

# Economic Drivers of Femtocell Deployment

*Tony Mijares, VP for CALA, Airvana, Inc.*



# What is a Femtocell?

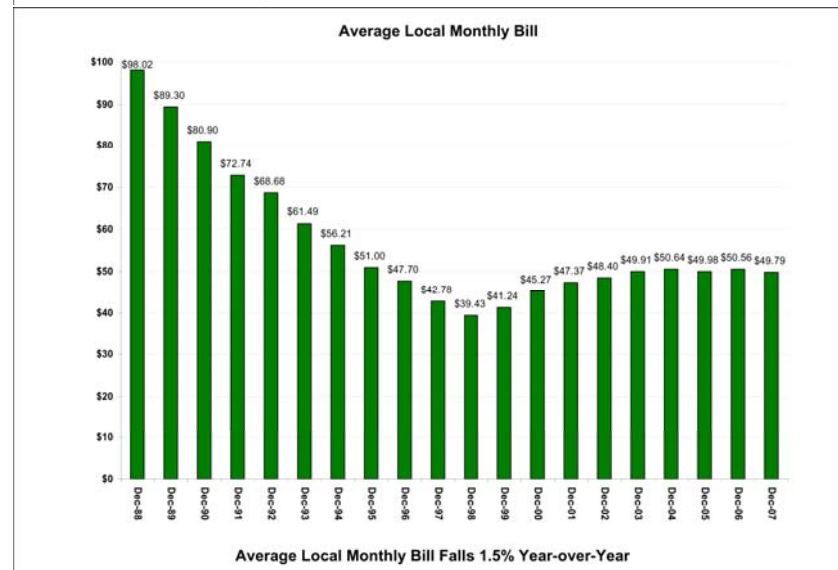
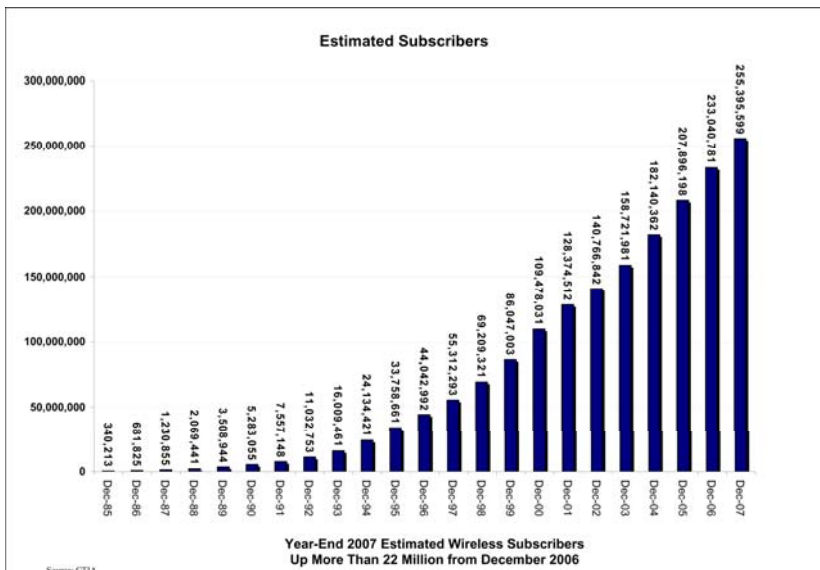
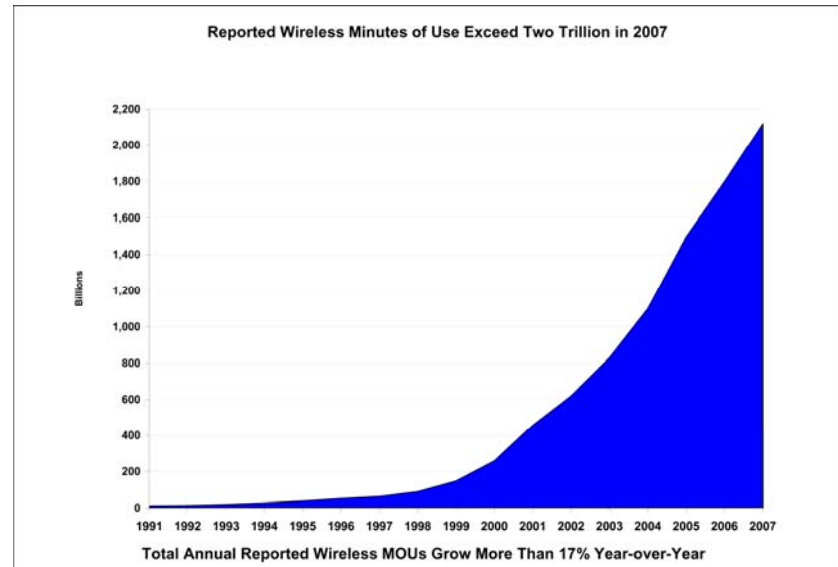
- Definition:
  - Personal or Home “Base Station”
  - Located in the home or office
  - Connects to existing cable or DSL network
  - Used by existing cell phones
  - Enabled by wide penetration of wireline broadband, IP networking, and cheap handset technology
- Macro vs. Femtocell comparison:



	Macro Cell	Femtocell
Location	Dedicated Cell Site	Home/Office
Size	Refrigerator	Paperback Book
Price	\$25,000-\$50,000	\$100-\$300
# Per USA Network	10,000+	Millions
Installation	RF Engineer	Plug & Play

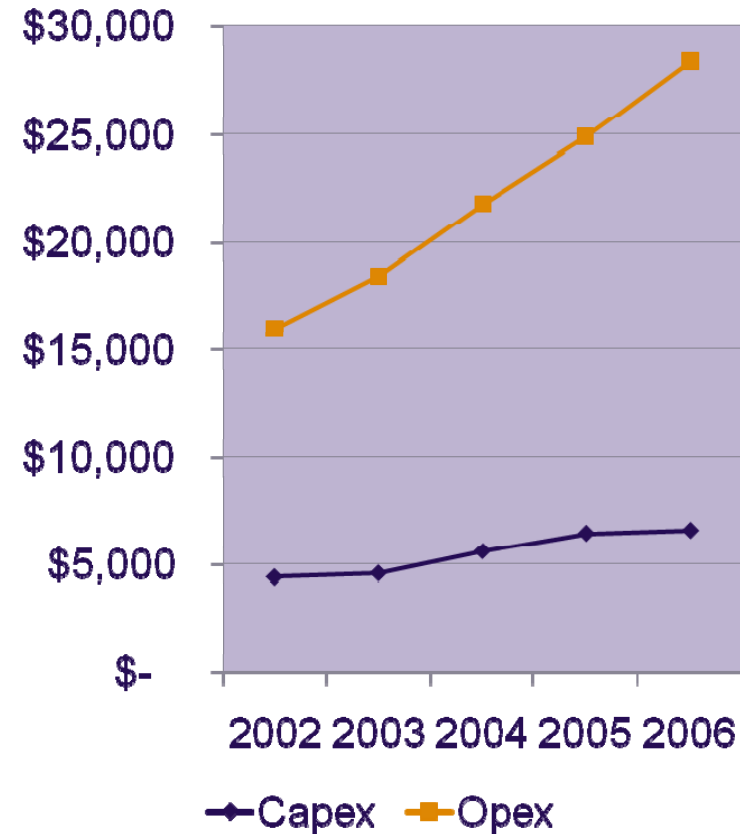
# Operators Face Growing Demand for Coverage & Capacity – But ARPU is Flat

- Growth in Subscribers
- Growth in Minutes of Use
- But Flat Monthly Bill
  - Despite Rapid Growth in Mobile Data Revenue



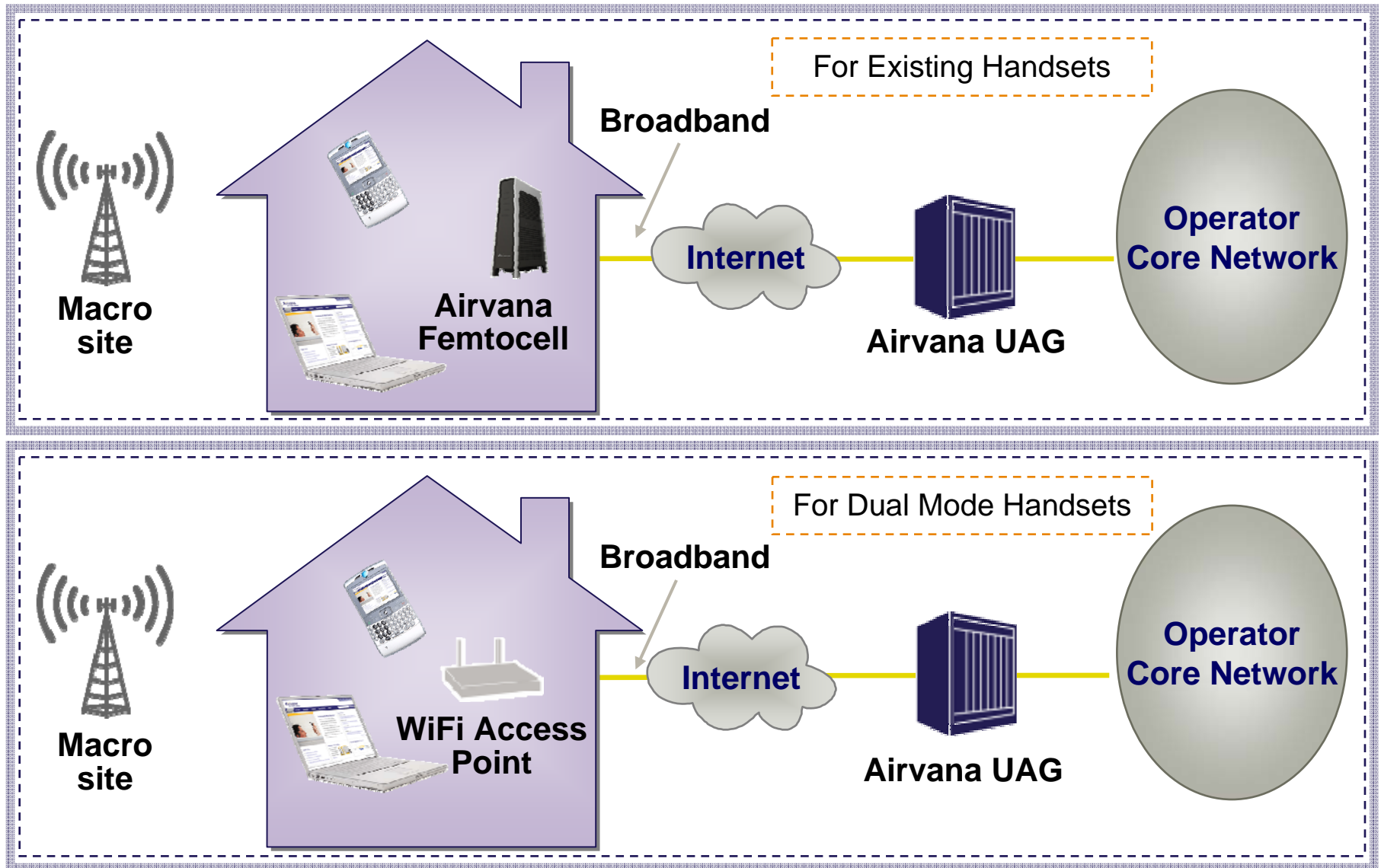
# In Today's Mobile Service Model Operators Respond to Traffic Growth by Adding Macro Cell Capacity

- Today's Mobile Service Model
  - Per minute charge for use of Mobile Voice services
  - Flat rate or per Megabyte charge for Mobile Data services
- Impact of Traffic Growth on Wireless Network
  - Increase in Macro Cell Capex
  - Even Greater increase in Macro Cell Opex
- Formula Works as long as
  - Subscribers or ARPU increase
- What if Subscriber Growth Slows and ARPU is Flat ?
  - Operator can not justify increased Capex and Opex with Flat Revenue

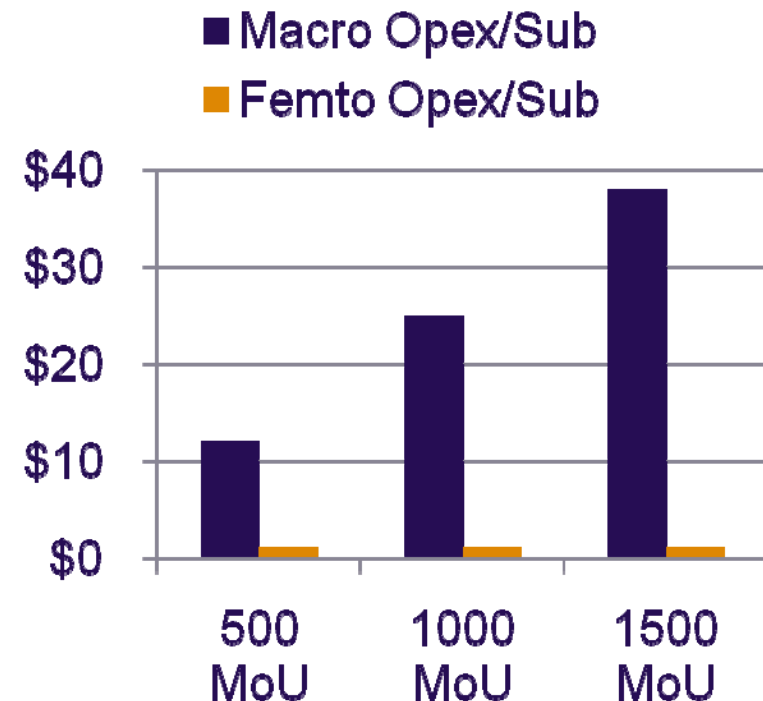
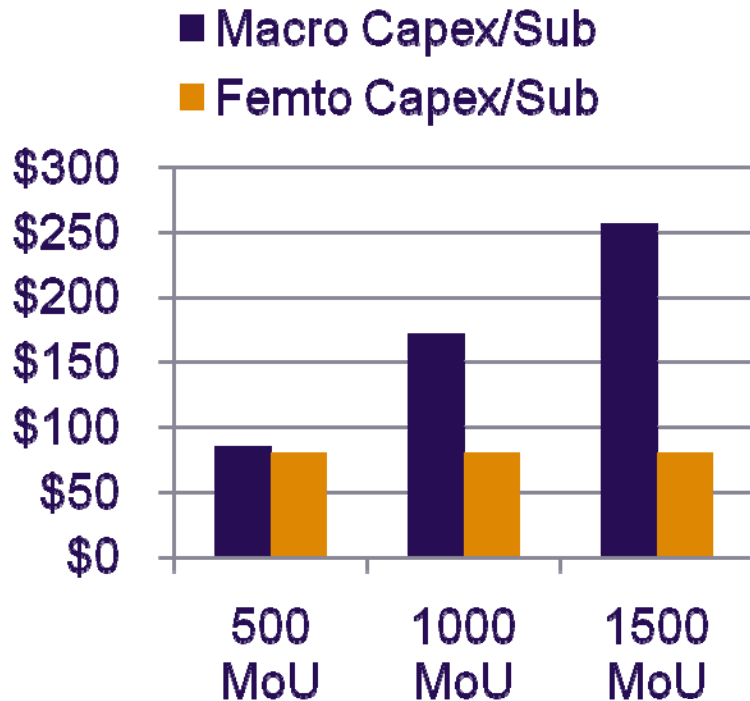


Annual Operating Data from Tier 1 US Mobile Operator, All \$ in Millions of USD

# The Solution: Fixed Mobile Convergence



# Femtocells Change Mobile Service Economics by Dramatically Reducing Capex & Opex vs. Macro RAN



- As User Traffic Increases, Macro Networks Cope by Adding New Carriers
  - But with High Capex and Opex

Femtocells Deliver Virtually Unlimited Capacity for a Few Users  
With Low Capex and Virtually No Operating Expenses

# Femtocell: A Disruptive Proposition

## Consumer

- Improved “Intelligent” Coverage
- Wireline Quality
- Superior Broadband Experience
- New Low Cost Services & Plans

## Operator

- Radically Lower Costs
- Massive Spectrum Reuse
- Huge Capacity
- New Service Revenue



Note: Prototypes shown in picture are currently in customer trials