

NMDOT CORS Workshop



2012 SWUG



Outline for Workshop

- Introductions
- Current Status of NMDOT CORS
- Future plans of PBO in New Mexico – Karl Feaux/PBO
- Future plans of NGS/NOAA in New Mexico – Bill Stone/NGS
- Lightsquared and it's relevancy now – Scott Burgett/Garmin
- Break
- GPS Phone Grade – Anna Patterson/NMSU
- RTK Network – Survey Grade – Bob Green/Vectors
- Adjacent States Initiatives
- Future NMDOT CORS



Introductions

- Karl Feaux – PBO/UNAVCO
- Scott Burgett – Garmin
- Bob Green – Vectors
- NMDOT Staff – Mel Herrera, Audrey Garcia, Gerry Trujillo

Current Status of NMDOT CORS

- 4 current NMDOT CORS
- NMDE – Deming
- NMSF – Santa Fe
- NMGR – Grants
- NMRO – Roswell



NMSF



NMRO



NMDE

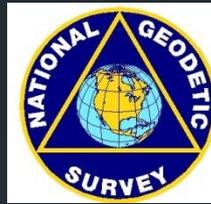


NMGR



Future Plans of PBO/UNAVCO

- Karl Feaux
- PBO currently operating 15 CORS in New Mexico
- Has offered several Semi-operational sites to NMDOT
- 5 semi-permanent sites chosen
- PBO in static state for 15 years
- Given NMDOT estimates on cost for “PBO” style CORS



Future plans of NGS/NOAA in NM

- Bill Stone – SW Region NGS Geodetic Advisor
- NGS currently operating __ CORS in New Mexico
- Aztec, Tucumcari and White Sands all Non-Operational
- US Coast Guard operating one CORS – ABQ6



Lightsquared Update

- Scott Burgett – Garmin



Break

- Break
- Clines Corners CORS P120 – PBO/UNAVCO





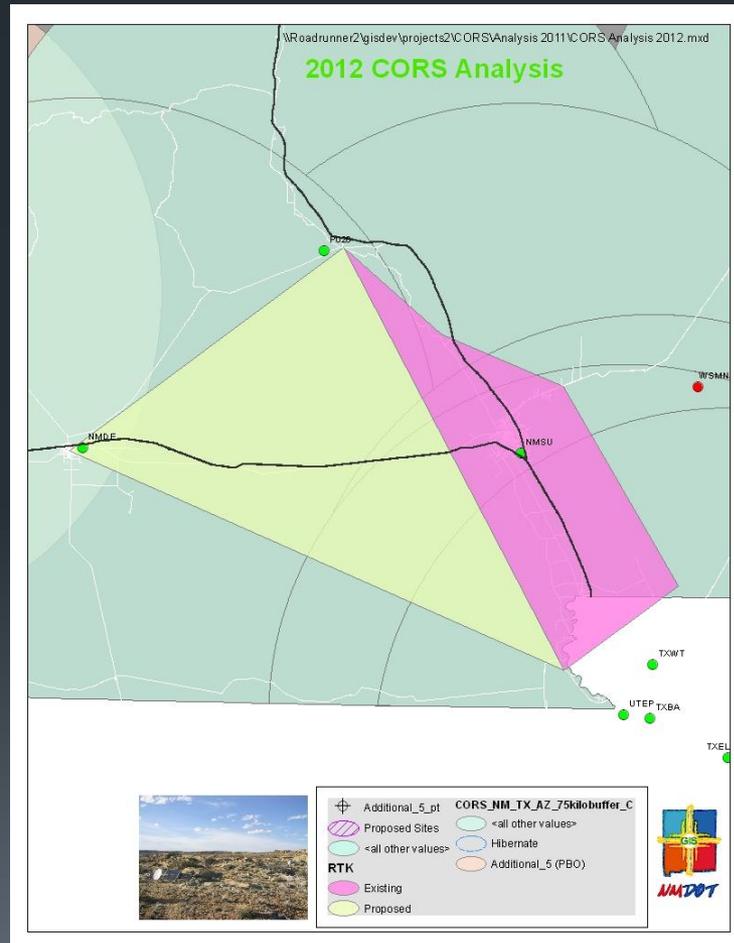
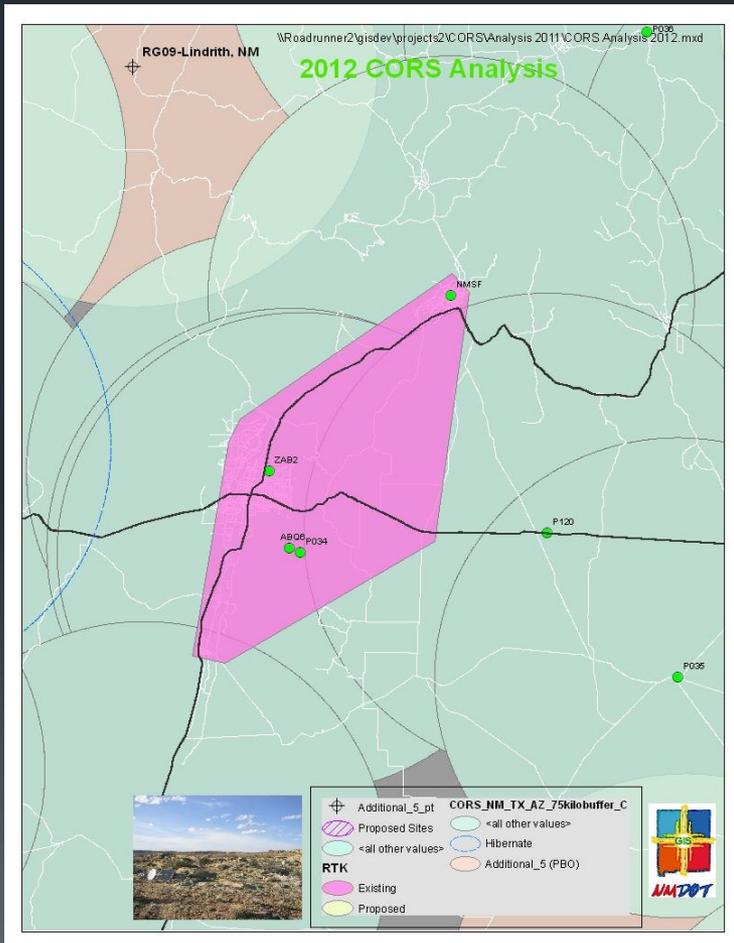
GPS Phone Grade

- Anna Patterson – will provide attendees with her write-up

RTK Network – Survey Grade

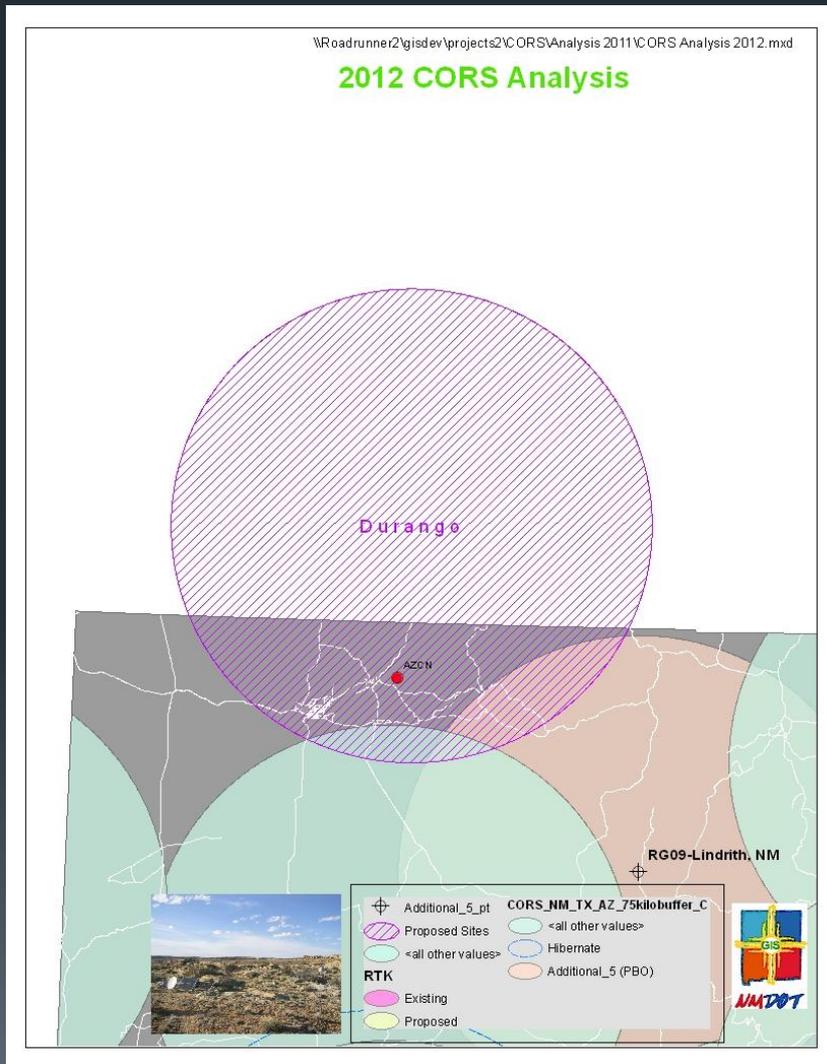
- Bob Green – Vectors
- RTK network ABQ

RTK network Las Cruces



Adjacent States

- Durango CORS



Communications – Access Technologies



- Frank Popovich – Access Technologies
- Recommendation of Cellular Communications with 3 new sites
- We have good cellular coverage at all 3 sites.



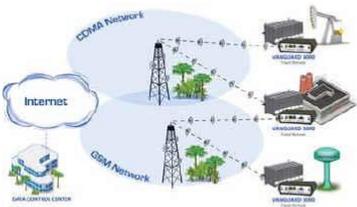
Vanguard 3000 Specifications

GENERAL		CDMA TECHNOLOGY/BANDS	
Input Voltage	9 to 28 VDC	EVDO Rev A (IS-856-A)	800 MHz Cellular/1900 MHz PCS/2100 Downlink 3.1 Mbps; Uplink 1.8 Mbps
TX Power @13.8 VDC	350 mA (500 mA with Wi-Fi)	1xEVDO Rev D (IS-856)	800 MHz Cellular/1900 MHz PCS /2100 Downlink 2.4 Mbps; Uplink 153.6 kbps
RX Power @13.8 VDC	130 mA (240 mA with Wi-Fi)	1xRTT (IS-2000)	800 MHz Cellular/1900 MHz PCS Downlink 153.6 kbps; Uplink 153.6 kbps
Diversity Support	Rx Diversity		
Security	IPsec, GRE Tunneling, PPTP VPN, RADIUS Client		
Router	MAC Filtering, DMZ, Dynamic DNS		
Device Management	SNMP, HTTP embedded web server		
Certifications	Pending		
CONNECTORS/INTERFACE		GSM TECHNOLOGY/BANDS	
LED indicators	RS232, SVC, NET, GPS, AUX	UMTS/HSPA	Five-band 850/900/1900/2100/AWS Downlink 7.2 Mbps, Uplink 2.0 Mbps
Power	4-pin locking connector	EDGE/GPRS	Quad-band 850/900/1800/1900 MHz Downlink 236 kbps, Uplink 236 kbps
Ethernet	Dual 10/100 Mbps RJ-45, auto MDIX, auto-negotiate, & activity LED		
Serial I/O	EIA-232F DE9 Female DCE, up to 115Kbps 2 digital inputs/outputs, 2 analog inputs, 2 outputs (relay driven contact closures)		
Primary Antenna	50 Ohm SMA Female		
RX Diversity Antenna	50 Ohm SMA Female		
GPS Antenna	50 Ohm SMA Female (optional)		
Wi-Fi Antenna	50 Ohm RP-SMA Female (optional)		
MECHANICAL/ENVIRONMENTAL			
Dimensions	4.3 1/2" x 6.0 1/2" x 1.8 1/2" in, 10.9 x 15.25 x 4.5 cm		
Weight	2.5 lb, 1.13 kg		
Temperature Range	-30° to +70° C, -22° to +158° F		
Humidity	5% to 95% non-condensing		



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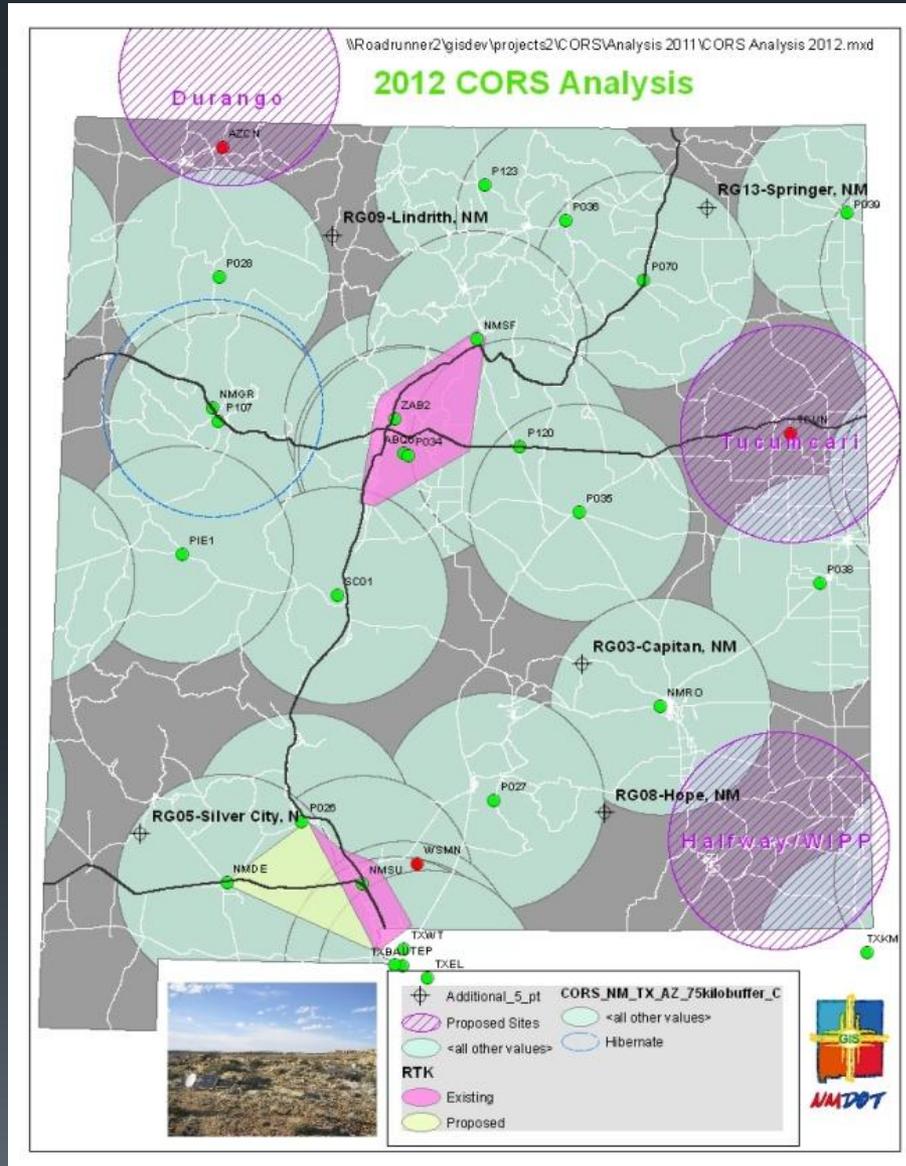
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Future of NMDOT CORS



Future of NMDOT CORS

- Priorities
- 1. Tucumcari – I-25 Coverage
 - NGS site is only one in area
 - NMDOT may consider placing CORS at Patrol Yard
- 2. Halfway, N.M. – Coverage for Carlsbad and Hobbs areas
 - There is no NMDOT patrol yard to consider in this area
 - NNMDOT may consider placing CORS at Hobbs and Carlsbad Patrol Yards
- 3. Silver City – I-10 Coverage, SW NM Coverage
 - PBO is only one in area
 - NMDOT may consider placing CORS at Patrol Yard
- 4. Hibernate Grants – Duplication with PBO
 - Other
- Hobbs has not developed a site to date
- NMDOT may consider new CORS sites at Patrol Yards
- Investigate other 4 PBO semi-operational sites
- Participate in MOU with NMSU on their CORS



Site Visit – Tucumcari TCUN

- Site Visit – October 2011
- Site needs new receiver
- Site is secure and good location
- NGS funding will for site will end October 2012
- Good fit & location for NMDOT
- May Consider NMDOT Patrol Yard



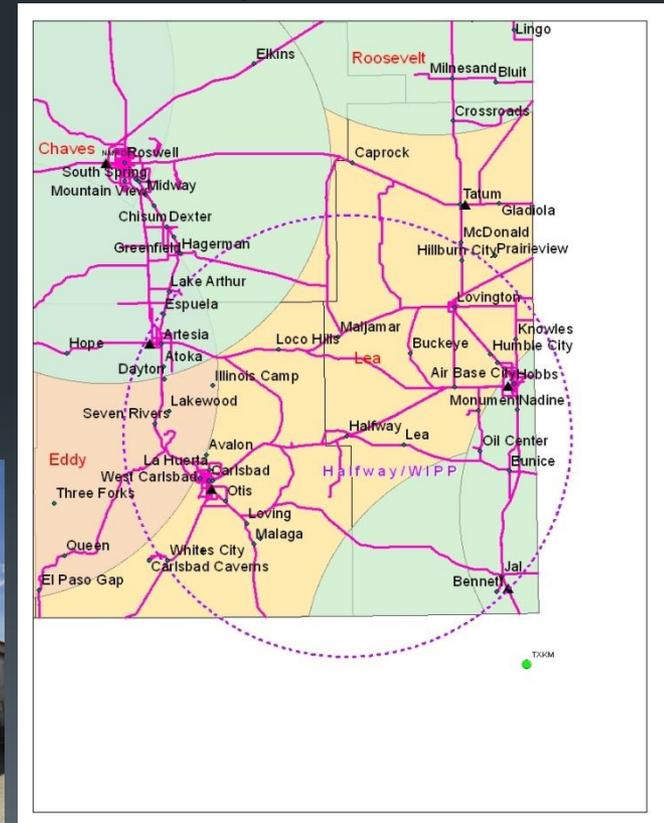
Site Visit – Silver City RG05

- Site Visit 9/13/2012
- Site needs Cellular Communication
- Site is in secure location with private lease
- May consider CORS at Silver City Patrol

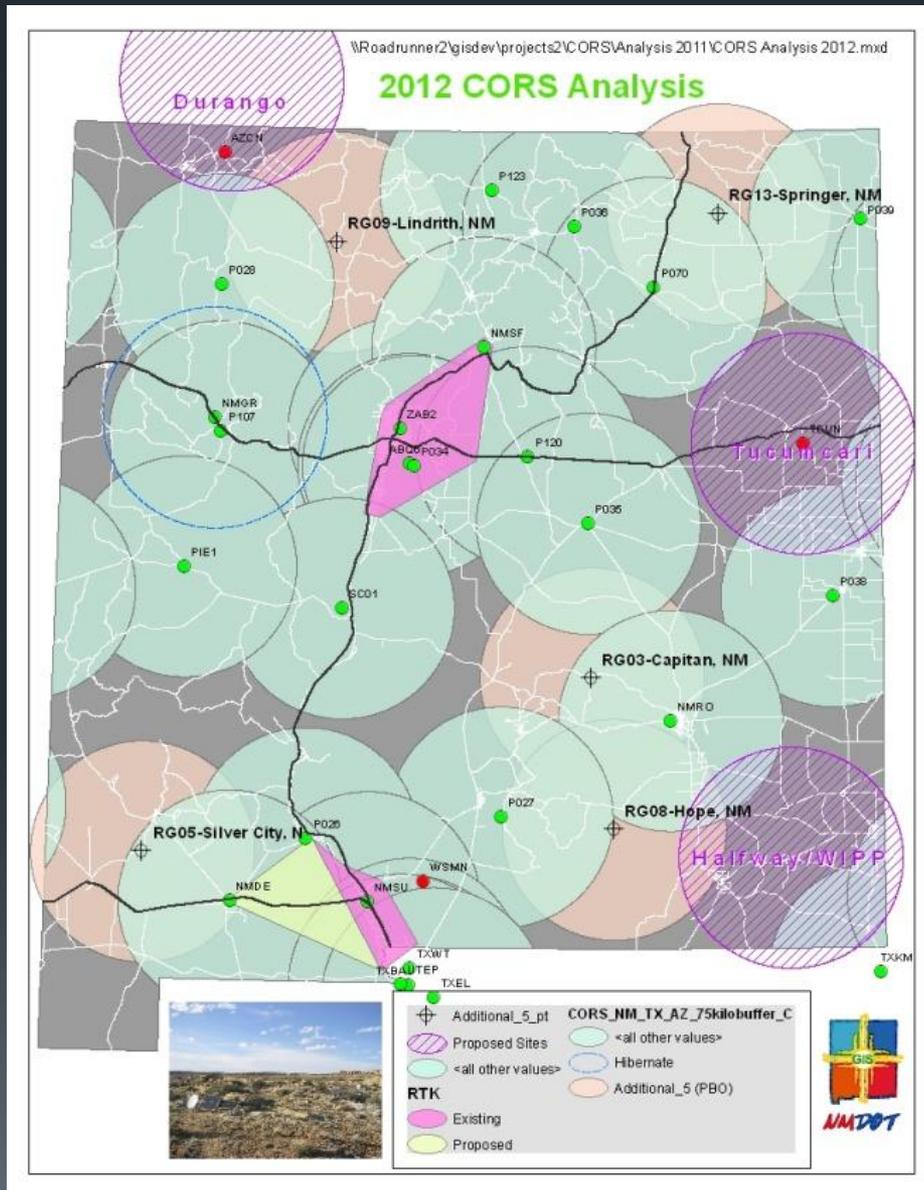


Site Visit – Halfway NM

- Halfway N.M. covered entire area of coverage needed
- Potential 3 private property sites in Halfway NM
- Considered WIPP, but too far south
- Hobbs N.M. has not installed CORS to date
- May consider placing CORS in Hobbs and Carlsbad at patrol yards



Additional PBO Sites





Conclusion of Workshop

- Please sign in and provide email
- All attendees will receive power point and other related info.
- Thank you for attendance

Chaco CORS by PBO

