COUNCIL TREE RESPONSE TO RECENT CTIA POSITION

- Attached is the CTIA's presentation to the FCC's Diversity Committee on October 4, 2004

- Council Tree has provided its responses to the CTIA points

[Council Tree responses are in bold]

ELIMINATING OR WAIVING THE CLOSED BIDDING RULES FOR
AUCTION 58 WILL PROMOTE PARTICIPATION BY SMALL BUSINESSES,
WOMEN, AND MINORITIES

- Diverse segments of the wireless industry, including small business interests, wireless carriers of all sizes, and equipment manufacturers, support the CTIA petition to eliminate or waive the closed bidding rules.
  - o **On the contrary – large carriers and CTIA are the ones supporting this position**
  - o **The <u>vast majority of comments opposed CTIA</u> and included:**
    - ▪ **Small businesses, minority and women's groups, rural carriers, equity investors and others**
    - ▪ **32 out of 43 commenters support the current FCC rules**

- ➢ The Rural Cellular Association, representing approximately 100 small and rural wireless carriers that actually operate wireless networks, noted that "there are more effective tools available to the Commission than closed bidding to provide opportunities for small businesses."
  - o **The Rural Cellular Association is dominated by the larger rural wireless carriers who do not qualify as DEs**
  - o **The <u>real representatives of small and rural carriers opposed CTIA</u>:**
    - ▪ **Rural Telecommunications Group**
    - ▪ **National Telecommunications Cooperative Association**
    - ▪ **OPASTCO**

- ➢ No consensus among small businesses has formed on whether closed bidding effectively promotes participation by small businesses, women, and minorities.
  - o **On the contrary, <u>consensus among DEs is crystal clear and broad-based in asserting the effectiveness of closed bidding</u>**
  - o **Please see <u>FCC Diversity Advisory Committee resolution adopted October 4, 2004</u>**
  - o **Please see the lengthy record of filings on this subject in the FCC's Auction No. 58 filings**

- Open bidding with bidding credits is a proven, effective method of promoting participation by small businesses, women, and minorities.

  - o **The data confirms that bid credits can be effective, but only in those auctions <u>not</u> dominated by the large carriers**

- o **In auctions dominated by large carriers, closed licenses have proven critical to DE participation and success**
    - ▪ **82% of the dollar value of all DE licenses won is with Closed licenses**
- o **Please see our data tables from previous FCC presentations**

➢ In 17 of the 24 markets where both open and closed licenses were available at Auction 35, winners of open licenses paid less using bidding credits than DE winners of closed licenses.

- o **CTIA's data is incorrect – there are <u>actually 84 markets</u> (of 195 total markets auctioned) where both an open and a closed license was auctioned in Auction 35**
    - ▪ **In those 84 markets, <u>the price for closed licenses represented a 20% discount over the net price</u> (i.e., what DEs paid net of the bid credit) <u>for open licenses</u> in those markets**
    - ▪ **This clearly demonstrates that <u>closed licenses have real value</u>**
    - ▪ **Please see Exhibit A attached for a list of those 84 markets**

➢ The FCC repeatedly uses bidding credits, instead of closed bidding, in virtually all other auctions.

- o **Appropriately so because, unlike Auction No. 58 and the PCS auctions, <u>these other auctions are not dominated by the large carriers</u>**
    - ▪ **Large carriers have little or no interest in this other spectrum**
- o **Please see our data backing-up this statement in previous FCC presentations**

➢ Small companies used bidding credits to win nearly 50% of the available open licenses in Auction 35.

- o **CTIA focuses on the <u>number</u> of licenses, instead of the real measure of success, namely the <u>value</u> of licenses won**
- o **By dollar value, <u>DEs won just 6% of the open licenses for $0.6 billion, excluding the single outlier of Salmon PCS</u>**
    - ▪ **Highlights <u>DE relegation to lower value markets when competing with bid credits only against large carriers</u>**
- o **<u>By comparison, DEs won 100% of closed licenses auctioned for a total of $5.3 billion</u>**

➢   Small companies account for nearly 80% of all winning bidders in open auctions utilizing bidding credits.

     o **Not surprising given abundance of licenses auctioned by the FCC over the past 10 years that have extremely low values and in which the large carriers have shown little or no interest in acquiring**

     o **Please see our data tables in previous FCC presentations that further illustrate this point**

- Additional measures also are effective in promoting participation by small businesses, women, and minorities.

➢   The FCC's reconfiguration of 30 MHz C block licenses into 10 MHz licenses allowed small businesses, women, and minorities to launch services in these spectrum blocks.

     o **<u>CTIA refers to the FCC's 2000 "reconfiguration" which served only to severely diminish the opportunity for DEs</u>**

     o **Originally, 100% of this 30 MHz C block was closed for DEs only**

         ▪ **In 2000, the large carriers succeeded in pressing for the break-up of these licenses, <u>moving 58% to open licenses</u>**

         ▪ **This was clearly a <u>major set-back for DEs in 2000</u>**

         ▪ **In exchange for this severe reduction, the FCC committed to retaining these closed licenses going forward**

➢   Geographic partitioning and spectrum disaggregation have been widely used to enable small businesses, women, and minorities to enter markets, provide new services, and fill in or expand their footprints.

     o **Underlying assumption that DEs should be relegated to only the least valuable markets**

     o **The whole point of the DE program is to give DEs an opportunity to compete in the valuable larger markets, as well as others**

     o **This argument fails to provide any data or support demonstrating that disaggregation has benefited DEs**

➢   Partitioning and disaggregation have led to an increase of more than 300% in the number of active A and B block PCS licenses (from 102 to 420 licenses).

     o **See above**

➢   Partitioning has led to an increase of nearly 20% in the number of active cellular licenses (from 1,468 to 1,720 licenses).

- o **See above**

- ➢ The FCC's secondary market rules and policies offer leasing opportunities and enhance the ability of small businesses, women, and minorities to enter markets with viable business plans.
    - o **While potentially helpful, they do not even begin to assist DEs meaningfully in the way that the closed license auctions do**
    - o **Again, this argument offers no supporting data**

- Closed bidding imposes significant costs to DEs and consumers.
    - o **Simply not true – refuted point-by-point below**

- ➢ In Auction 35, closed bidding resulted in many DEs paying more for closed licenses (on average, 10% more) than companies that won open licenses using bidding credits in the same markets.
    - o **Please see our answer above relating to the fact that <u>DEs paid 20% less for closed licenses than for comparable open licenses</u>**
        - ▪ **CTIA's data, as illustrated in our earlier answer describing the 84 market relevant sample, is again incorrect**

- ➢ Economic evidence submitted in the record demonstrates that closed bidding for C block licenses resulted in consumer surplus losses of $13.6 billion to $32 billion.
    - o **This is a fallacious assertion built off of what we already recognize to be true:**
        - ▪ **The FCC's well-intentioned, but failed installment loan program, contributed to some DE over-leveraging**
        - ▪ **<u>The FCC no longer offers installment loans</u>**

- ➢ Economic evidence submitted in the record demonstrates that closed bidding was at least partly responsible for DE payment defaults and bankruptcies that have prevented or delayed spectrum use for eight years and counting.
    - o **This is incorrect – closed licenses had nothing to do with failures**
        - ▪ **As noted above, the source of any problem was the now discontinued installment loan program**

Exhibit A: List of Auction No. 35 Markets in Which Both an Open and a Closed License Were Offered for Sale

| Market Name | Average Price of License | | Closed Premium (Discount) to Open |
	Closed	Open	
Albany, NY	17,228,500	23,573,000	-26.9%
Allentown, PA	5,300,500	7,811,000	-32.1%
Asheville, NC	6,196,500	6,701,875	-7.5%
Austin, TX	21,925,000	34,081,000	-35.7%
Baltimore, MD	38,398,000	35,287,500	8.8%
Bellingham, WA	672,000	898,000	-25.2%
Binghamton, NY	5,356,000	7,284,000	-26.5%
Bloomington, IN	2,067,000	1,696,000	21.9%
Boston, MA	125,092,000	201,839,500	-38.0%
Brownsville, TX	3,830,000	5,111,000	-25.1%
Bryan, TX	1,004,500	1,246,000	-19.4%
Burlington, NC	298,000	339,250	-12.2%
Burlington, VT	4,629,000	7,367,000	-37.2%
Charlotte, NC	77,795,500	120,510,000	-35.4%
Cincinnati, OH	56,814,000	50,340,000	12.9%
Cleveland, OH	72,736,000	83,766,500	-13.2%
Cleveland, TN	302,000	297,750	1.4%
Columbus, IN	435,000	617,000	-29.5%
Columbus, OH	19,604,500	25,239,000	-22.3%
Dayton, OH	24,268,000	24,206,250	0.3%
Denver, CO	66,109,500	80,537,000	-17.9%
El Paso, TX	15,695,500	21,261,000	-26.2%
Elmira, NY	5,752,000	7,638,000	-24.7%
Evansville, IN	1,503,000	2,187,000	-31.3%
Fayetteville, NC	20,781,500	23,375,000	-11.1%
Gainesville, FL	3,814,000	3,830,250	-0.4%
Goldsboro, NC	767,000	1,047,000	-26.7%
Greensboro, NC	40,981,000	57,871,000	-29.2%
Greenville, NC	972,000	1,222,500	-20.5%
Hagerstown, MD	1,601,500	2,427,000	-34.0%
Hickory, NC	6,153,000	4,444,000	38.5%
Houston, TX	104,409,000	119,701,000	-12.8%
Indianapolis, IN	26,581,000	38,640,000	-31.2%
Jacksonville, FL	23,926,000	23,184,000	3.2%
Jacksonville, NC	1,075,000	1,149,000	-6.4%
Joplin, MO	482,000	481,500	0.1%
Kansas City, MO	82,279,000	56,878,500	44.7%
Lafayette, IN	1,485,500	1,379,000	7.7%
Lakeland, FL	2,843,500	3,954,000	-28.1%
Lansing, MI	4,673,000	9,468,000	-50.6%
Las Crucues, NM	1,825,000	2,444,000	-25.3%
Lewiston, ME	2,616,000	3,558,000	-26.5%
Lexington, KY	7,067,500	9,062,000	-22.0%

| | Average Price of License | | Closed Premium (Discount) to Open |
Market Name	Closed	Open	
Longview, WA	280,500	333,875	-16.0%
Los Angeles, CA	435,205,000	461,397,500	-5.7%
Louisville, KY	17,860,000	25,878,000	-31.0%
Manchester, NH	5,529,500	7,266,000	-23.9%
McAllen, TX	7,100,500	8,737,000	-18.7%
Melbourne, FL	3,641,500	5,190,000	-29.8%
Minneapolis, MN	134,747,000	144,788,250	-6.9%
Mt Pleasant, MI	316,000	778,000	-59.4%
New Bern, NC	930,500	1,903,000	-51.1%
New Haven, CT	11,706,500	15,325,000	-23.6%
New London, CT	1,444,500	2,753,000	-47.5%
New York, NY	1,484,327,000	2,047,663,000	-27.5%
Norfolk, VA	89,394,000	72,498,200	23.3%
Oklahoma City, OK	44,859,500	58,849,000	-23.8%
Olympia, WA	1,519,500	2,181,000	-30.3%
Oneonta, NY	1,141,000	1,721,000	-33.7%
Orlando, FL	34,220,500	31,436,250	8.9%
Pittsburgh, PA	97,848,000	99,220,625	-1.4%
Portland, ME	4,683,000	7,250,000	-35.4%
Portland, OR	64,096,000	72,373,750	-11.4%
Poughkeepsie, NY	2,095,500	5,093,000	-58.9%
Providence, RI	21,090,000	33,443,000	-36.9%
Raleigh, NC	59,149,500	72,705,000	-18.6%
Richmond, VA	40,950,500	45,453,875	-9.9%
Roanoke Rapids, NC	236,500	335,000	-29.4%
Roanoke, VA	10,238,500	14,711,500	-30.4%
Rocky Mount, NC	767,000	1,122,000	-31.6%
Rutland, VT	1,085,000	1,585,000	-31.5%
Saginaw, MI	3,189,000	5,292,000	-39.7%
San Antonio, TX	39,985,000	58,795,000	-32.0%
San Diego, CA	79,336,500	119,015,000	-33.3%
Sarasota, FL	7,830,500	10,949,000	-28.5%
Scranton, PA	3,453,500	4,306,875	-19.8%
Seattle, WA	102,531,000	141,168,500	-27.4%
Springfield, MO	6,242,500	11,845,500	-47.3%
Tampa, FL	73,835,000	63,027,750	17.1%
Temple, TX	5,766,000	5,011,000	15.1%
Washington, DC	172,184,000	189,944,125	-9.4%
Watertown, NY	656,000	624,750	5.0%
Wilmington, NC	3,790,000	6,128,000	-38.2%
Worcester, MA	4,348,000	5,231,000	-16.9%
Grand Total	**3,986,954,000**	**4,977,279,700**	**-19.9%**

In 69 markets, Closed Licenses were sold at a discount to Open Licenses
In 15 markets, Closed Licenses were sold at a premium to Open Licenses

Preserving Auction No. 58 Rules
to Create Meaningful Opportunities for
Smaller Businesses, New Entrants and Minority / Women Owned Businesses

FCC Auction No. 58
Public Notice DA 04-1639 (Report No. AUC-03-58-A)

Council Tree Communications

September 1, 2004

Introduction

We thank the Commission for their thoughtful approach and attentiveness to this important matter for small businesses and new entrants and minority / women-owned businesses

▶ **The Commission must stay the course on Auction No. 58, with no auction delay**

▶ **Any further weakening of the DE rules / Closed licenses denies broadband PCS entry opportunities for:**
- Small businesses
- New entrants
- Minority and women-owned businesses

▶ **CTIA should properly address its concerns to Congress – not the Commission – which is diligently implementing laws passed by Congress**

▶ **The Commission must preserve the integrity of the DE Program – entrusted to it by Congress – and implement a High Net Worth Test**

No Basis for DE Rule Changes

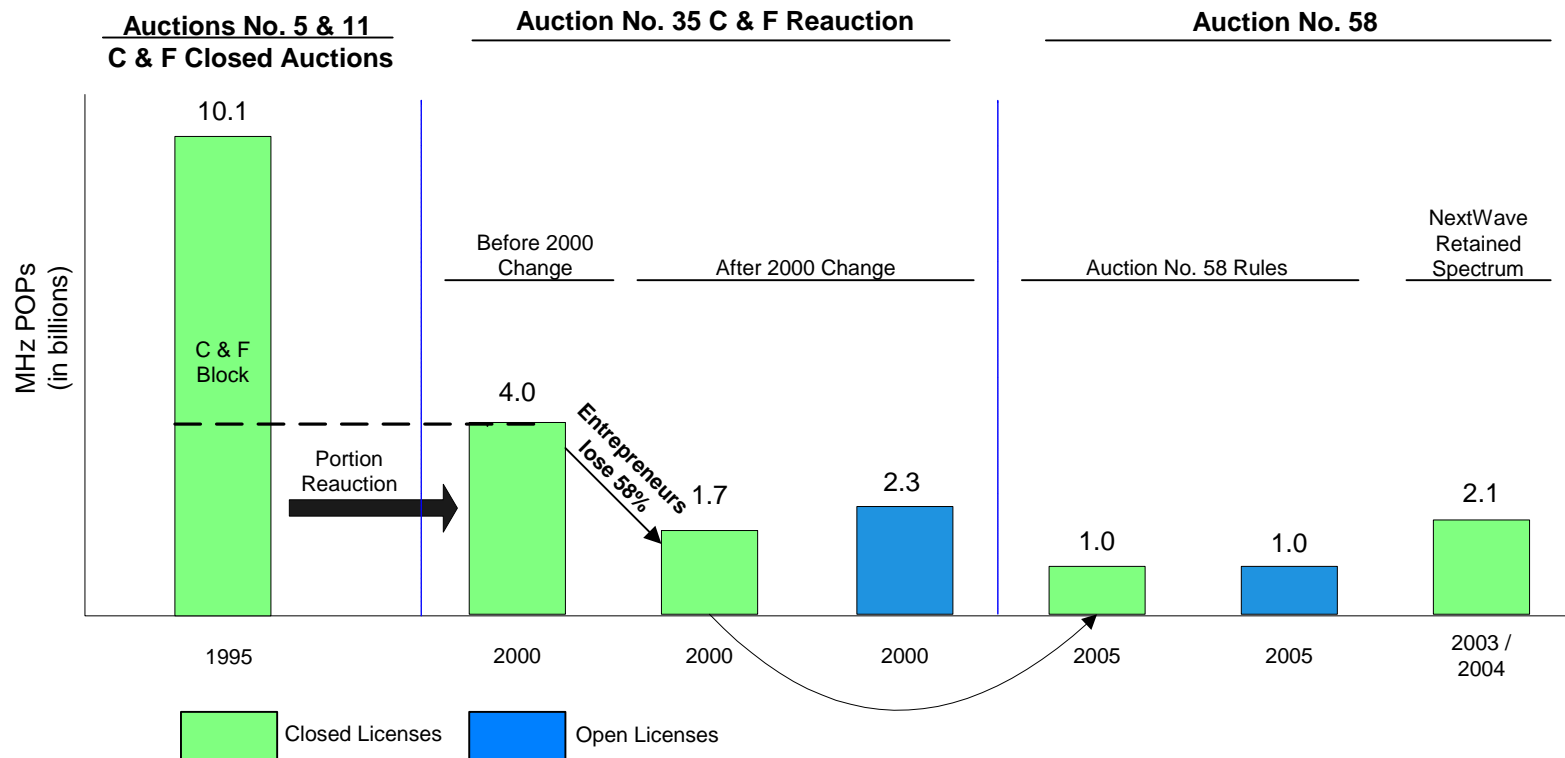▶ **The Commission is enforcing a painstaking compromise made in 2000:**

The Auction No. 35 rules "*will apply to any subsequent auctions of C or F block licenses, including any spectrum made available or reclaimed from bankruptcy proceedings in the future*"

▶ **Any deviation from this position sends Auction No. 58 into a breakdown / substantial delay**

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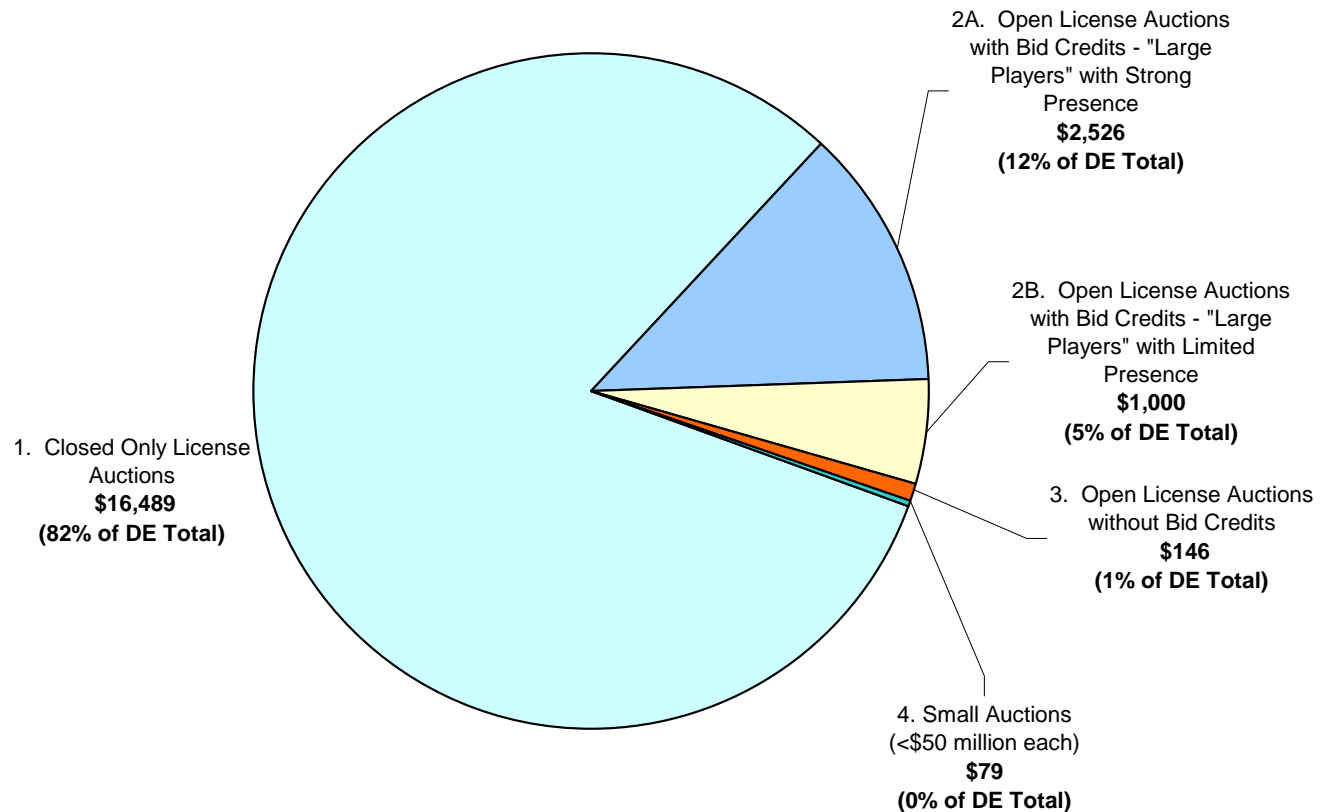# Erosion of Entrepreneurs' Closed Spectrum in 2000

In the 2000 compromise for Auction No. 35, the Closed Entrepreneurs' Block gave up <u>58%</u> of the 2000 Closed licenses re-auctioned (converted to Open)

<u>Auctions No. 5 & 11</u>
C & F Closed Auctions

<u>Auction No. 35 C & F Reauction</u>

<u>Auction No. 58</u>

MHz POPs
(in billions)

10.1

C & F
Block

<u>Before 2000 Change</u>

<u>After 2000 Change</u>

<u>Auction No. 58 Rules</u>

NextWave
Retained
<u>Spectrum</u>

Portion
Reauction

4.0

Entrepreneurs
lose 58%

1.7

2.3

1.0

1.0

2.1

1995

2000

2000

2000

2005

2005

2003 /
2004

Closed Licenses

Open Licenses

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4

Closed Licenses Critical to DE Success

Closed licenses account for <u>82%</u> of the dollar value total DE licenses – clearly the single and critical key to small business and new entrant participation in auctions

Total DE Licenses Won at FCC Auctions By Dollar Value ($ millions)
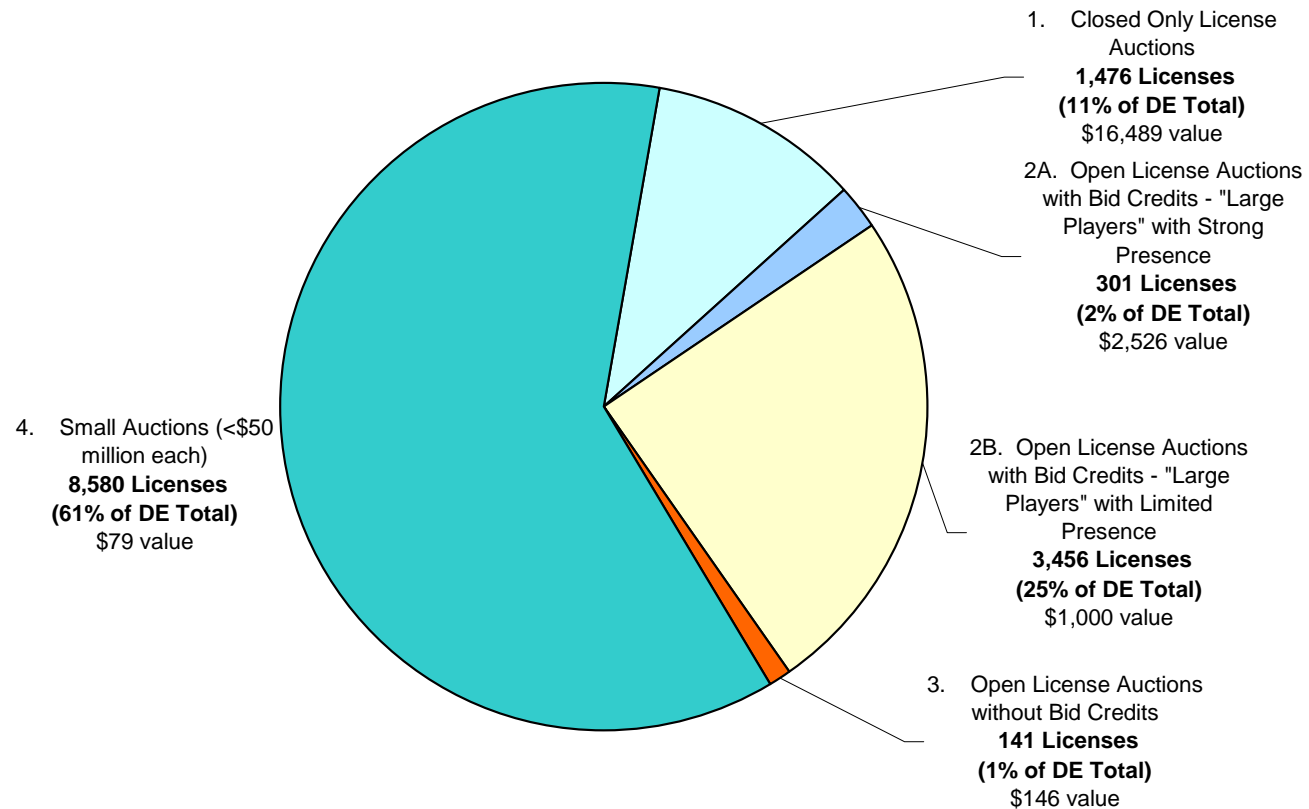**$20.2 Billion of Total DE Licenses**

2A. Open License Auctions with Bid Credits - "Large Players" with Strong Presence
$2,526
(12% of DE Total)

2B. Open License Auctions with Bid Credits - "Large Players" with Limited Presence
$1,000
(5% of DE Total)

1. Closed Only License Auctions
$16,489
(82% of DE Total)

3. Open License Auctions without Bid Credits
$146
(1% of DE Total)

4. Small Auctions (<$50 million each)
$79
(0% of DE Total)

<u>Note:</u>
Please see appendix for convention details

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CTIA inaccurately portrays DE "success" from the large number of DE licenses won without Closed licenses, implying bid credit effectiveness – the truth is that most of those licenses are of extremely low economic and strategic value

Total DE Licenses Won at FCC Auctions by Number of Licenses
13,954 Total DE Licenses

1. Closed Only License Auctions
    1,476 Licenses
    (11% of DE Total)
    $16,489 value

2A. Open License Auctions with Bid Credits - "Large Players" with Strong Presence
    301 Licenses
    (2% of DE Total)
    $2,526 value

2B. Open License Auctions with Bid Credits - "Large Players" with Limited Presence
    3,456 Licenses
    (25% of DE Total)
    $1,000 value

3. Open License Auctions without Bid Credits
    141 Licenses
    (1% of DE Total)
    $146 value

4. Small Auctions (<$50 million each)
    8,580 Licenses
    (61% of DE Total)
    $79 value

Note:
Please see appendix for convention details

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Closed Licenses Critical to DE Success (cont'd)

Closed auctions, not bid credits, are clearly the key to meaningful DE participation

Auction Group	By Dollar Value of Licenses ($MM)	By Number of Licenses	Comments
	DE License Won		

(1) Closed license auctions for DEs only

$16,489 Total | **1,476 Licenses**

$16,489 100% | - 0% | 1,476 100% | - 0%

- DEs
- Non-DEs

- Closed Licenses are key to DE participation

(2) Open auctions with bid credits
(2a) Auctions with dominant large carrier bidders

$13,468 Total | **1,942 Licenses**

$2,526 19% | $10,943 81% | 301 15% | 1,641 85%

- DEs
- Non-DEs

- DEs fare poorly using just bid credits against dominant large incumbents

{Without Salmon PCS outlier}

$11,793 Total | **1,898 Licenses**

$851 7% | $10,943 93% | 257 14% | 1,641 86%

- DEs
- Non-DEs

- Even more so when Salmon PCS outlier is removed

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Closed Licenses Critical to DE Success (cont'd)

DEs do OK with bid credits alone in auctions not marked by dominant large incumbent carrier participation

Auction Group	By Dollar Value of Licenses ($MM)	By Number of Licenses	Comments

DE License Won

(2) Open auctions with bid credits (cont'd)

(2b) Auctions without dominant large carrier bidders

$1,946 Total

6,186 Licenses

$1,000 51% $946 49%

3,456 56% 2,730 44%

☐ DEs
☐ Non-DEs

- DEs with bid credits do ok when there is limited participation from dominant large incumbent carriers

(3) Auctions without bid credits or Closed licenses

$9,802 Total

1,089 Licenses

$9,656 99%
$146 1%

948 87%
141 13%

☐ DEs
☐ Non-DEs

- With neither bid credits nor closed licenses, DEs fare poorly

(4) All small auctions (<$50 million)

$238 Total

15,040 Licenses

$79 33% $159 67%

8,580 57% 6,460 43%

☐ DEs
☐ Non-DEs

- This is how CTIA defines success – many very low value licenses won by DEs

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8

Viable Small Business Program Needed Now More than Ever

▶ **Industry consolidation cuts against small business / new entrants**
  - Underscores need for Entrepreneurs' Block Closed licenses
  - And supportive small business rules

▶ **Minority ownership in communications languishes – at near zero**
  - As the Commission's own Diversity Advisory Committee has recognized
  - While minority population is fastest growing in the U.S.

▶ **The DE Program is the only effective tool the Commission has**
  - To promote small business and new entrants
  - To enhance diversity of ownership by minorities and women
  - To fulfill the Commission's Congressional mandate thereto

▶ **CTIA's remedy is to go to Congress, not the Commission**
  - CTIA altogether ignores Congress's legal mandate to the Commission
  - To promote small and minority / women-owned business in spectrum auctions
  - Commission has long strived to fairly balance all interests

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Response to CTIA Points

▶ *CTIA cites "changed circumstances" (increased need for spectrum) as the basis for eliminating / reducing Entrepreneur Block Closed licenses*

- **The spectrum shortage affects small business even more**
- **Shows why meaningful DE rules are more important today than ever**

▶ *DEs "take" critical spectrum from the big carriers who really need it*

- **Congress gave their imprimatur**
- **Small business and new entrants vital to innovation and competition**
  — Metro PCS, Leap Wireless, Cook Inlet, Tritel PCS others
- **Deep-pocketed major carriers have alternatives**
  — Open market acquisitions (Qwest, Nextwave, etc.) and swaps (Nextel)
- **This spectrum is a drop-in-the-bucket relative to incumbent holdings**

▶ *DEs do just fine with Open licenses / don't need Closed*

- **Patently untrue – 82% of DE spectrum value from Closed auctions**
- **DEs with bid credits DO NOT win in major broadband PCS auctions as the Commission has concluded in prior orders and the data shows**
- See data in Appendix 2

Response to CTIA Points (Cont'd)

▶ *DEs are flippers – no company left in aftermath*
- **Cook Inlet (Voicestream), Metro PCS, Tritel many other success stories**
- **"Flippers" would also include nearly all non-DE wireless carriers**
  — Craig McCaw, Voicestream, AT&T Wireless, GTE, NYNEX, AirTouch, USWest, Ameritech and numerous others

▶ *DEs are failures*
- **Original C-block indeed flawed with well-intentioned installment loans**
  — **The root of well-documented DE failures**
  — **Not repeated thereafter**
  — **Don't throw the baby out with the bathwater, as CTIA asks**
- **Success stories far overshadow failures**
  — Metro PCS, Tritel PCS, Cook Inlet (Voicestream) and many others

▶ *No viable business plans for DEs for 10 MHz of stranded spectrum*
- **DEs are innovators, accustomed to developing new approaches**
- **Emerging niche markets and new technology applications**
  — 3G offers a multitude of possibilities
- **Incumbents have never "owned" the blueprints for success**

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Response to CTIA Points (Cont'd)

▸ *DE Program broken, even Council Tree agrees (Personal Net Worth Test)*
- **The Program is far from broken – it simply requires regular fine-tuning**

▸ *Closed licenses unnecessary because NextWave built-out the licenses*
- **Commission already took this into consideration**
- **Technocrat's argument – Commission is already on the record as having taken off the table**

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Implement Personal Net Worth Test

The Commission should implement a Personal Net Worth Test for DEs

▶ **The DE Program needs fine-tuning – loophole allows wealthy individuals to slip-in as DEs**
- Wealthy individuals discovered they slip through the FCC screen if they do not own a sizeable company
- Because the FCC tests business size, not personal wealth, for eligibility

▶ **Creates an unfair barrier for small businesses**
- Squeezes out legitimate small business participation
- Will cause an uproar of the kind that killed the tax certificate program

▶ **The solution: implement a Personal Net Worth Test**
- Adopt the SBA's personal net worth test to test DE eligibility
- For large auctions, calibrate at $3 million (excluding house & small business)

▶ **Screen out those wealthy individuals masquerading as DEs**

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Appendix 1: Entrepreneur Success Stories – Cook Inlet

Cook Inlet exemplifies success in creating a new national carrier with its participation in the development of Voicestream – now the 5th largest carrier

- ▶ **Cook Inlet wireless buildup**
  - Acquired over 100 million PCS POPs
  - Closed Entrepreneur auctions
  - Enormous footprint (see map)

- ▶ **Largest minority-owned Entrepreneur**

- ▶ **Strategic venture with Western Wireless**
  - Small cellular carrier at the time
 - Early buildout of numerous markets

- ▶ **Built Voicestream into national carrier**

- ▶ **Excellent example of Entrepreneurs building vibrant industry competitors**
  - Despite incumbent carriers arguments that there was no room for new entrants
  - Consumers are the beneficiaries today

- ▶ **T-Mobile would not be here today without Cook Inlet and the DE program**
  - Ironic that they and others now petition against the program

Legend:
- ■ Acquired in FCC Auction
- ■ Acquired from Omnipoint
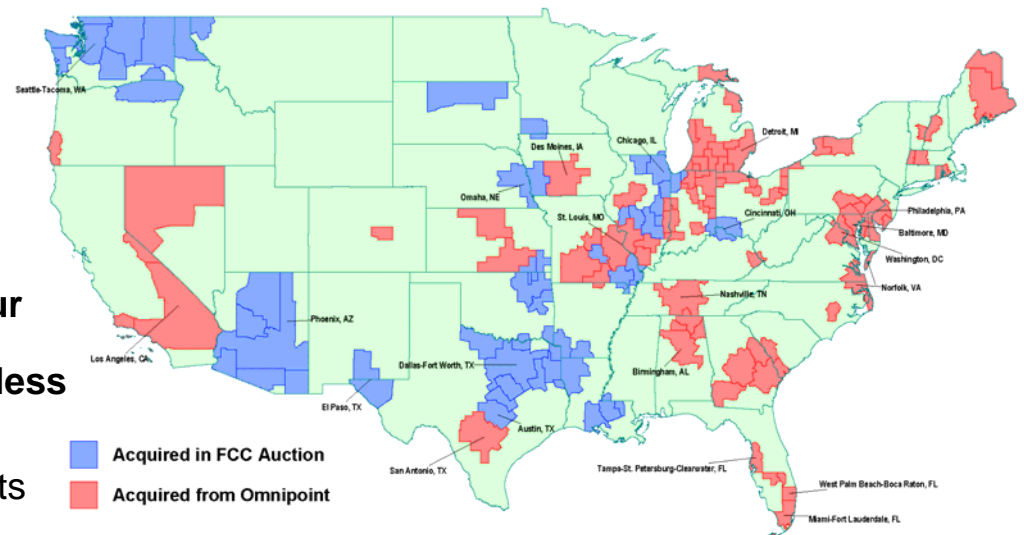
Appendix 1: Entrepreneur Success Stories – Tritel, Inc.

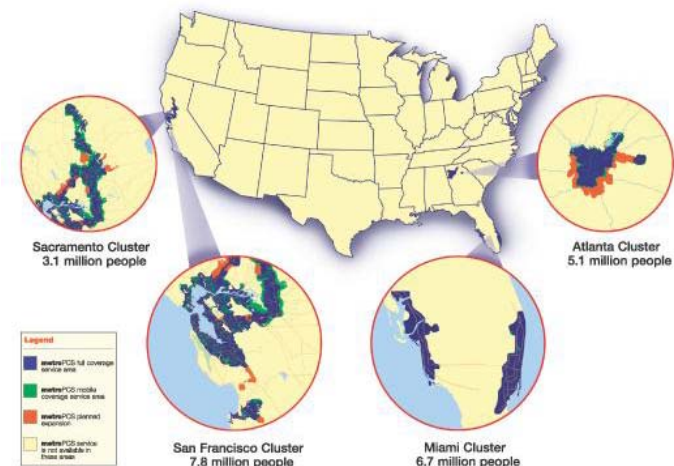**Tritel exemplifies success in bringing competitive PCS offerings to overlooked rural service areas**

▶ **Acquired substantial Entrepreneur Block Closed licenses**
  - Won 10.5 million POPs
  - C & F block auctions
  - $107 million in net bids

▶ **Affiliation agreement with AT&T Wireless**
  - AT&T Wireless also contributed licenses
  - Very sizeable footprint (see map)

▶ **Aggressively built-out these markets**

▶ **Success in raising $1.2+ billion of capital**
  - Private equity, bank debt, high yield and IPO
  - $2.5 billion merger with Telecorp, another DE, in 2000

▶ **Created a highly competitive venture**
  - Provides real competition to incumbents, particularly in rural areas

Tritel License Territory
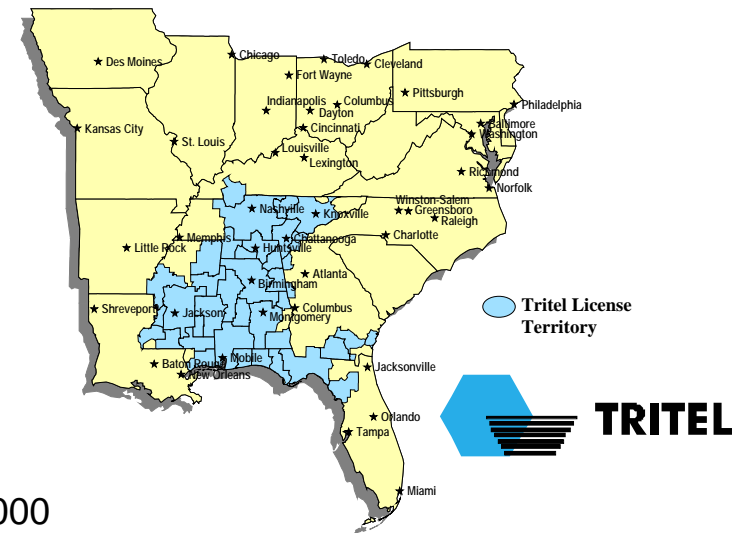
Appendix 1: Entrepreneur Success Stories — MetroPCS

MetroPCS's exemplifies new entrant innovation – bringing new services and competition to entrenched incumbents

▸ **Acquired substantial Closed licenses**
  - Won 17.9 million POPs
  - C & F Entrepreneur Block auctions
  - $1.1 billion in net bids

▸ **Engineered "wireless local loop" plan**
  - Highly innovative offerings
  - Localized plan with big minute buckets

▸ **Aggressively built-out these markets**
  - Substantial presence now in 4 clusters

▸ **Created a major competitor to incumbents**
  - Novel approach serves a significant consumer need

▸ **Raised over $600 of financing, navigating through a restructuring**
  - $250 million IPO pending

Sacramento Cluster
3.1 million people

Atlanta Cluster
5.1 million people

San Francisco Cluster
7.8 million people

Miami Cluster
6.7 million people

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Appendix 2: DE Participation in Auctions

Data for 50 FCC Auctions shows that Closed licenses are critical to DE success – refuting CTIA's principal claim that bid credits alone are sufficient for DE success

Entrepreneurs' Spectrum Won for 50 Auctions – by $ Amount

Auction Grouping for Auctions > $50 Million	DEs	Total	DE %	Key Conclusions
	($ in billions)			
(1) Entrepreneur Closed license auctions	$16.5	$16.5	100%	• **DEs win most spectrum at Closed auctions**
(2) Open auctions with bid credits:				
(2a) Auctions with dominant large carrier bidders	2.5	13.5	19%	• **DEs armed only with bid credits fare poorly in open auctions with dominant large carrier incumbents**
{without Salmon PCS outlier}	{0.9}	{13.5}	{6%}	
(2b) Auctions without dominant large carrier bidders	1.0	1.9	51%	• **DEs with bid credits do OK in auctions without dominant large carrier incumbents**
(3) Auctions with neither bid credits nor Closed licenses	0.1	9.8	1%	• **DEs fail outright with neither bid credits nor Closed licenses**
(4) All small auctions (<$50 million)	0.1	0.2	33%	
Total 50 [5] wireless auctions	$20.2	$42.0	48%	

Notes
(1)   5 Auctions: 5, 10, 11 (F block only), 22 and 35 (Closed only)
(2a) 6 Auctions: 1, 3, 16, 33, 34 and 35 (Open only)
      Dominant bidders defined as one or more of the large national
      incumbent carriers who together won 25% or more in given auction

(2b) 9 Auctions: 2, 6, 7, 17, 25, 30, 44, 49, 53
(3)   5 Auctions: 4, 8, 9, 11 (D&E Block), 15
(4)   28 Auctions: all auctions below $50 million
(5)   Data excludes recent auctions: 52 and 54

Appendix 2: DE Participation in Auctions (Cont'd)

CTIA claims DE success based on many DE licenses won – a misleading measure that focuses on many small, low value licenses, not valuable PCS licenses

Entrepreneurs' Spectrum Won for 50 Auctions – by No. of Licenses

Auction Groupings for Auctions > $50 Million	Wireless Licenses Won			Avg. License Value ($ millions)		Key Conclusions
	DEs	Total	DE %	DE	Non-DE	
(1) Entrepreneur Closed license auctions	**1,476**	1,476	100%	**$11.2**	$0.0	• **DEs win many valuable licenses with Closed auctions**
(2) Open auctions with bid credits:						
(2a) Auctions with dominant large carrier bidders	**301**	1,942	15%	**8.4**	6.7	• **DEs win few valuable licenses with bid credits alone against dominant large incumbents**
{Without Salmon PCS outlier}	**{257}**	{1,942}	{13%}	**{3.3}**	{6.7}	
(2b) Auctions without dominant large carrier bidders	**3,456**	6,186	56%	**0.3**	0.3	• **DEs with bid credits win many lower value licenses without dominant large incumbents**
(3) Auctions with neither bid credits nor Closed licenses	**141**	1,089	13%	**1.0**	10.2	• **With neither bid credits nor Closed licenses, DEs fare poorly, winning very few / low value licenses**
(4) All small auctions (<$50 million)	**8,580**	15,040	57%	**0.0**	0.0	• **This is how CTIA defines DE success – many very low value licenses won by DEs**
Total 50 [5] wireless auctions	**13,954**	25,733	54%			

Notes
(1) 5 Auctions: 5, 10, 11 (F block only), 22 and 35 (Closed only)
(2a) 6 Auctions: 1, 3, 16, 33, 34 and 35 (Open only)
    Dominant bidders defined as one or more of the large national incumbent carriers who together won 25% or more in given auction
(2b) 9 Auctions: 2, 6, 7, 17, 25, 30, 44, 49, 53
(3) 5 Auctions: 4, 8, 9, 11 (D&E Block), 15
(4) 28 Auctions: all auctions below $50 million
(5) Data excludes recent auctions: 52 and 54

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