



***WiMAX Campus at Clemson:  
Highways,  
Commercial District, and  
Roaming/Federation***

**GEC 13 Deployment Plan Briefing**

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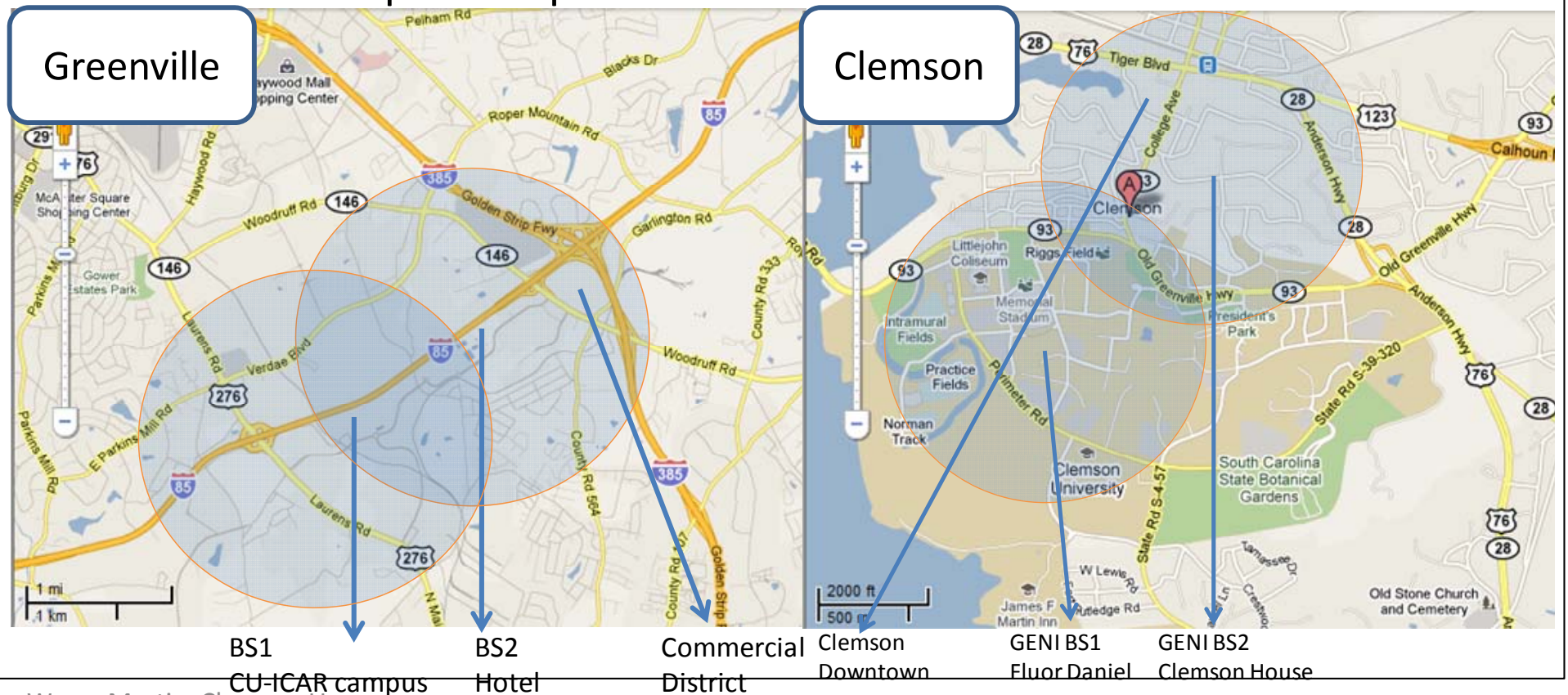
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# Project Overview

- In Solicitation 3, GPO solicited for:  
“**multiple base stations in a single metropolitan area** for researchers to experiment with **city-wide coverage and hand-offs**, and **multiple institutions** owning and operating the base stations for issues of **federated operations** to be explored.”
- Our proposal:
  - **Four base stations** in two disjoint subnets in Clemson (campus and town) and Greenville (highways with intersection, commercial district).
  - **Intra- and inter-subnet** handoff with campus and highway vehicles.
  - **Federated operation** by CU and UW.
  - **Roaming and interoperability** with commercial WiMAX networks .
  - Synergistic users and collaborators:
    - university police (video surveillance)
    - Department of Transportation (DOT) (highway video analytics)
    - Clemson University International Center for Automotive Research (CU-ICAR)
    - university students and city opt-in users.

# Deployment Map

- Greenville subnet
  - covers I-85, I-385, Woodruff shopping district
  - campus hourly shuttle route
- Clemson subnet
  - covers campus and part of Clemson downtown



# Progress

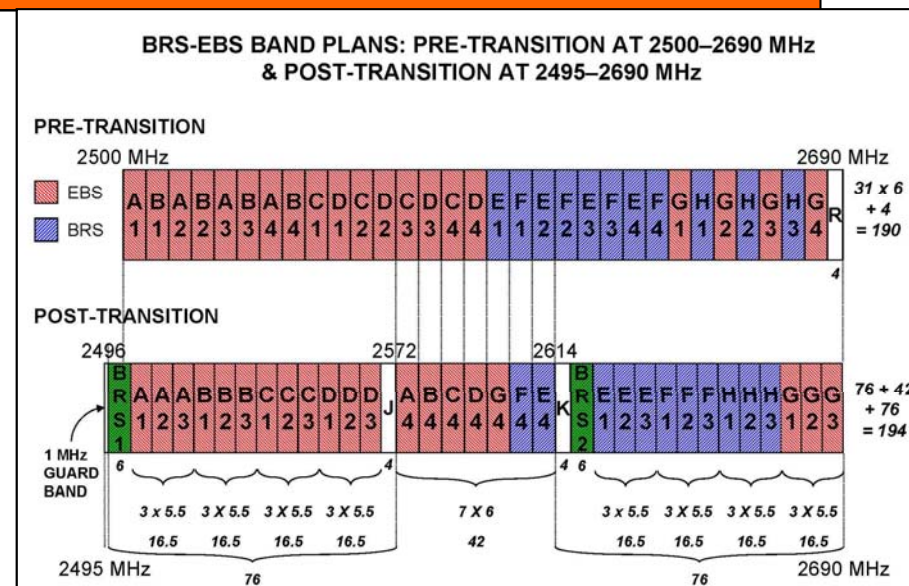
- Spectrum

- Clearwire signed MOU granting Clemson three year sublease of WiMAX Ch. A1-3, B1-3
- FCC granted experimental license

- Deployment

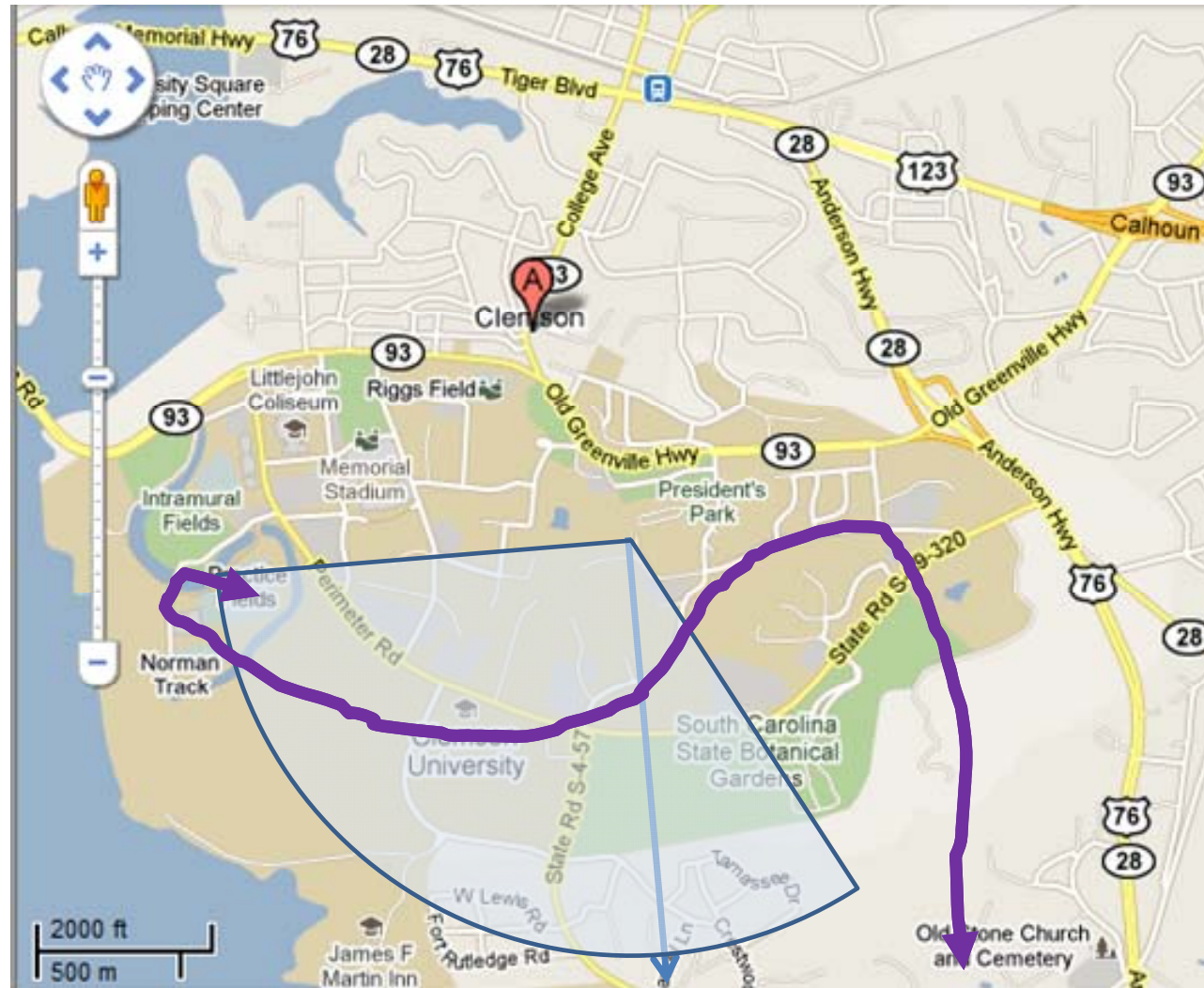
- Received three base stations, one 120° sector each BS
- BS 1 – Clemson Byrnes Hall – Existing roof top pole mount, Ethernet /power connection to top floor telecommunications room.
- BS 2, 3 – Clemson Greenville ICAR campus building – Planned two roof top pole mounts, Ethernet/power connection to building telecommunications room.
- Existing campus network to reach GENI core.

- Other proposed locations on hold pending SCDOT fiber access



# Clemson Coverage Plan – One Sector

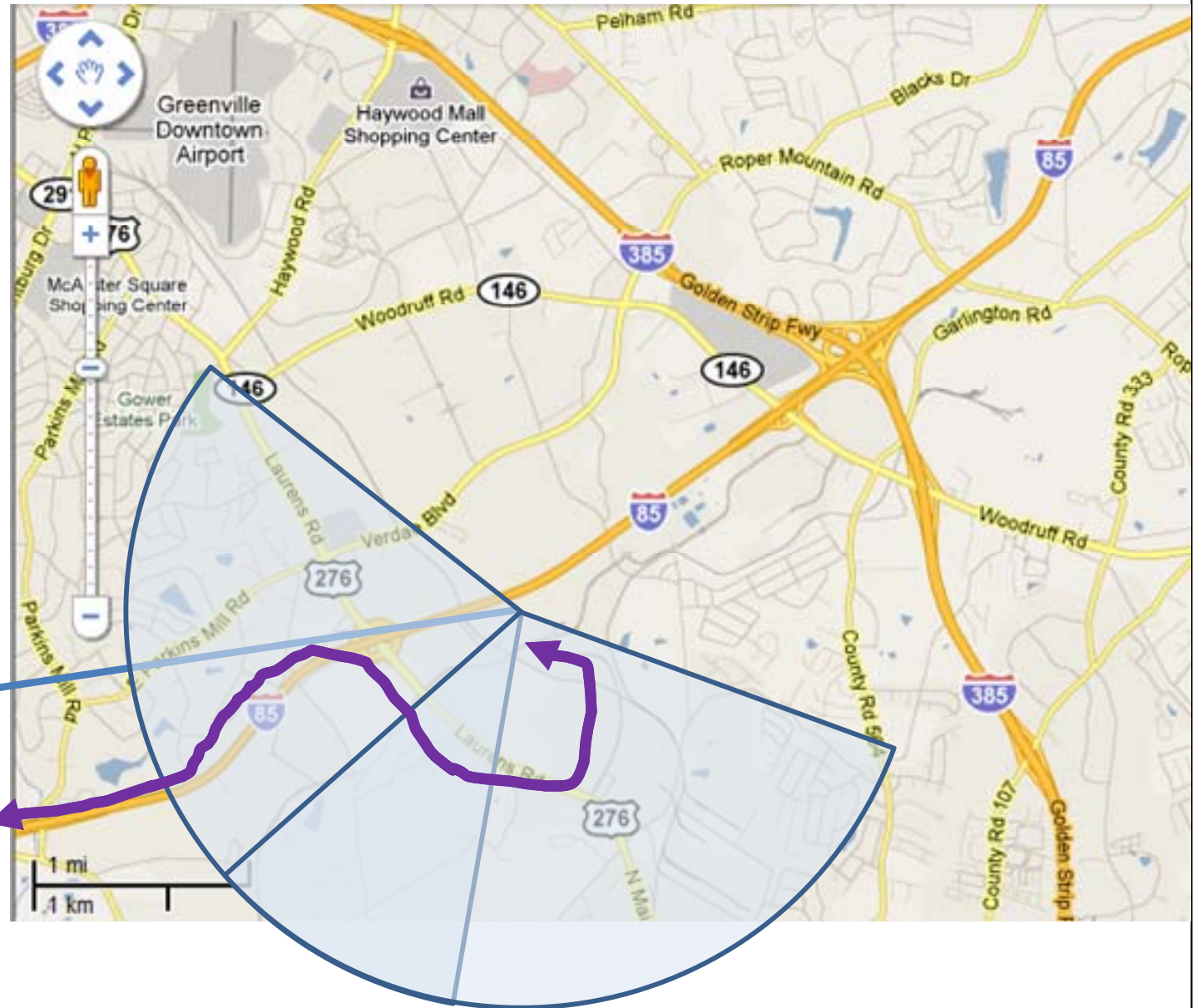
Clemson  
-ICAR  
shuttle  
route



BS1  
Byrnes Hall

# Greenville Coverage Plan – Two Sectors

Clemson  
-ICAR  
shuttle  
route



**FURTHER QUESTIONS**  
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