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# State and Local Planning for the Nationwide Public Safety Broadband Network

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# NPSBN Challenges

- Limited Funding
  - \$7B (\$2B guaranteed) significantly lower than what many think it will cost to build the network
  - Existing government expenditures for wireless data services
- High Hurdles
  - Service that extends beyond commercial wireless coverage
  - “Always available” communications
- Unclear Private Partnership landscape

**Economics for public safety and partners is essential!**

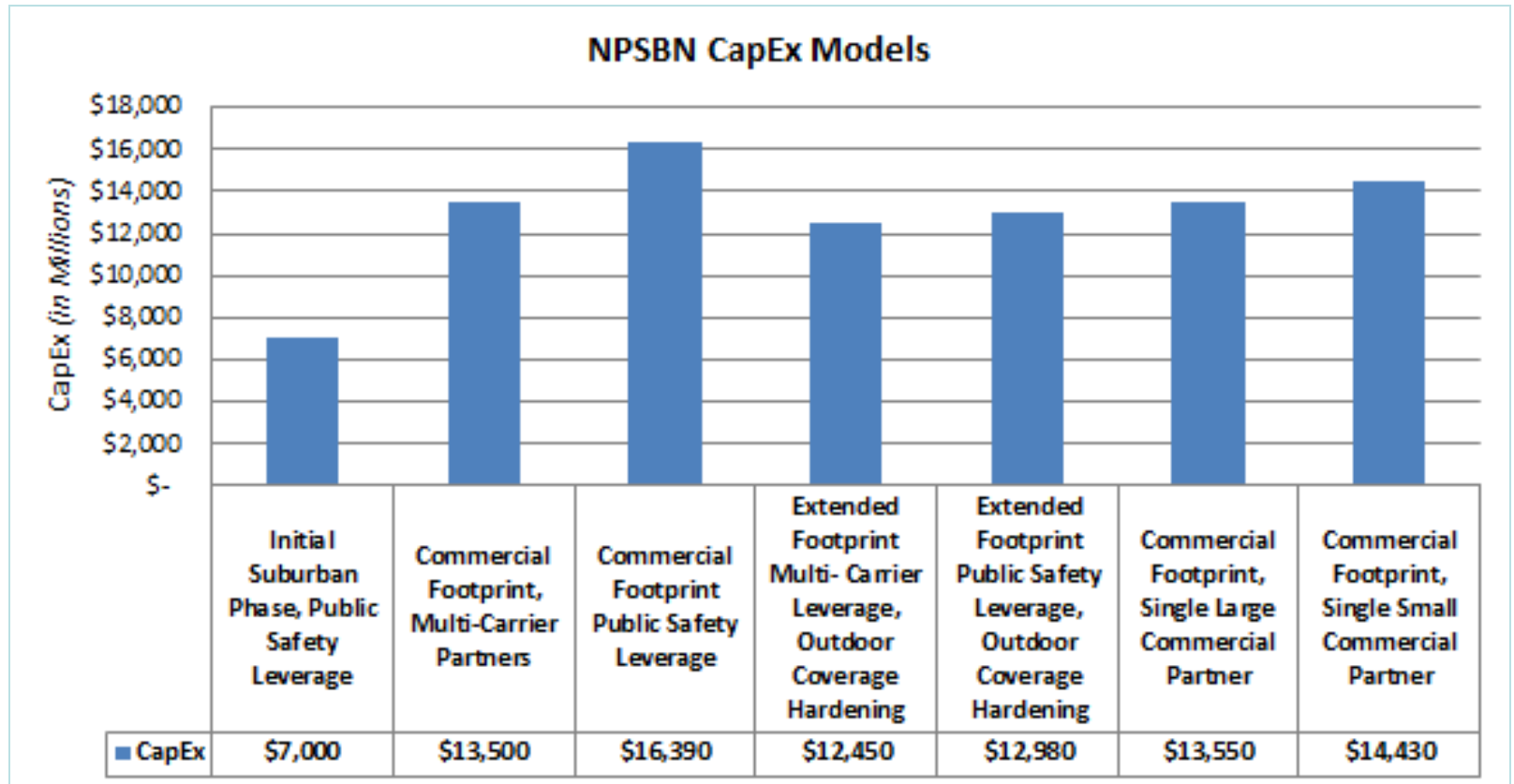
# Televate's Financial Model

- Partnership Models
  - Pub. Safety, Carrier, Commercial
- Build Models
  - Geographic Coverage
  - Hardening
  - Indoor / Outdoor Coverage
- Roaming Models
  - Cellular
  - Satellite (GEO, LEO)
- Costs
  - Network Ops. Only
  - CapEx and OpEx
- Revenue
  - Public Safety User Fees Only – No consumers
  - 100% Agency Adoption
  - Govt. FTE – penetration rates per category
  - Scales based on population served

# Scenario Overview

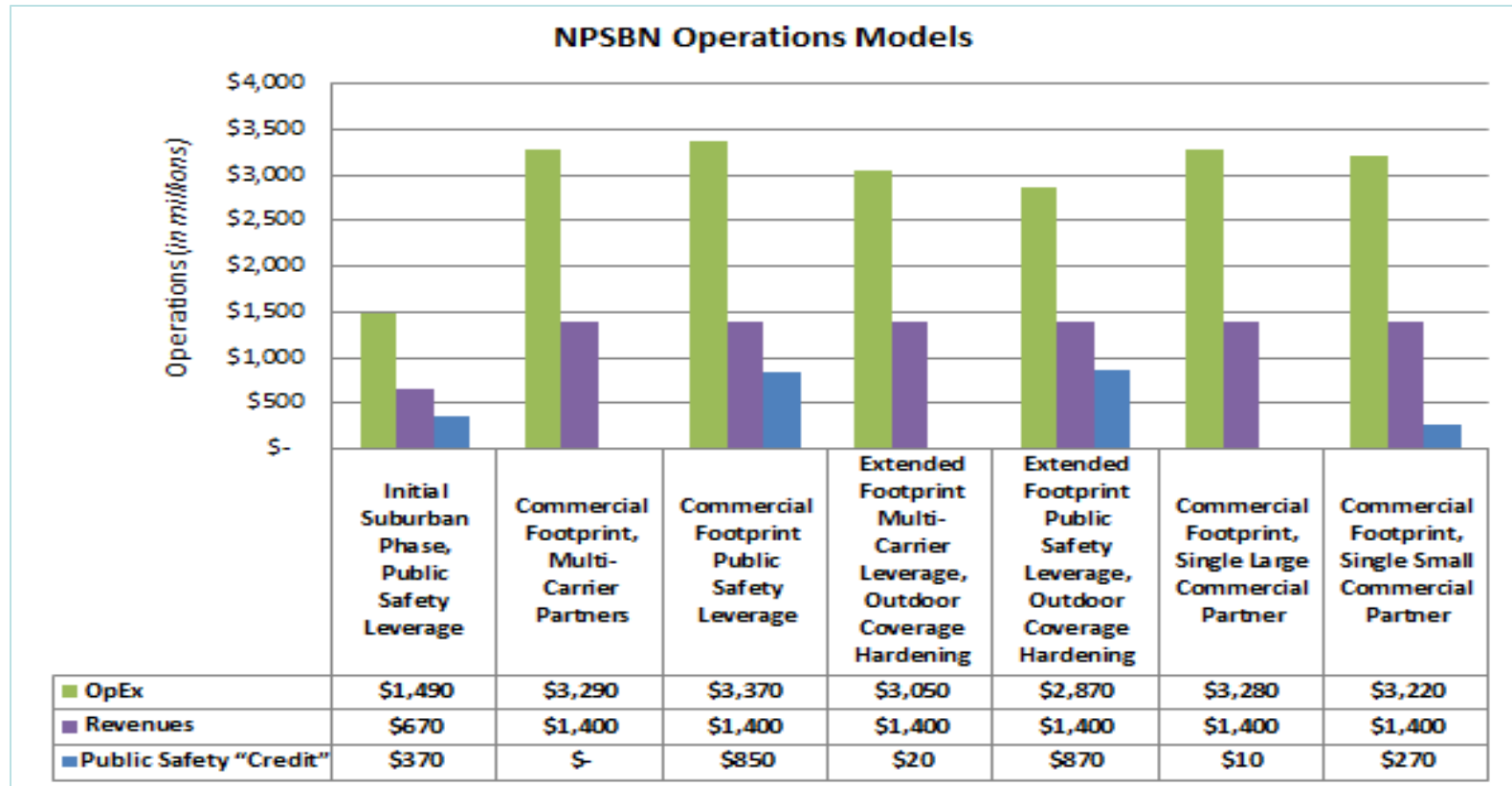
Scenario	NPSBN Coverage (% area) (2)	Hardening	Partner Model
“Initial Suburban Phase, Public Safety Leverage”	3.5	All Sites	Public safety leverage
“Commercial Footprint, Multi-Carrier Partners”	74%	All Sites	All necessary carriers
“Commercial Footprint, Public Safety Leverage”	74 %	All Sites	Public safety
“Extended Footprint Multi- Carrier Leverage, Outdoor Coverage Hardening”	80 %	For outdoor coverage only	All carriers + PS in rural areas
“Extended Footprint Public Safety Leverage, Outdoor Coverage Hardening”	80%	For outdoor coverage only	Public safety
“Commercial Footprint, Single Large Commercial Partner”	74%	All sites	Single carrier then public safety
“Commercial Footprint, Single Small Commercial Partner”	74%	All sites	Single carrier then public safety

# Capital Costs



- Includes: core, equipment, engineering, installation labor, project management, facilities construction, satellite equip, ...
- Nationwide buildout exceeds \$7B potential funding
  - Shortfall of ~\$5.5 to \$9.4 B (even for carrier models)
  - Reduced hardening vs. extended footprint
  - PS assets helping extended and single commercial partners

# Annual Operational Costs



- Includes: tower leases, backhaul, labor, roaming/satellite fees, technology refresh, ...
- Use of leveraged assets pushes expenses to operations
- Shortfall of \$1.5 to \$2.0 B

- Cost recovery of nearly 50%
- Significant use of PS assets reduce ops (even commercial)
- PS "Credit" can increase usage by more than 60%

# Caveats of the Model

## Scope

- Average expected scope – not designed
- Assumes usable assets at every site
  - Public safety sites
  - Commercial sites
  - Commercial carriers
- 100% agency participation

## Costs

- Network Operations Costs only – excludes other operations costs
- Excludes many project management costs
- Excludes any intermediate vendor (e.g., MNO) profit levels
- Excludes financing charge due to delayed revenues

**This all underscores the importance of SLIGP!**

# Summary

- External funding needed
  - Private investment tied to usage of excess capacity is pivotal
  - Additional government funding could also play a role
- Leverage of public safety assets improves the commercial models and results in increased public safety usage via credits
- Many tradeoffs that impact costs
- State and Local Implementation Planning Grant is essential
  - Understand key requirements that drive cost
  - Understand private partner requirements, and capabilities
  - Understand available assets and compensation for their use



Questions?

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