NGS RTN Guidelines:
PLANNING & DESIGN
Pre-plan!

Get er’ done!
Norm for RTK services, content

- Requirements to the RTK service provider with respect to:
  - Documentation of coverage area
  - Quality of coordinates for reference stations
  - Obtainable user accuracy, horizontal and vertical
  - Monitoring of accuracy and integrity
  - Distribution of warnings and error messages
  - Availability on weekdays at 98%
  - etc.

Source: Dr. Anna Jensen, AJ Geomatics – as presented at CGSIC, Sept. 2008
Best Practice Guidance Notes for Network RTK Surveying in Great Britain

An examination of commercial network RTK GPS services in Great Britain

www.tsa-uk.org.uk
Real Time (i.e. Available in Real-Time)
Planning & Design

- Pre-Planning
- Spacing
- Processing Center
Pre-Planning

Questions to ask before planning begins:

• Type of RTN
• Needs Analysis
• Cost-Benefit Analysis
• Performance Expectations
• Risks Assessment
• Operations Model
• Support Model
• Product Delivery Goals
• RTN Services
  • Single-Base
  • Network Corrections
  • Server-Side Processing
  • Static Files
Spacing & Geometry

- Theoretical Spacing
- Siting Limitations
- Phased Implementation
- Use of Existing/External Stations
- Fiducial Stations
- NGS CORS
- Multi-Constellation Stations
Processing Center

- Central Processing Center (CPC)
  - Host and Host Site
  - Servers and Arrays
  - Power & Environment
  - Archiving
- Communications
  - CORS to CPC
  - CPC to End-User
  - Redundancy
- Design for Operational Levels
  - Minimal (Tool Style)
  - Full (Utility Style)
- Maintenance and Support
- Network Integrity Monitoring
Doctor L2’s D.I.Y. RTN

- Secure a Big Pile of Funding
- Draw Overlapping Circles on a Map
- Stop by the Hardware Store
- Start Building Stations near the Center of those Circles
- Fly-tie some Coordinates from the Nearest Monument
- Press the \( \text{\color{red}on}} \) Button

Or, make several vendors submit designs then choose one with the coolest graphics...

- Everything will be OK as long as you do not answer the phone...
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PLANNING & DESIGN