# NTS GIS Network- Meeting Minutes
### Tuesday, January 21, 2020, 1:00 pm Mountain Time (12pm PT, 2pm CT, 3pm ET)

## MEETING AGENDA

1. **Welcome & Introductions** (Peter Bosnall/Kerry Shakarjian)

   Meeting Attendees:
   1. Brian Deaton, - National Trails - GIS Specialist -NPS Santa Fe, NM (Presenter)
   2. Sarah Rivera, - National Trails - GIS Specialist -NPS, Salt Lake City, UT  (Presenter)
   3. Peter Bosnall -  National Trails System Program Specialist, NPS (moderator)
   4. Kerry Shakarjian - NPS Alaska Region GIS Specialist (moderator)
   5. George Prothro - NPS Intermountain Region (Legacy) - Archeologist
   6. Petra Keller - NPEA, Pony Express
   7. Etroil -
   8. Don Owen - Partnership for the National Trails System
   9. Meredith Bridgers - US Army Corp of Engineers
   10. Ben Silvernail - USACE IWR
   11. JJenson -
   12. Anthony Tridente - USFS, Florida National Scenic Trail

2. **Announcements & Information from Audience**
   a. Happy New Year! Please welcome, Brian Deaton,  as new additional moderator for NTS GIS webinar
   b. Hike the Hill 2020, Washington DC, February 8 - 13, 2020
   c. 35th Annual Corps Network National Conference, Washington DC, February 9 - 12, 2020
   d. ESRI Federal GIS Conference, Washington DC, February 11 - 12, 2020
   e. Other Announcements?

3. **Discussion Topic**

   **Presenter:** Sarah E. Rivera and Brian Deaton, GIS Specialists for National Trails, National Park Service

   ***National Trails Near Real-Time Mapping of the Pony Express Re-Ride***

   The National Trails office (NTIR) continues working with partners in innovative ways using various GIS technologies to engage and inform the public of the National Historic Trails. NTIR recently coordinated with the National Pony Express Association (NPEA) to redevelop the workflow and platform for displaying near real-time data for the Pony Express Re-Ride. This included utilizing the data interoperability extension for ESRI ArcGIS Pro and creating an ArcGIS Online web app to display the re-ride data. The annual commemorative re-ride conducted by members of NPEA along the Pony Express National Historic Trail recreates the 18 operational months of the Pony Express between April 1860 and October 1861. Beginning on June 10, 2019 in St. Joseph, Missouri, riders traveled more than 1,800 miles from station to station traversing eight states while carrying a SPOT GPS tracking device within a mochila saddlebag to allow the public to follow riders along the trail until their final station in Sacramento, CA.

   **Notes:**
   - Manage 9 National Historic Trails
   - 3 Office Locations - Albuquerque NM, Salt Lake City UT, Santa Fe, NM.
   - Annual re-ride of the Pony Express
   - Four Steps to Project:
     1) SPOT live location points during ride
     2) Data Interoperability Extension in ArcGIS Pro using FME Workbench
     3) Python script to aggregate data from SPOT Feed to a feature service
     4) Web application displaying live feed of riders using SPOT feed
   - Needed automated solution
   - FME is similar to Model Builder in ArcGIS - create instructions to get input of the SPOT XML feed to export into another format usable in the web application (hosted feature layer in ArcGIS Online)
     - Reader (2) - converts the XML feed
     - Writer - over-writes the feature service based on XML feed
     - Feature Service of Rider Locations updated using Python script to compare what is the same from history and

what is not the same from history.

- Web map developed using different layers, showing expected Re-Ride route, Pony Express NHT, Exchange Stations, Rider Locations. Includes logos for branding, symbology set up, widgets added.
- Task scheduler automation in Windows to run the FME and Python script automatically. Run every 5 minutes automatically. Avoids delays in riders showing up on the web map.
- Web Map embedded on [NationalPonyExpress.org](NationalPonyExpress.org) website for promotion
    - >20,000 views overall, Day 1 > 3,000 views
- Helped increase safety issues along the route - some monitoring occurred to make sure everything was running correctly and riders are still moving.
- Issues observed during re-ride -
    - Rider location lost due to SPOT signal (batteries, landscape obstruction, user error, etc.)
    - Duplication of rider locations - handled by using Remove Duplicates tool. Could be Python script being delayed or hung up.
- Improvements:
    - change Python to run independently from SPOT translation to void the script being hung up creating duplicates
    - Incorporate Remove Duplicates in Python script
    - Add NOAA real time weather data
    - Enabling the Web App to zoom to newest Rider location upon startup
    - Add GPS coordinates for exchange locations - so public can find these locations
    - Use Arcade expressions for symbol and popup windows
        - Show rider as "ahead of schedule" or "behind schedule"
- June 3-13, 2020 next Reride.
- Sarah worked on FME model, took a month to get right
- Brian worked on Python, ~2weeks
- Tested in the field with SPOT prior to implementing

4. **Future Meeting Dates & Topics**
    a. **February 18, 2020** - Looking for presentations!
    b. **March 17, 2020** - Looking for presentations!
    c. **April 21, 2020** - Looking for presentations!