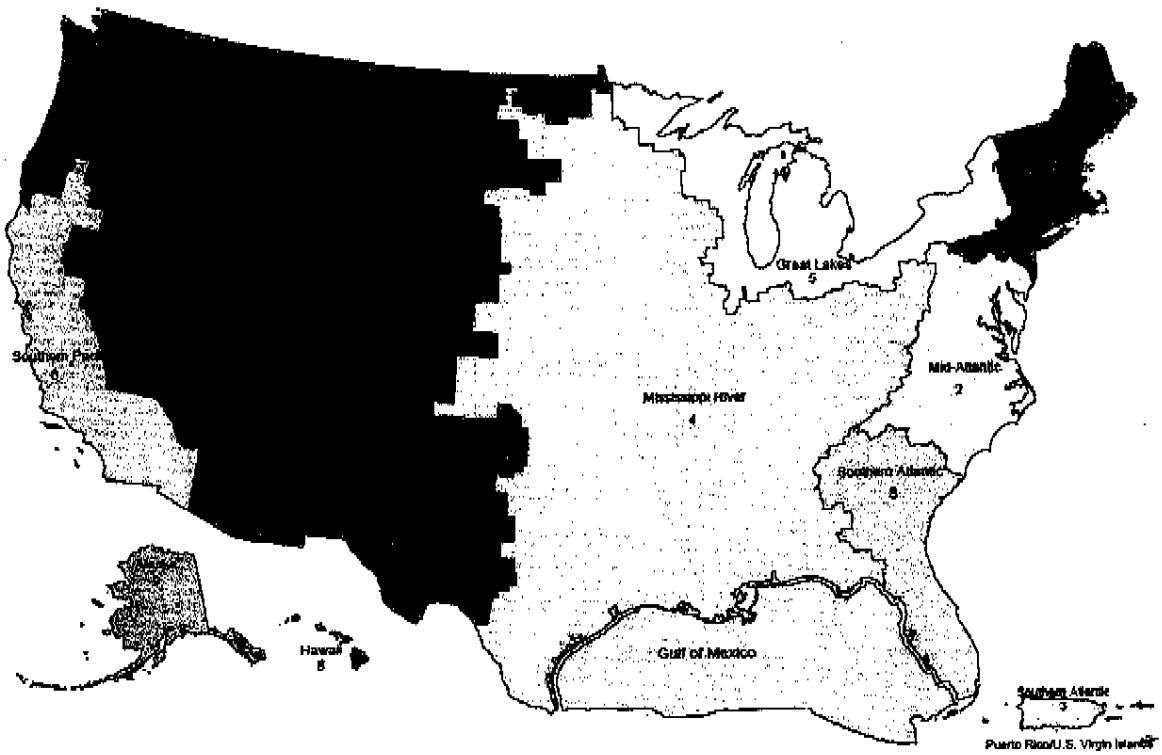
220-222 MHz and Other Adjacent Bands



Channel Block	Frequency Bands (MHz)	Bandwidth
A	217.5 – 218.0 / 219.5 – 220.0	1 MHz
B	217.0 – 217.5 / 219.0 – 219.5	1 MHz

FCC Depiction of AMTS Band

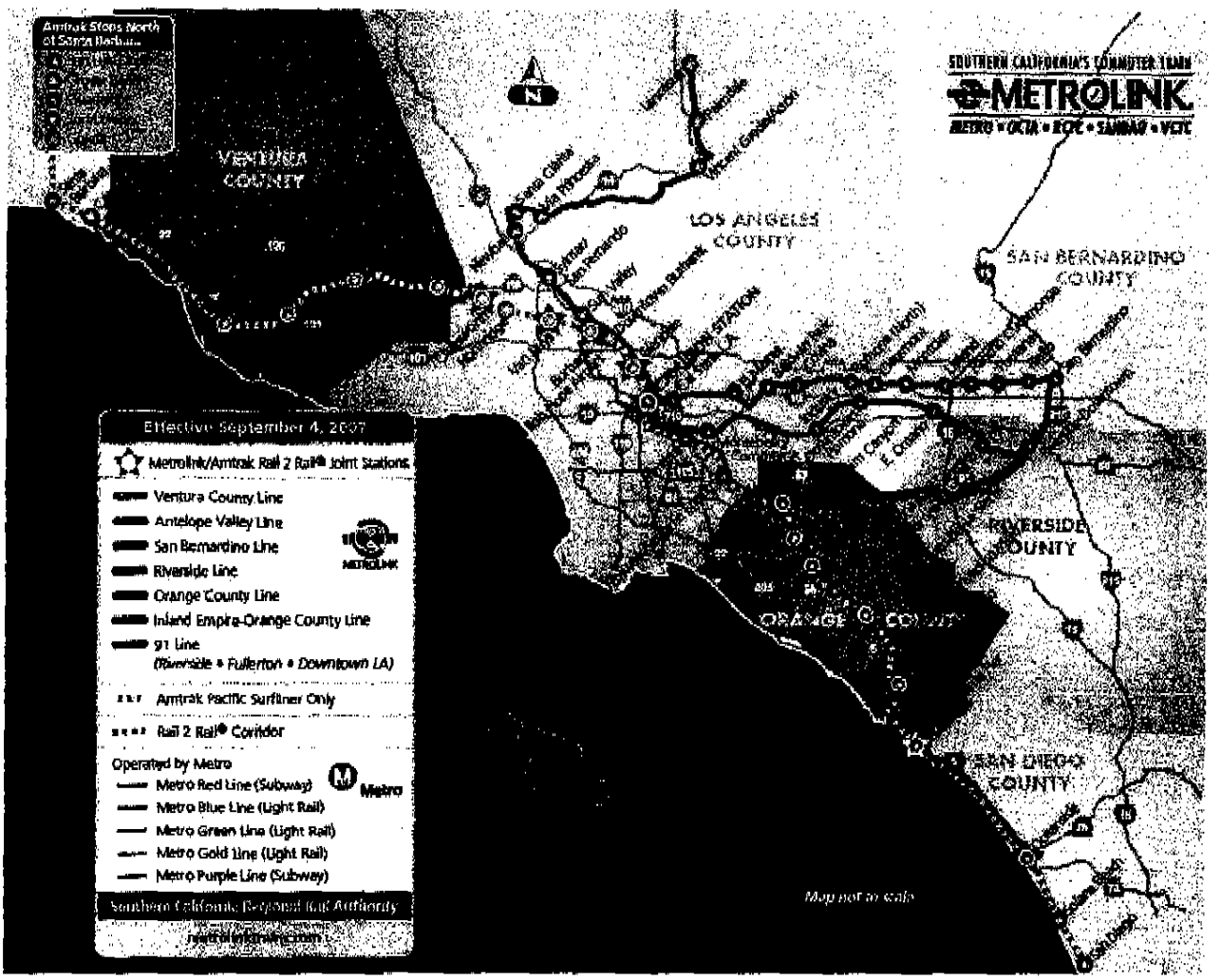
Service areas - AMTS service areas are divided into Automated Maritime Telecommunications System Areas (AMTSAs). AMTSAs are defined by the FCC and are based on, and composed of one or more of, the U.S Department of Commerce's 172 Economic Areas (EAs).



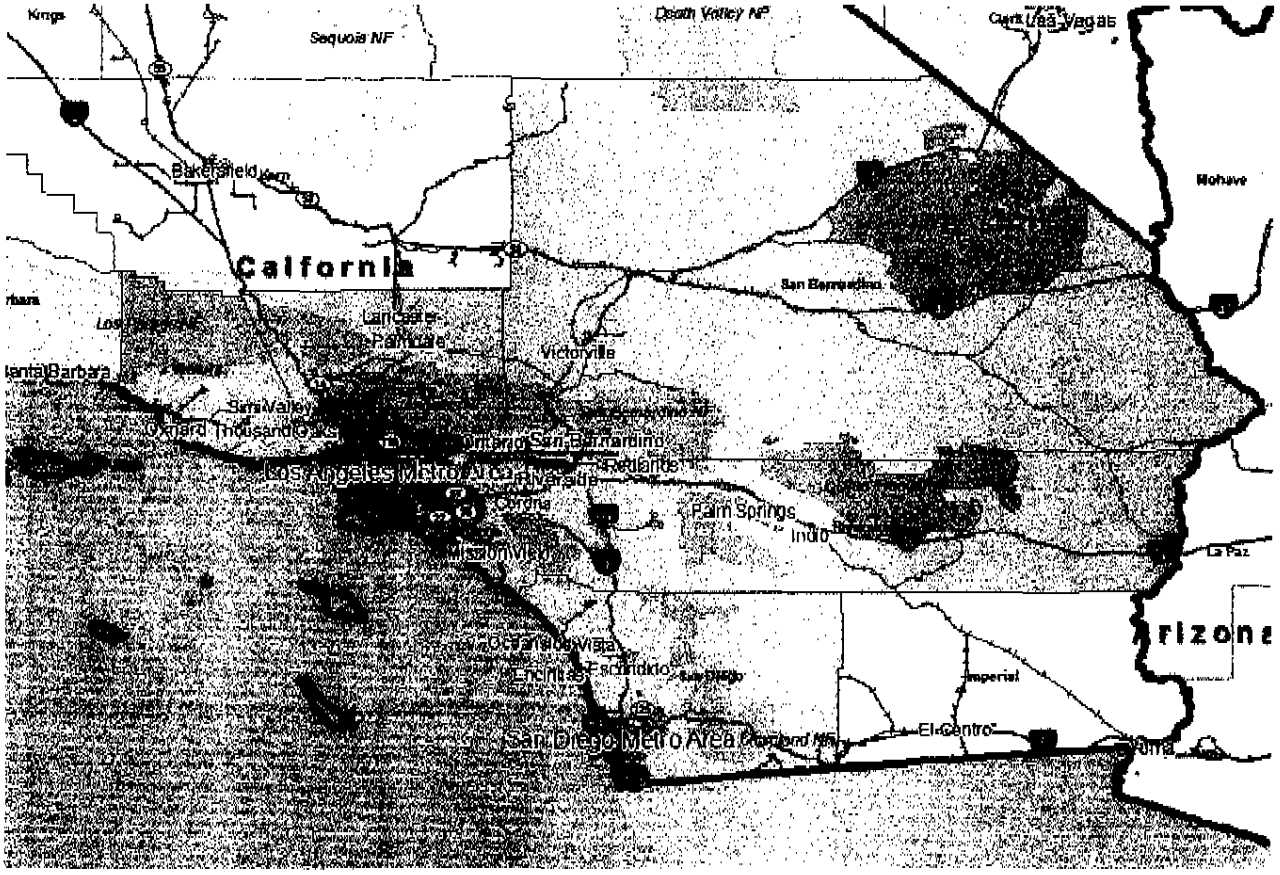
Automated Maritime Telecommunications System Areas (AMTSA)

Demographics and Proposed License Area

Metrolink provides public rail transportation in 6 counties in the greater Los Angeles Area. Operations are conducted throughout this area via 7 separate routes, 512 route miles of track and currently utilize 55 stations. Metrolink service areas and rail locations are depicted below.

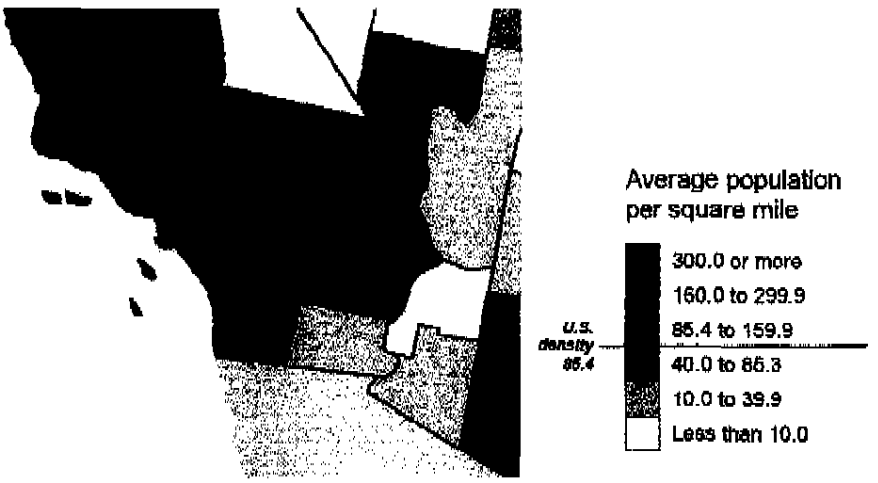


Because the subject AMTS spectrum license is market based it has been proposed to partition (allocate by geography) the portions of WQGF318 (AMT006: Southern Pacific, Channel Block A) by county that best fit the Metrolink operating area. This area consists of 6 counties and is shown below:



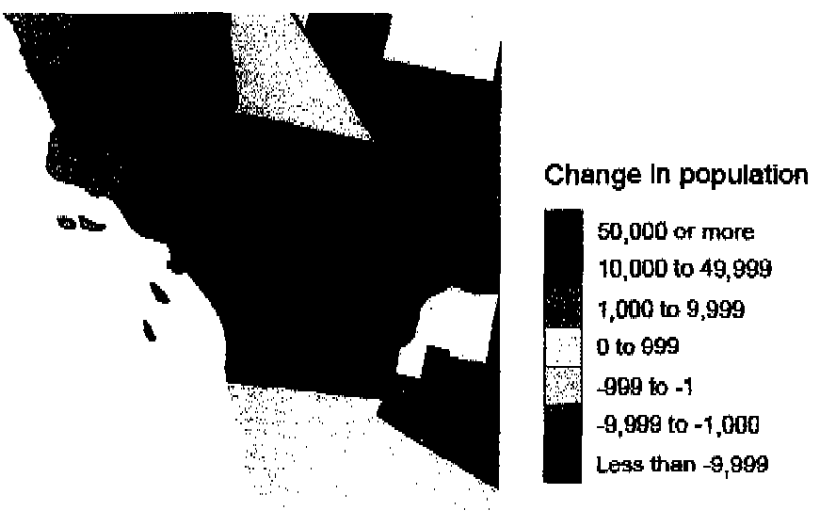
State	County	POPs 2000 census	POPs 2008 estimate	POPs Change	POPs % Change
California	Los Angeles	9,519,338	9,862,049	342,711	3.60%
California	Orange	2,846,289	3,010,759	164,470	5.78%
California	Riverside	1,545,387	2,100,516	555,129	35.92%
California	San Bernardino	1,709,434	2,015,355	305,921	17.90%
California	San Diego	2,813,833	3,001,072	187,239	6.65%
California	Ventura	753,197	797,740	44,543	5.91%
		19,187,478	20,787,491	1,600,013	8.34%

By all measures, greater Los Angeles, and most of southern California is considered urban or heavy urban. The population density for these areas is estimated at 522 POPs/sq mi for 2008.



Southern California - Population Density by County (Ref: www.census.gov)

Because there is a significant difference between realized value of spectrum in rural and urban areas, the potential for growth in markets was also analyzed. Population growth data was reviewed for the 6 subject counties for the 8 year period from 2000-2008. All counties exhibited population growth, with a total estimated increase of 8.34% (+1,600,013 POPs).



Southern California - Change in Population by County (Ref: www.census.gov)

License Parameters

Construction (substantial service/build out) requirements (per 47 CFR Part 80.49) –

Each AMTS coast station geographic area licensee must make a showing of substantial service within It's service area within ten years of the initial license grant, or the authorization becomes invalid and must be returned to the Commission for cancellation. "Substantial" service is defined as service which is sound, favorable, and substantially above a level of mediocre service which just might minimally warrant renewal.

Compliance for build out must be completed by 12/29/2016 for the subject license.

Unjust Enrichment (per 47 CFR Part 1.2111) –

A licensee that utilizes a bidding credit, and that during the initial term seeks to assign or transfer control of a license to an entity that does not meet the eligibility criteria for a bidding credit, will be required to reimburse the U.S. Government for the amount of the bidding credit, plus interest. For licenses granted after April 25, 2006, the amount of payments will be reduced over time, as follows:

- A transfer in the first five years of the license term will result in a forfeiture of 100 percent of the value of the bidding
- A transfer in year 6 and 7 of the license term will result in a forfeiture of 75 percent of the value of the bidding credit;
- A transfer in year 8 and 9 of the license term will result in a forfeiture of 50 percent of the value of the bidding credit;
- A transfer in year 10 of the license term will result in a forfeiture of 25 percent of the value of the bidding credit
- A transfer in year 11 or thereafter, there will be no payment.

As of 12/29/2009, the subject license will be in year 4 of the license term and subject to a forfeiture of 100% the bidding credits used to obtain the license, if the license is transferred to a non-qualified entity The total liability (without interest) can be estimated at [($1,094,000 (gross auction value) - $711,100 (net auction value)) x 19,187,478 (2000 POPs in subject area)] / 33,997,444 (2000 POPs in total license area) = $216,101.

An abridged summary of technical operating parameters for AMTS spectrum use is summarized below. The majority of applicable rules and regulations that apply to AMTS spectrum use are defined in 47 CFR Part 80. The most recent version of the Federal Regulations should be consulted to ensure full compliance of deployed systems.

80.15 Eligibility for station license.

A station license cannot be granted to or held by a foreign government or its representative, or be granted to or held by:

(1) Any alien or the representative of any alien;
(2) Any foreign government or its representative;
(3) Any corporation organized under the laws of any foreign government;
(4) Any corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or its representative, or by a corporation organized under the laws of a foreign country;
(5) Any corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or its representatives, or by any corporation organized under the laws of a foreign country, if the Commission finds that the public interest will be served by the refusal or revocation of such license.

80.60 Partitioned licenses and disaggregated spectrum.

AMTS geographic area licensees, **may partition their geographic service area or disaggregate their spectrum.**

80.72 Antenna requirements

All emissions of a coast station operated on shore within the frequency band 30-200 MHz must be **vertically polarized.**

80.123 Service to stations on land.

Marine VHF public coast stations, including AMTS coast stations, **may provide service to stations on land.**

80.211 Emission limitations.

Emissions must be attenuated according to the following schedule.

(1) On any frequency removed from the assigned frequency by more than 50 percent up to and including 150 percent of the authorized bandwidth: at least 25 dB for transmitters installed before February 1, 1992, at least 28 dB for transmitters installed on or after February 1, 1992;
(2) On any frequency removed from the assigned frequency by more than 150 percent up to and including 250 percent of the authorized bandwidth: At least 35 dB; and
(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 43 plus 10log10 (mean power in watts) dB.

80.215 Transmitter power

Coast stations in an AMTS may radiate as follows, subject to the condition that no harmful interference will be caused to television reception except that TV services authorized subsequent to the filing of the AMTS station application will not be protected.

(1) When located more than 169 kilometers (105 miles) from the antenna of a Channel 13 TV station and more than 129 kilometers (80 miles) from the antenna of a channel 10 station, **the ERP of coast stations having an antenna height of 61 meters (200 feet) or less above ground must not exceed 1000 watts.**

(2) Coast stations located less than 169 kilometers (105 miles) from a channel 13 TV station, or less than 129 kilometers (80 miles) from a channel 10 TV station, or when using a transmitting antenna height above ground greater than 61 meters (200 feet), must submit a plan to limit interference to TV reception, unless the station's predicted interference contour is fully encompassed by the composite interference contour of the system's existing stations, or the station's predicted interference contour extends the system's composite interference contour over water only (disregarding uninhabited islands). The plan must include:

(i) A description of the interference contour with identification of the method used to determine this contour; and

(ii) A statement concerning the number of residences within the interference contour. The interference contour includes only areas inside the TV grade B contour with the latter determined assuming maximum permissible TV antenna height and power for broadcast stations and the actual facility parameters for translators and low power TV stations. See part 73, subpart E of this chapter for further information on TV grade B contour determination.

(3) When located as described in paragraph (h)(2) of this section, the coast station (or stations affecting the same TV Grade B contour) will be authorized if the applicant's plan has limited the interference contour(s) to fewer than 100 residences or if the applicant:

(i) Shows that the proposed site is the only suitable location (which, at the application stage, requires a showing that the proposed site is especially well-suited to provide the proposed service);

(ii) Develops a plan to control any interference caused to TV reception within the Grade B contour from its operations; and

(iii) Agrees to make such adjustments in the TV receivers affected as may be necessary to eliminate interference caused by its operations.

(4) The applicant must eliminate any interference caused by its operation to TV reception within the Grade B contour that might develop within 90 days of the time it is notified in writing by the Commission. If this interference is not removed within the 90-day period, operation of the coast station must be discontinued. The licensee is expected to help resolve all complaints of interference, whether inside or outside the Grade B contour.

(5) **The transmitter power, as measured at the input terminals to the station antenna, must be 50 watts or less.**

80.385 Frequencies for automated systems.

This section describes the carrier frequencies for AMTS with channel block A.

Channel No.	Carrier frequency (MHz)		
	Ship transmit	Coast transmit	Group
161	219.5125	217.5125	A
162	219.5375	217.5375	A
163	219.5625	217.5625	A
164	219.5875	217.5875	A
165	219.6125	217.6125	A
166	219.6375	217.6375	A
167	219.6625	217.6625	A
168	219.6875	217.6875	A
169	219.7125	217.7125	A
170	219.7375	217.7375	A
171	219.7625	217.7625	A
172	219.7875	217.7875	A
173	219.8125	217.8125	A
174	219.8375	217.8375	A
175	219.8625	217.8625	A
176	219.8875	217.8875	A
177	219.9125	217.9125	A
178	219.9375	217.9375	A
179	219.9625	217.9625	A
180	219.9875	217.9875	A

AMTS geographic area licensee may place stations anywhere within its region without obtaining prior Commission approval provided the AMTS geographic area licensee must locate its stations at least 120 kilometers from the stations of co-channel site-based AMTS licensees. Shorter separations between such stations will be considered by the Commission on a case-by-case basis upon submission of a technical analysis.

MCLM currently holds site-specific AMTS licensees exist in the subject area. These incumbent, site specific licenses would need to be terminated or transferred along with the subject portions of the market based license to maintain the value of the market based license.

80.475 Scope of service of the Automated Maritime Telecommunications System (AMTS).

Applicants proposing to locate a coast station transmitter within 169 kilometers (105 miles) of a channel 13 TV station or within 129 kilometers (80 miles) of a channel 10 TV station or with an antenna height greater than 61 meters (200 feet), must submit an engineering study clearly showing the means of avoiding interference with television reception within the grade B contour, *see* §80.215(h) of this chapter, unless the proposed station's predicted interference contour is fully encompassed by the composite interference contour of the applicant's existing system, or the proposed station's predicted interference contour extends the system's composite interference contour over water only (disregarding uninhabited islands).

Applicants required to submit the above specified must give written notice of the filing of such applications(s) to the television stations which may be affected. A list of the notified television stations must be submitted with the subject applications.

Coast stations for which the above specified need not be submitted because the proposed station's predicted interference contour is fully encompassed by the composite interference contour of the applicant's existing system or the proposed station's predicted interference contour extends the system's composite interference contour over water only (disregarding uninhabited islands) must, at least 15 days before the station is put into operation, give written notice to the television stations which may be affected of the proposed station's technical characteristics, the date it will be put into operation, and the licensee's representative (name and phone number) to contact in the event a television station experiences interference. No prior FCC authorization is required to construct and operate such a station, but, at the time the station is added, the AMTS licensee must make a record of the technical and administrative information concerning the station and, upon request, supply such information to the FCC. In addition, when the station is added, the AMTS licensee must send notification of the station's location to the American Radio Relay League, Inc., 225 Main Street, Newington, CT 06111-1494, and Interactive Systems, Inc., Suite 1103, 1601 North Kent Street, Arlington, VA 22209.

An AMTS system may provide private mobile radio service in addition to or instead of public correspondence service. However, such communications may be provided only to stations whose licensees make cooperative arrangements with the AMTS coast station licensees. In emergency and distress situations, services must be provided to ship stations without prior arrangements.

AMTS systems providing private mobile radio service instead of, or in addition to, public correspondence service are not required to be interconnected to the public switched network when providing such private mobile radio service. AMTS systems providing public correspondence service must be interconnected to the public switched network, but the licensee may also offer non-interconnected services.

§ 80.479 Assignment and use of frequencies for AMTS.

The transmissions from a station of an AMTS geographic area licensee may not exceed a predicted 38 dBu field strength at the geographic area border, unless all affected co-channel geographic area licensees agree to the higher field strength. The predicted 38 dBu field strength is calculated using the F(50, 50) field strength chart for Channels 7 through 13 in §73.699 (Fig. 10), with a 9 dB correction factor for antenna height differential. Geographic area licensees must coordinate to minimize interference at or near their geographic area borders, and must cooperate to resolve any instances of interference in accordance with the provisions of §80.70(a).

§ 80.481 Alternative technical parameters for AMTS transmitters.

In lieu of the technical parameters set forth in this part, AMTS transmitters may utilize any modulation or channelization scheme so long as emissions are attenuated in accordance with §80.211 at the band edges of each station's assigned channel group or groups.

Private Land Mobile Applications

Although the FCC originally allocated this spectrum to facilitate service for integrated and interconnected marine voice and data communications. FCC rules allow AMTS spectrum to be used for Private Land Mobile operations. Private radio communications systems are used by companies, organizations, public safety agencies, and other entities to support their internal communications requirements. Pursuant to this, the FCC has released (June 6, 2008) the ***Small Entity Compliance Guide -Amendments to the Commission's Rules to Provide Additional Flexibility for AMTS and VHF Public Coast Station Licensees*** (DA 08-1311 - http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-08-1311A1.pdf). This document outlines the FCC's guidelines for utilizing this spectrum in alternative applications, deemed to be in the public's interest. The FCC has also permitted AMTS spectrum to be sold or leased for other applications such as those compatible with part 90 operations. Examples of entities using this spectrum for non-traditional uses are Pinnacle Wireless/New Jersey Turnpike Authority (L000005431), PacifiCorp (WQAA636), State of Montana (WQAV770), The Commonwealth of Virginia (WQBN418), Placer County, CA (WQCP558), Motorola (WQHE700), State of South Dakota (WPQX794) and the National Rural Telecom Council (L000003989).

Comparable Transactions

This section provides historical basis for aiding in the valuation of spectrum by frequency band. The most commonly used metric for comparing valuations of spectrum is $ / MHz–POP. One of the best sources of data is comparable transactions, but because transaction values are not often disclosed, data is limited. In the absence of comparable transaction data, FCC auction data is also considered. Although FCC auction data is often based on auctions and market conditions several years past, it cannot be ignored, due to the enormity and volumes of data available. To ensure consistency and an understanding of how spectrum values are aggregated across entities of differing size and bandwidth, the formula used to calculate $ / MHz-POP is defined as follows:

$$\$/\text{MHz-POP} = \frac{\sum_{n=1}^{\text{number of licenses}} \frac{\text{gross \$ per license}}{\text{bandwidth per license}}}{\sum_{n=1}^{\text{number of licenses}} [\text{population per license}]}$$

Transaction	$/ MHz POP	Notes
218-219 MHz Service (IVDS) - Auction 2 (1994)	$1.6605	highly speculative
218-219 MHz Service (IVDS) - Market Value 2009	$0.3000	SBI exchange
220 MHz Nationwide License	$0.2024	private transaction, 280 KHz
220 MHz Service - Aggregate	$0.0848	FCC Auction 18, 1998
220 MHz Service - BEAs	$0.0708	FCC Auction 18, 1998
220 MHz Service - EAGs	$0.0597	FCC Auction 18, 1998
220 MHz Service - Nationwide	$0.1351	FCC Auction 18, 1998
220 MHz Service - Aggregate	$0.0374	FCC Auction 24, 1999
220 MHz Service - 5 paired 5 KHz channels in Los Angeles	$0.1333	private transaction
700 MHz – Aloha Spectrum Holdings sale to AT&T	$1.0600	2008, 196M POPs, 12 MHz, $2.5B
700 MHz Guard Bands	$0.3642	FCC Auction 33, 1 MHz blocks, $546M
700 MHz Upper Band, Aggregate, $19B	$1.0900	FCC Auction 73, 2008
700 MHz Upper Band, BEAs, Block A	$1.1800	FCC Auction 73, 2008
700 MHz Upper Band, BEAs, Block E, unpaired	$0.7500	FCC Auction 73, 2008
700 MHz Upper Band, CMAs, Block B	$2.7200	FCC Auction 73, 2008
AMTS - Auction 57 (2004)	$0.0050	FCC Auction 57, 2004
AMTS - Auction 61 (2005)	$0.0410	FCC Auction 61, 2005
AMTS - Auction 61 (2005), Alaska	$0.1802	FCC Auction 61, 2005
AMTS transaction - Rural Eastern State	$0.3900	1.5M POPs, 200x
AWS, Aggregate, $13.9B	$0.5500	FCC Auction 66, 2006
AWS, BEAs, Block B	$0.4400	FCC Auction 66, 2006
AWS, BEAs, Block C	$0.5200	FCC Auction 66, 2006
AWS, CMAs, Block A	$0.4000	FCC Auction 66, 2006
SMR, Nextel Sunfire Group Report, 2003	$2.0200	2.5 MHz of 800 MHz spectrum, Chadmoore Communications, 2002

Transaction	$/ MHz POP	Notes
SMR Spectrum valuation, Nextel 800 MHz, 2002	$1.8200	Kane Reece Associates
SMR, 800 MHz	$0.1802	Auction 34, heavily encumbered
SMR, FCC's Point Estimate, 2004 R&O	$1.7000	10 MHz of Nextel spectrum at 1.9 GHz
SMR, Nextel Consensus Plan	$1.6600	BIA Financial Network Inc.
SMR, Nextel Sunfire Group Report, 2003	$1.4400	2.5 Mhz of 800 Mhz spectrum, Neoworld Communications, 2003
UHF market based paging, 2001	$0.0490	Auction 40, $13.1M
UHF market based paging, 2003	$0.0357	Auction 48, $1.3M
UHF market based paging, BEA160 - Los Angeles, 2001	$0.0474	Auction 40, 26 licenses
UHF/VHF market based paging transaction, market average	$0.5100	20+ transactions across nation
VHF market based paging, 2001	$0.0195	FCC Auction 40, $3.6M
VHF market based paging, 2003	$0.0168	Auction 48, $1.2M
VHF market based paging, BEA160 - Los Angeles, 2001	$0.0156	Auction 40, 18 licenses
PCS Large Markets, 2004-2006, $1.2500-$4.6000	$2.93	Kagan Research
PCS Small Med Markets, 2004-2006, $0.1900-$0.9200	$0.56	Kagan Research
PCS Secondary Market Valuation – rural markets	$0.12 - $0.33	Falkenberg Capital – Western Telecommunications Alliance presentation, 2007
Rural PCS markets	$0.50	BIA Financial Network Inc., 2008
PCS BB Licenses in 22 BTAs including NY, LA, DC, Boston, 2005 NextWave -> Verizon	$2.85	http://www.wi-fitechnology.com/displayarticle2051.html
PCS BB, Iowa, 5 BTAs	$0.50	SBI private transaction, Spring 2009
PCS BB, rural Oklahoma, partial market, adjacent to interstate	$0.52	SBI private transaction, Summer 2009

Market Analysis

Allocation of AMTS spectrum (market based) by the FCC was made via two separate auctions at prices ranging from $0.005 to $0.18 per MHz-POP, over a 2 year period (2005-2006). This range in price can be attributed to several factors. First, the entities auctioned at Auction 57 (primarily B-block licenses) were not as heavily encumbered, but did receive bids at the minimum bid value. All but one A-block license was no-bid. The following year (2006), the FCC auctioned the remaining market areas and received slightly higher bids. The subsequently higher bids can be partially attributed to continued spectrum scarcity and the realization that AMTS rules are flexible regarding permissible use. Values may have risen even further, except that Maritime Mobile / Land Marine already held numerous site-specific licenses in valuable market areas, including Los Angeles, New York, and Chicago. MCLM previously acquired these licenses through acquisitions of Watercom and Mobex, greatly limiting the usable market area for other bidders.

Although the auction value of licenses allocated at Auction 61 can be calculated directly as $0.0410 / MHz-POP, this requires further analysis in order to derive a meaningful value. First, the total population of A-Block licenses auctioned in the contiguous United States (less Alaska, Hawaii and Mountain Region) was 262,240,735. The Mountain region licenses (AMT010 Block A and Block B) were both successfully auctioned at Auction 57 and thus not available at Auction 61.

License	Region	POPs	Gross Value
PC-AMT001-A	Northern Atlantic	36,719,116	$1,234,000.00
PC-AMT002-A	Mid-Atlantic	31,253,086	$1,160,000.00
PC-AMT003-A	Southern Atlantic	29,648,771	$1,209,000.00
PC-AMT004-A	Mississippi River	84,102,559	$4,390,000.00
PC-AMT005-A	Great Lakes	37,000,865	$1,176,000.00
PC-AMT006-A	Southern Pacific	33,997,444	$1,094,000.00
PC-AMT007-A	Northern Pacific	9,518,894	$355,000.00
		262,240,735	$10,618,000.00

The Spectrum Bridge statements on this page, combined with those indicated above, show what Petitioners have been telling the FCC for years: that MCLM purchased bogus, permanently discontinued Mobex and Watercom incumbent stations in order to artificially and unlawfully encumber the spectrum at auction so that they could keep out competition for the AMTS spectrum and hinder other bidders ability to raise additional cash to bid, namely ITL and ENL, who were the only lawful high bidders for that A-block spectrum. MCLM has maintained the permanently discontinued incumbent stations to date, which has effectively blocked ITL and ENL from using their AMTS spectrum in areas subject of the bogus incumbents, including New York, Boston, Miami, Atlanta, St. Louis, Seattle, etc. This has and continues to significantly damage ENL and ITL, the development of the AMTS service, and the public interest generally.

Next, the population covered by incumbent site-specific licenses must be removed from the population count. The subject A-block, site specific coverage areas are shown below and can be calculated as 159,305,658 POPs, thereby reducing the total POP count of auctioned areas to 102,935,077.

Re-calculating the aggregate value of auctioned licenses yields $10,618,000 / (102,935,077 POPs x 1 MHz) = $0.1032/MHz-POP. Since most of the remaining population is located in rural areas, this market value would be considered a rural market value.

Since this purpose of this analysis is to consider the value of spectrum in the greater Los Angeles are, the premium value of a top urban markets must be considered. Historically, top urban or densely populated areas yield higher realized values. Values generally correlate with market opportunity, per capita income, total addressable market which also drives spectrum scarcity. Auction data and secondary markets transaction data strongly support this. In order to calculate an actual urban market multiplier, auction data will be extrapolated from two recent and sizeable auctions.

AWS (Auction 66) and 700 MHz (Auction 73) auction data is used to determine the relative value of each market. This is accomplished by considering the relative value of specific (local) FCC auction transactions with respect to the nationwide average.

1. Relative market value is calculated for each unique spectrum type (by band: AWS/700; and block: A/B/C/D/E).

2. The gross value ($/MHz-POP) for a transaction is divided into the nationwide aggregate value ($/MHz-POP) for a specific spectrum type (e.g. 700 MHz, Block B/CMA). For example the relative market value of the 700 MHz Block B in Austin Texas (CMA075) is determined by dividing the gross auction value for Austin ($2.66/MHz-POP) into the average value for all 700 MHz Block B/CMA transactions ($2.72/MHz-POP), nationwide: 2.66/2.72 = 97.9 %.

3. Finally, a composite POP weighted market factor is calculated by multiplying each relative market value (step 2 above) by POPs in the respective market , dividing each value by the total number of POPs represented by all relative market values in that market, and summing the results:

$$POP\ weighted\ market\ factor\ (\%) = \sum_{n=1}^{N} \frac{market\ factor\ x\ POPs}{\sum_{n=1}^{N} POPs}$$

Los Angeles, CA									
Auction	Market	MHz	Market Name	Gross	POPs	entity $/MHz-POP	auction $/MHz-POP	% market factor	POP weighted market factor
AWS	CMA002-A	20	Los Angeles-Anaheim, CA	$179,161,000	15,620,448	$0.57	$0.40	143.37%	21.69%
AWS	BEA160-B	20	LA-Riverside-Orange Cnty CA-AZ	$215,620,000	18,003,420	$0.60	$0.44	136.10%	23.73%
AWS	BEA160-C	10	LA-Riverside-Orange Cnty CA-AZ	$114,816,000	18,003,420	$0.64	$0.52	122.64%	21.38%
700	BEA160-A	12	LA-Riverside-Orange Cnty CA-AZ	$580,268,000	18,003,420	$2.69	$1.18	227.62%	39.69%
700	CMA002-B	12	Los Angeles-Anaheim, CA	$483,981,000	15,620,448	$2.58	$2.72	94.93%	14.36%
700	BEA160-E	6	LA-Riverside-Orange Cnty CA-AZ	$154,999,000	18,003,420	$1.43	$0.75	191.32%	33.36%
					103,254,576				154.21%

This data suggests that markets in Los Angeles will yield valuations 154% higher than the nationwide average.

Spectrum from 220 MHz and other VHF radio services is also considered. At present, there are four options available, each with unique attributes. These options, noted by radio service are summarized below.

	AMTS	218-219 MHz (IVDS)	220-222 Narrowband	VHF (150-175 MHz)
Applicable Rules	Part 80	Part 95	Part 90	Part 22/90
TX Power Base	1000 W ERP	20 W ERP	150 W ERP at 150 m	variable
TX Power Mobile	18 W ERP	4 W ERP	50 W ERP	variable
Channel Allocation	500 KHz blocks	500 KHz blocks	5 KHz typical	12.5/25.0 KHz
Paired/Separation	Yes, 2 MHz	No	Yes, 1 MHz	Yes, 5 MHz
Availability in Los Angeles	Yes	Yes	No	minimal
Subject to narrowbanding	No	No	No	Yes (90),No (22)

VHF spectrum (150-174 MHz) can be obtained from several sources, in some locations. First, channels can be allocated for Private Land Mobile Radio (PLMR) use, including special allocations specifically for railroad use. PLMR spectrum can be obtained from a Part 90 frequency coordinator such as the American Association of Railroads, however, securing multiple channels, in popular markets has become problematic. Alternatively, eighteen Part 22 channel pairs (2 x 25 KHz) were auctioned and may be available via secondary markets. This spectrum is regulated by 47 CFR Part 22 and available for commercial use. Private transactions within secondary markets have averaged ~$0.51 / MHz POP with values higher in prime urban markets. Part 22 VHF spectrum has proven very useful for applications requiring licensed spectrum over large areas. Furthermore, the FCC has shown a propensity to grant waivers for Part 22 spectrum proposed for use in private applications serving the public interest (e.g. utilities and public safety).

220-222 MHz Narrowband spectrum has also been traded within secondary markets at values ranging from $0.17 - $0.20 / MHz POP for nationwide licenses. This value applies only to channel blocks K/L/M/E/J as these channel blocks consist of at least 50 KHz of contiguous / paired spectrum. These values are 37% greater than the original auction value ($0.135/MHz POP) of nationwide contiguous licenses. Other channel blocks exist in this radio service, but were allocated as non-contiguous sets of 5 KHz channels, significantly devaluing the usability and value of these licenses. Nationwide licenses are currently held by PTC-220, NRTC and BNSF (pending).

Some 218-219 MHz Service (IVDS) licenses are also available via secondary markets. This radio service was initially allocated as means to develop an interactive, point-to-multipoint, multipoint-to-point, short distance communication service. Allocations were made in 500 KHz contiguous / unpaired blocks. The first 10 markets were awarded by lottery (no cost), with the remaining markets awarded by auction. Unfortunately, highly speculative bidding was prevalent and most bidders defaulted on payments, forfeiting their rights to the license. Approximately 85% of the original licenses have been relinquished, rendering the $1.66/MHz-POP auction value somewhat meaningless. However, Spectrum Bridge is currently working with the remaining 218-218 MHz Service spectrum holders in an effort to make these remaining licenses available via secondary markets. 10 of the top 12 markets remain with ask prices in the $0.30 to $0.40 / MHz POP range.

With the recent release of the FCCs Small Entity Compliance Guide: *Amendments to the Commission's Rules to Provide Additional Flexibility for AMTS and VHF Public Coast Station Licensees*, the utility and value of AMTS spectrum has increased significantly. AMTS spectrum has favorable technical attributes – 1000W fixed station transmit power with paired contiguous channels that can be aggregated in any amount. Furthermore, the interoperability requirements with incumbent ship to shore systems defined via legacy Part 80 requirements has become inconsequential due to the ubiquity and use of cellular and satellite system for ship operations. It should also be noted that AMTS spectrum operators have obligations to TV channel 10 and 13 operators regarding notification and interoperability. However, the close proximity to VHF television channels may also offer new opportunities associated with the compatibility of TV white space equipment and applications, in 2010 or 2011.

Conclusion

Two techniques can be utilized to value spectrum licenses - the income approach and/or market comparable approach. The income approach is based on the assumption that the value of a spectrum license is proportional to the expected future benefits or revenue generated for the license holder, while considering the time value of money and risks involved. The market comparable approach is similar to techniques used by real estate appraisers, which place emphasis on prices paid for similar entities. The two approaches should yield similar results because the prices paid for comparable licenses reflect the value of future revenue that control of the licenses would provide. In the absence of a specific or proposed business model, the market comparable method is used here.

Emphasis is placed upon the following conclusions and facts:

- AMTS Block A licenses were auctioned at an aggregate value of $0.1032/MHz-POP at Auction 61 (2006). This value was derived using FCC Auction data and adjusted to account for incumbents. Since the actual auctioned area excludes most urban areas and large cities, this would be considered a rural market value.

- Spectrum values in top urban markets are more than values for nationwide or rural markets. In this analysis, Los Angeles was shown to have a value of 1.54x the value of nationwide aggregate values in recent auctions. Auction and secondary markets data show that urban markets typically realize 3x-5x the value of rural markets.

- Technical rules governing AMTS spectrum are congruent with the cost effective deployment of networks over large geographic areas - including 2-way radio, high bandwidth telemetry and other industrial applications. Being situated between the 150-174 MHz VHF and 450-512 MHz UHF, the propagation characteristics of the AMTS band are considered to be very desirable.

- The FCC's recent published policy on flexible use has increased the utility and value of AMTS spectrum.

- Lack of new spectrum allocations, advent of 'smart grid' applications, intelligent transportation (e.g. positive train control) and growing spectrum scarcity has renewed interest and demand for AMTS spectrum.

- Incumbent license holder can be eliminated in Pacific region (MCLM is market and site specific license holder) yielding interference free operation. This is not possible with Part 90 VHF spectrum.

When considering these facts and conclusions it is reasonable to assume that an AMTS license (1 MHz covering the greater Los Angeles area) would have a conservative market value of $0.30 - $0.50 / MHz POP. This value was derived through analysis of auction data (3x to 5x of $0.1032/MHz-POP) and consideration of market transactions. This value is also directly supported by the cost (and lack) of alternative solutions. The intrinsic value of the FCCs flexible use policies concerning the use of AMTS is not directly quantified, but should be used to further substantiate this valuation as conservative.

Ultimately, the value of a license can only be determined through the consummation of a purchase agreement or revenue stream, however, one can argue that continued spectrum scarcity, steady growth of wireless services and the proliferation of 'smart grid' offsets the recent downturn on the economy and easily justifies the values derived in this fair market valuation.

Spectrum Bridge Background

Spectrum Exchange Overview

Spectrum Bridge has created SpecEx - the online marketplace for spectrum™ that brings spectrum holders and users together over the Web.By combining the power of a real-time Internet-based marketplace with unique spectrum management technology, the Company helps license holders unlock significant additional revenue from spectrum assets, while giving enterprises, institutions, government agencies and other users access to licensed, interference-free wireless communications. Spectrum Bridge implements multiple layers of state-of-the-art technologies and policies to ensure fast, secure and trusted transactions on SpecEx.

SpecEx Benefits

The SpecEx marketplace simplifies the entire process of secondary market spectrum transactions: from identifying, packaging and pricing available spectrum, to making it easy even for wireless neophytes to request, purchase access, and use licensed spectrum that meets their wireless communications needs..Finally, SpecEx systems take over the burden of regulatory reporting by automatically generating any required FCC filings for the spectrum transaction.

Spectrum Bridge Value-Added Services

Spectrum Bridge creates a dynamic and efficient market for spectrum by providing an intuitive trading platform for spectrum holders and spectrum seekers. These capabilities are enhanced by online value-added services, tools, and products which allow participants to:

- Buy and sell spectrum access rights on the open market via an electronic marketplace
- Access up to date databases for market, spectrum, equipment, and compliance information
- Research geographic markets for new opportunities
- Design and cost wireless network solutions using licensed spectrum
- Present capabilities of partner company's products and services

To accomplish this, Spectrum Bridge uses patent pending technology to:

- Create a state-of-the-art electronic exchange for trading spectrum access rights
- Perform analysis and management for the efficient disaggregation and/or partitioning of spectrum
- Ensure compliance with regulatory guidelines
- Securely clear financial transactions

To date over $500 million dollars worth of spectrum assets have been listed on SpecEx.Spectrum Bridge's innovative marketplace and business model have been featured in the Wall Street Journal, Business Week, NetworkWorld and other leading publications.

Considerations Regarding the Costs of Disaggregating AMTS Spectrum

Disaggregation refers to the sub-division of existing channel blocks for the purposes of leasing or transfer of spectrum to another entity. This practice is permitted by the FCC for the AMTS radio service. AMTS spectrum was originally allocated in pairs of 500 KHz blocks, with 2 MHz separation between blocks. This amount of spectrum is sufficient for supporting medium bandwidth telemetry, 2-way radio, and other applications.

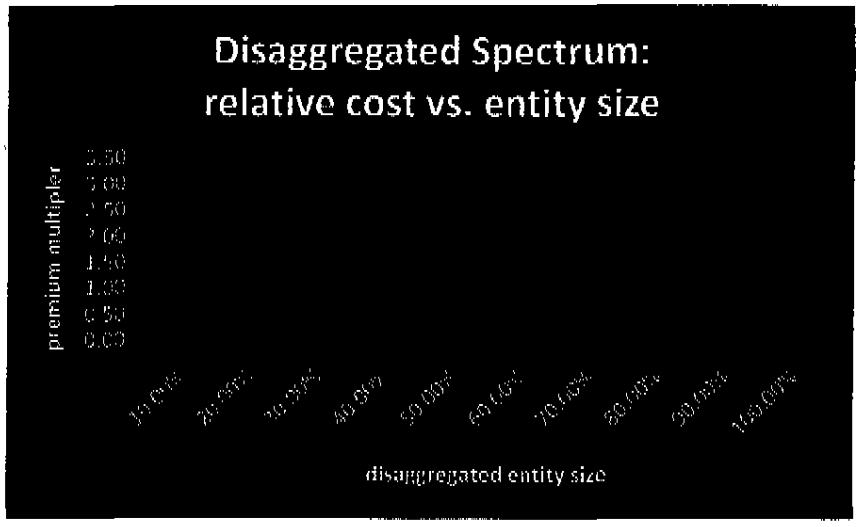
Historical evidence shows that a premium is typically paid for disaggregated amounts of spectrum. The reasons are obvious and typically related to economies of scale. Unfortunately, data is limited and inconsistent in suggesting a 'typical' premium (multiplier) for disaggregated spectrum. The premium depends on several factors including usability and cost of maintaining the remaining spectrum remnants, the opportunity cost associated with reduced entity size, how the spectrum is disaggregated (contiguous, non-contiguous, interleaved) and business goals (supply, demand and budget). Since AMTS spectrum was allocated in fairly sizeable and contiguous blocks (500 KHz), this offers the opportunity to utilize this spectrum for telemetry applications, such as backhaul of utility metering data from collections points, low frame rate surveillance video or other forms of telemetry. If the disaggregated bandwidth was reduced by more than ~50%, this would reduce the possible applications that could be facilitated, suggesting that disaggregation of portions at 10% to 50% of the original entity size would not drastically reduce the value of the remaining entity. However, disaggregating amounts greater than ~50% would significantly reduce the value of the remaining entity (or remnant). For example, if a very small portion of spectrum is disaggregated and removed from an otherwise whole entity, the opportunity cost of disaggregating that small entity (from the original holders perspective) is greater than the value returned by the small entity if sold at a cost directly proportional to the size of disaggregated entity.

The carrying costs of spectrum remnants must also be considered, as regulatory compliance, system maintenance and continued marketing costs must be maintained at the same level, regardless of how much bandwidth remains. Disaggregating spectrum in a non-contiguous or interleaved fashion would also greatly diminish the value of a remaining portion of spectrum and would probably not even be economically viable. Finally, when a very limited supply of spectrum exists for a specific application, individual business goals and needs will typically drive the economics of a transaction more than the forces of an open market.

All things considered, one can probably discern a range of reasonable values for varying depths of spectrum based on limited transaction data in other bands, technical implications and common sense. Assuming all values are referenced to a non-disaggregated spectrum value (1 MHz), an inflection would probably exist around the 50-60% disaggregation point. As previously stated, large disaggregated portions between 50% and 100% (500 KHz to 1MHz) of the original entity size will require that a buyer pay close to the 'whole' asset value, because the value of the remnant will be significantly diminished, e.g. 750KHz could demand up to a 1.25x premium, making the purchase of the entire asset the most

feasible approach. Alternatively, small disaggregated amounts would also have to be sold at premium. This premium must justify breaking a whole entity into parts, and would probably be greater than the premium used for larger disaggregated entities, but also be small enough to make a smaller purchase feasible for the buyer. One model for doing this is: Premium Multiplier = 1 / (% of original entity offered) ^ n, where n is defined as follows:

Disaggregated Portion	Premium Multiplier	n	% of total asset value returned from sale of disaggregated portion	Hypothetical Value $/MHz-POP
10.00%	3.16	0.50	31.6%	$1.11
20.00%	2.24	0.50	44.7%	$0.78
30.00%	1.83	0.50	54.8%	$0.64
40.00%	1.58	0.50	63.2%	$0.55
50.00%	1.46	0.55	73.2%	$0.51
60.00%	1.36	0.60	81.5%	$0.48
70.00%	1.28	0.70	89.9%	$0.45
80.00%	1.20	0.80	95.6%	$0.42
90.00%	1.10	0.90	99.0%	$0.38
100.00%	1.00	1.00	100.0%	$0.35



Although this is only a prototype model, it illustrates the relationship that exists between disaggregated spectrum entity size and costs. This model attempts to purport fairness, consider opportunity cost and quantify economies of scale, but ultimately the value and costs of disaggregating spectrum will be determined through negotiations between a buyer and seller.