

Rover Route Development Toolkit

For Improving Rover Productivity

Contributed by Upper Midwest Rovers

Presented at Aurora'18

by Mel, KCOP/r

Rover RDK- Goals

- **Rover Route Development Kit includes:**
 - 8 digit Maidenhead grid designations of submitted sites
 - Rover operating observations from each site
 - Forward/reverse bearings, distances/profiles to “Anchors”
 - Both on-line and downloadable visuals (.jpg, .kml .kmz)
 - Graphical views of rover operating sites
 - Google map based rover routing tool
- **Provide a sustainable database of rover operating sites**
 - Updated with new sites and changes to existing sites

Rover RDK- Goals

- **Reduced time for development of rover routes**
 - Improve the productivity of current rovers
 - Reduce the uncertainty for new rovers
- **Spice up your roving experience**
 - Add a new ~~band~~ grid this year
 - Change-up your rover route with a different grid this year
 - Activate a “rare” grid for the fixed stations
- **Help stations locate rovers**
 - Predetermined bearings to known, rover sites

Rover RDK- Goals

- **Distinguish between sites that are suitable for:**
 - **Low band operation (ABCD, 50-432 MHz)**
 - May have power line or residential RFI on some bands
 - **Microwave band operation (9EFGHI+, 902-10GHz)**
 - May have foliage blockages in some directions
 - May have cell tower interference on some bands
- **One rover site doesn't suit all!**

Rover RDK Implementation and Access

- **Can view M.S. EXCEL version on-line at box.com**
 - Does ***NOT*** require M.S. Office on your computer!
 - Viewable on PCs and tablets
 - PDF version also available for downloading

- **Anyone with the link can view & download files:**
 - Images (.jpg), Google Map (.kml) & Google Earth locations (.kmz)
 - Desktop/smartphone/tablet with Google Map app (FREE)
 - Optional Google Earth app (FREE)

Master Upper Midwest Rover Site Survey - [link](#)

[illegible]

Rover RDK Rollout Plans

- **Minimum Site Information Required:**
 - **Geographic Coordinates (any standard format)**
 - **or just 8 digit Maidenhead Grid Square**
 - **Additional site information added overtime**
- **Sites initially edited by KØMHC**
 - **Other editor(s) may participate over time**
- **Ready for use for June, 2018 VHF Contest**
- **Continuing updates thereafter**

Typical Site – Google Earth “Snapshot” Image

EN33XW94

Write a description for your map.

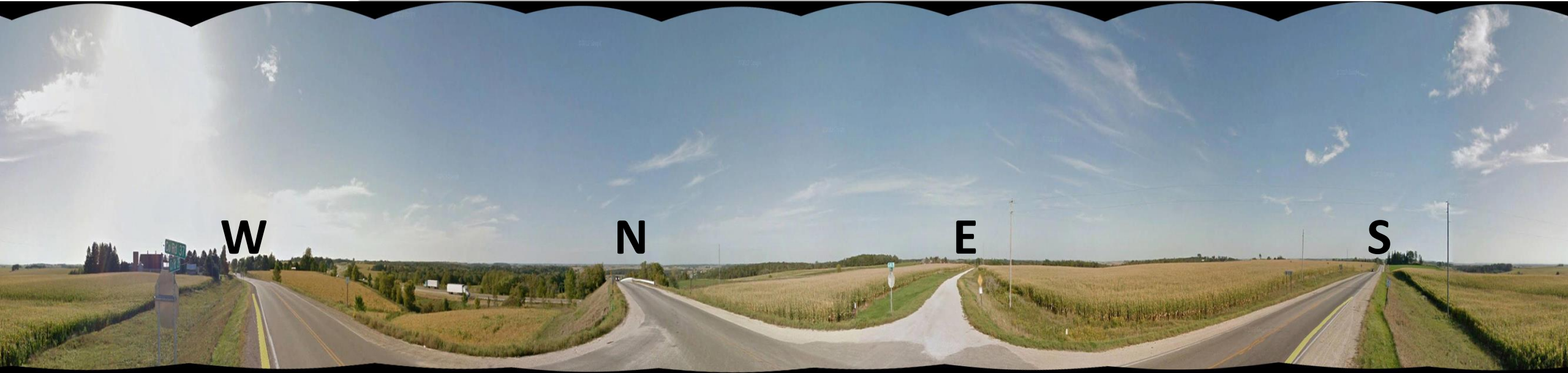
W 92°00'18"

EN33XW94

STATION BANDS BEAR REV DIST
W0GHZ- ????????- 326/ 145/ 140
K0AWU- ABCD9EI- 342/ 161/ 382
W0UC- ABCD9E- 31/ 211/ 103
K2DRH- ABCD9E- 148/ 330/ 287
NT0V- ABCD9EFGI- 314/ 130/ 698

Directions: [To here](#) - [From here](#)

360 Panoramas and Profiles



Graph: Min, Avg, Max **Elevation: 666, 981, 1348 ft**

Range Totals: **Distance: 88.3 mi** **Elev Gain/Loss: 9734 ft, -9422 ft** **Max Slope: 14.5%, -15.1%** **Avg Slope: 2.3%, -2.2%**



Typical Site – Operating Information

Information included in each site description for “anchor” stations. The “anchor” stations will change over time.

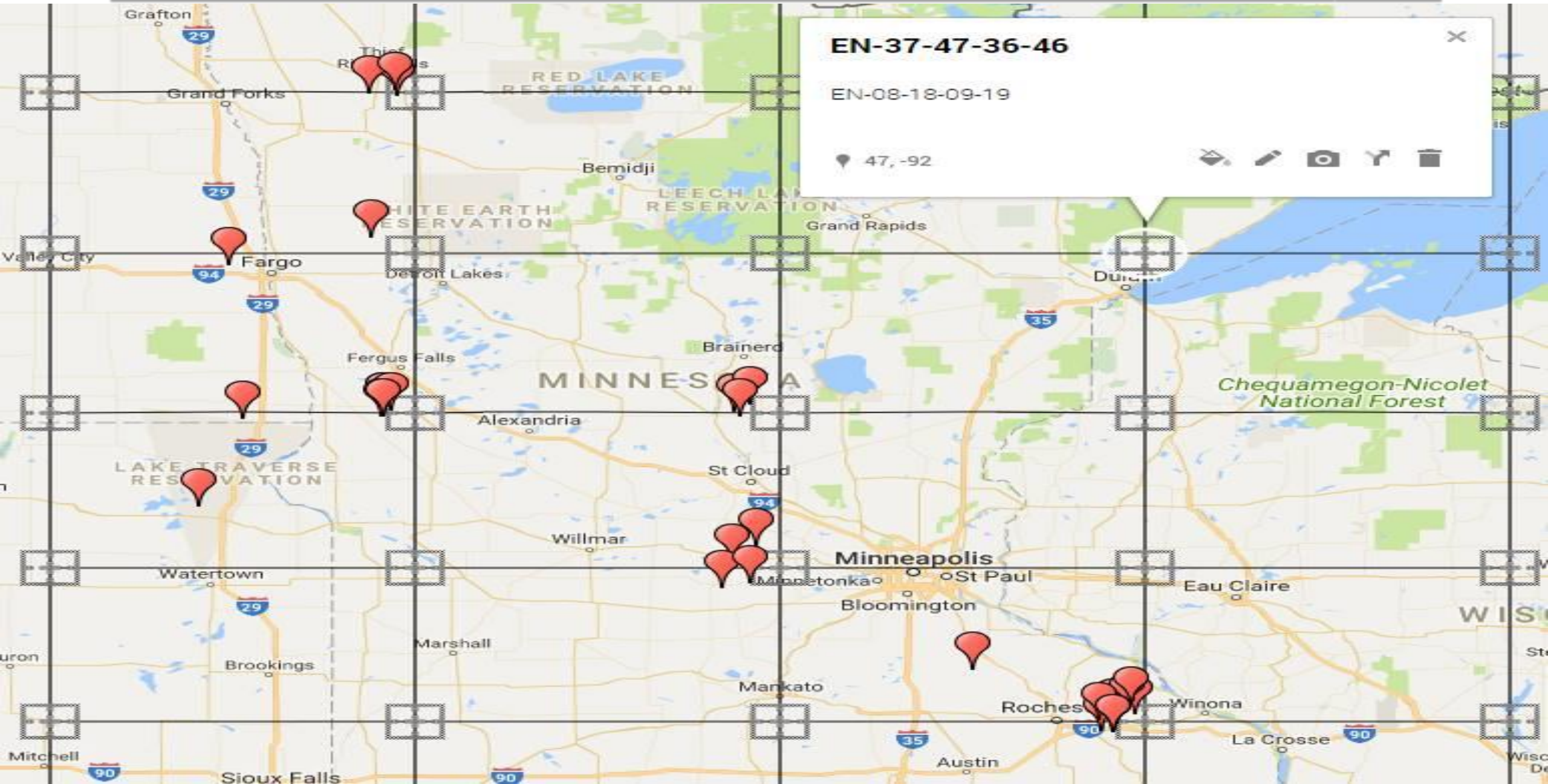
EN33XW94

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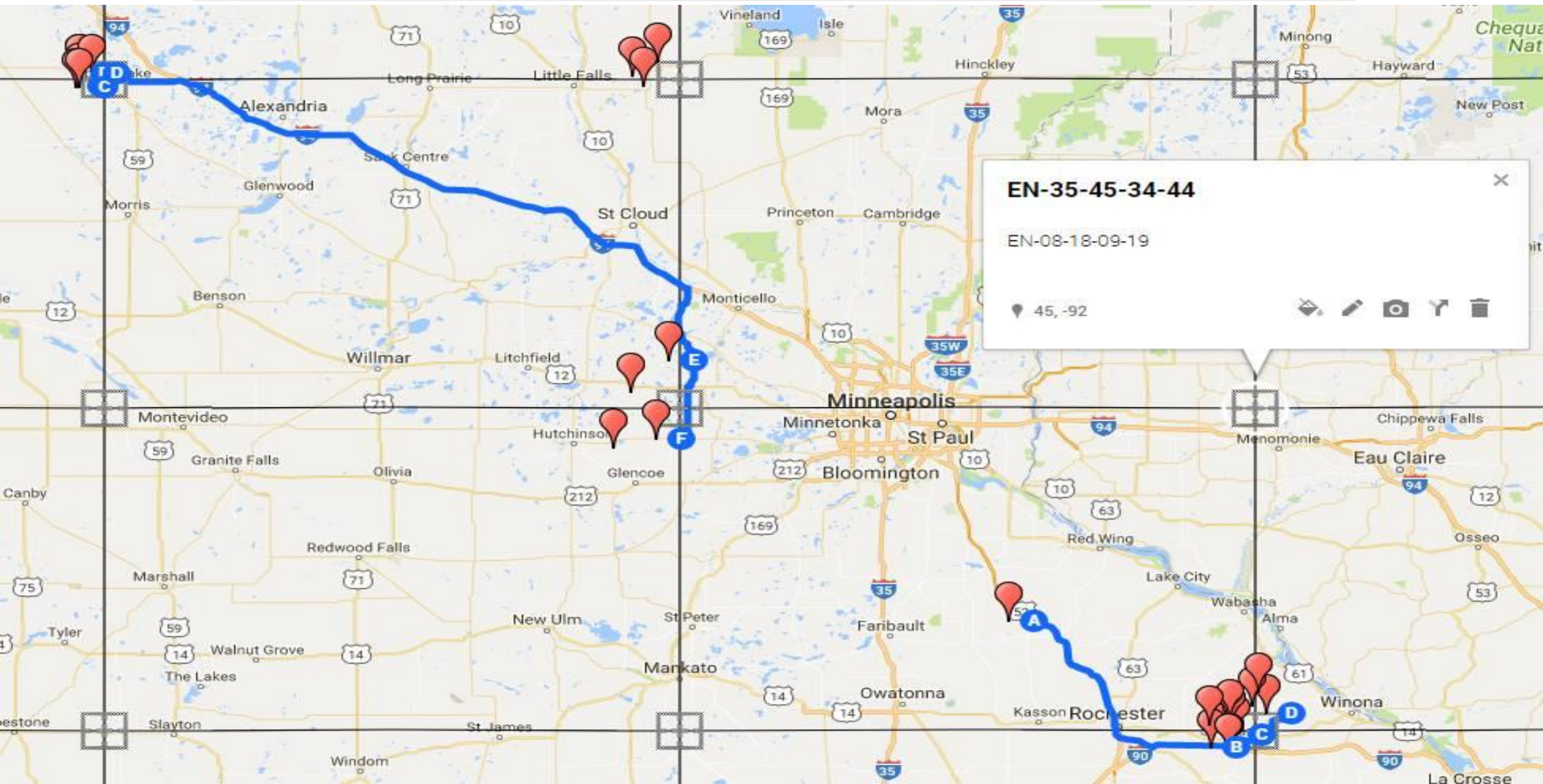
Directions: [To here](#) - [From here](#)

| <u>ANCHOR STATION</u> | <u>BANDS</u> | <u>BEARING</u> | <u>REVERSE</u> | <u>DISTANCE</u> |
|---------------------------|--------------|----------------|----------------|-----------------|
| W0GHZ- | ???????- | 326/ | 145/ | 140 |
| K0AWU- | ABCD9EI- | 342/ | 161/ | 382 |
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GOAL: Faster Creation of Rover Routes - [link](#)



GOAL: Faster Creation of Rover Routes



Rover RDK Survey – What's Next?

- **Include your suggested additional sites**
 - E-mail to kØmhc@arri.net
- **Review and update current site information**
- **Add information from site visitations**

Rover RDK Survey – What's Next?

- Field test for June rover route planning!
 - Revise based on rover usage and feedback
 - Weed out marginal or unsafe sites
- Additional tools for the Route Development Kit
 - Users guide for route development
- Add link to NLRs website

Your Contributions Are Appreciated

➤ Rover Contributors:

- Jon, WØZQ/r
- Mel, KCØP/r
- Brock, W6GMT/r
- Jim, KØMHC/r
- Others?

➤ Other Rover Site Links:

- [N2MH Rover Site Locator](#)
- [Oregon Rover Locations](#)
- [Amateur Radio Rover Operating Sites by K9JK](#)
- [K5ND Rover Routes](#)
- [STX/NTX Site Survey](#)
- [RMG Rover Sites – KA5D](#)
- [Where have all the rovers gone?](#)



I WANT YOU^R

Rover Site Information