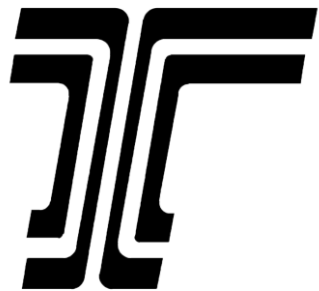


ODOT GIS

GPL Committee Meeting Presentation



Region 2 – ODOT Mill Creek Building
February 11, 2020



Background

- **Workshopped** with Esri to discuss cached vector tile basemap knowledge transfer; establishing best practices for vector tile production, stylization and maintenance in June/July 2019.
- **Using ArcGIS Pro** and PROD data, data layers were parced-out across a few GISU staff members – each of which were responsible for modifying layer extents, scaling, and making labeling decisions.
- **Updated layers** were combined in single document, then reviewed / cached / tiled using the Create Vector Tile Package tool → .vtpk



Basemaps.aprx

6/5/2019 10:07 AM

ArcGIS Project File

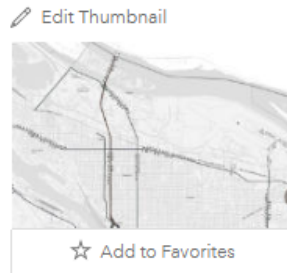
Create Vector Tile Package (Data Management Tools)

Generates vector tiles from a map or basemap and packages the tiles in a single .vtpk file.




Result

- **.vtpk**

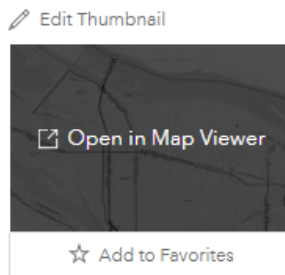


An aggregate of untouched spatial data as an example for cached vector tile basemap demo

 **Vector Tile Package** by [kyle.marenger_ODOT](#)

Created: Feb 28, 2019 Updated: Mar 1, 2019 Number of Downloads: 1

→ Runtime .SDK, .NET – data updates*



An aggregate of untouched spatial data as an example for cached vector tile basemap demo

 **Tile Layer** (hosted) by [kyle.marenger_ODOT](#)

Created: Feb 28, 2019 Updated: Jan 22, 2020 View Count: 0

 Edit

- **New Layer** becomes a hosted feature service. Share, copy, stylize. →
- **Reference** layer vs basemap spatial data.
- **Managed** in [AGOL](#).

Layers

Basemap_Streets

Advantages

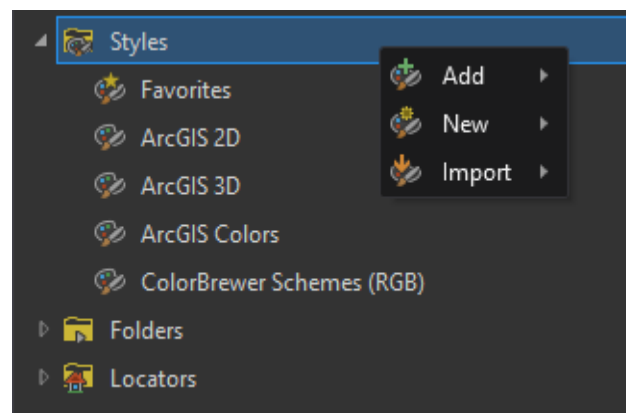
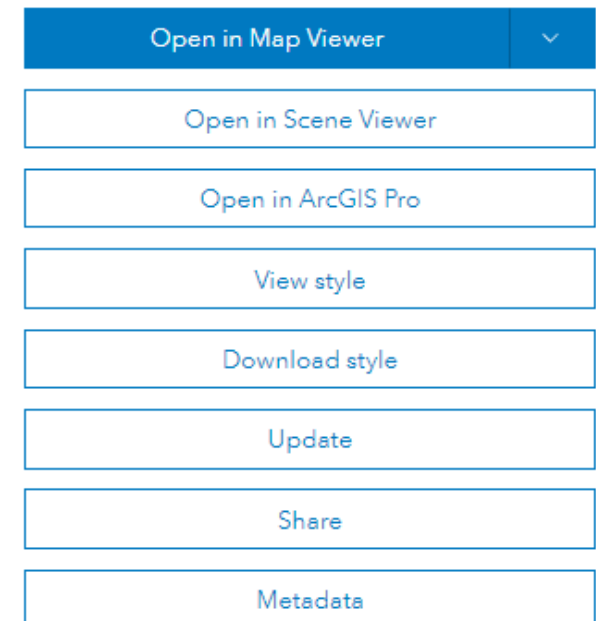
- **Updating.** The amount of time required to produce vector basemap tile set is greatly reduced compared to raster caching, enabling more frequent tile updates.
- **Customization.** The vector tile basemaps allow you to customize the map style and content of your maps. Change colors, fonts, line widths, etc. in your own map style without manipulating the data*
- **Turn** layers off for features you don't want to show on the map on-the-fly. i.e. publish *everything* and then create subsequent styles ?!
- **Hi-Res.** Vector tile basemaps display better on today's high resolution devices than their raster counterparts. Text orientating is dynamic, sharper, editable*
- **Preferred** basemap type for mobile devices.
- **Updating again.** Replace single tiles.

Stylizing

- **Two ways.** JSON code or [Vector Tile Style Editor](#)
- **Edit** existing basemaps* or create your own.
- **Save out** and share styles.
- **Explore** spites in style editor.
- **Reference** layer.

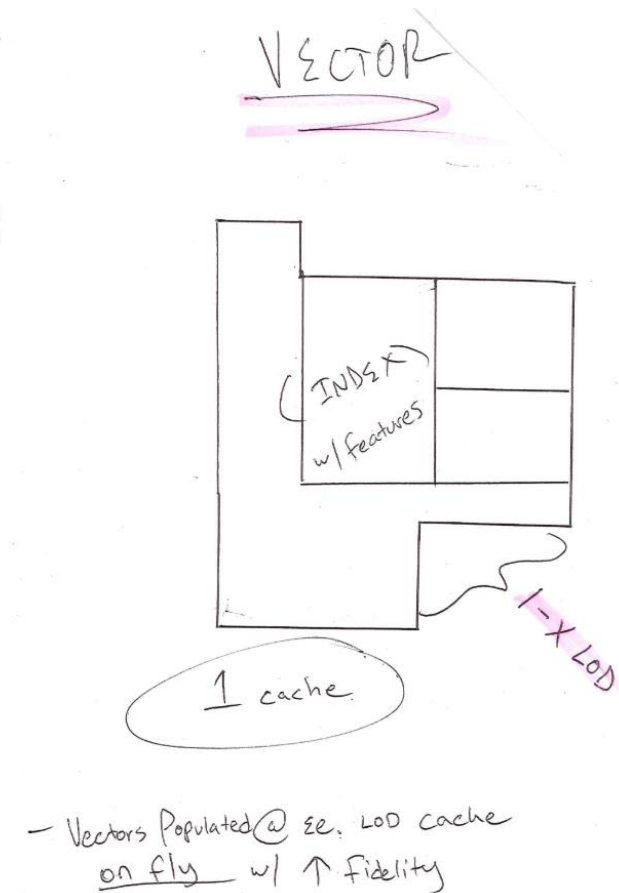
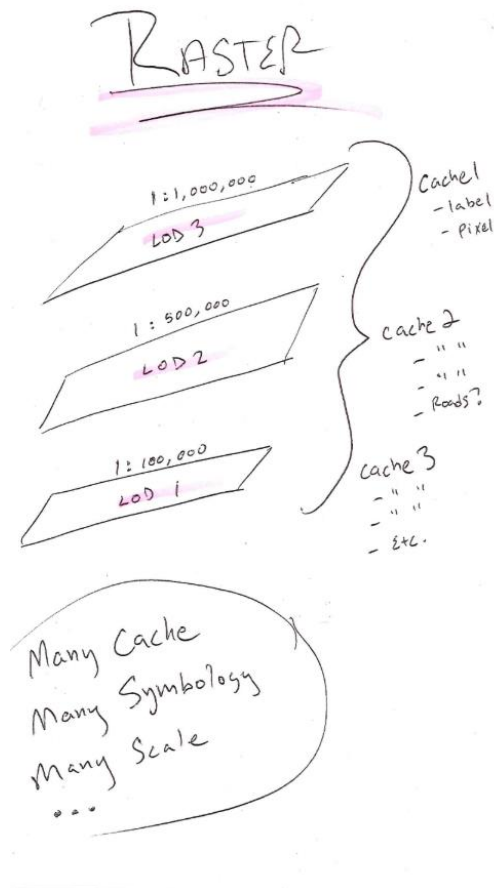
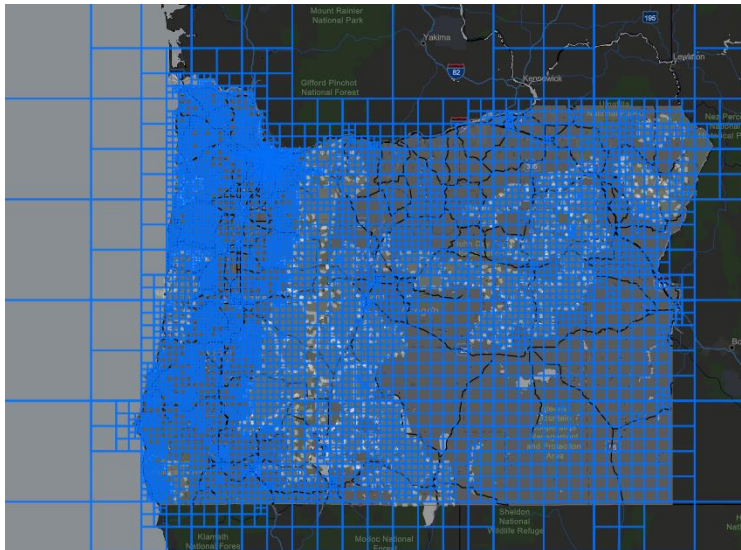


Tile Layer by kyle.marenger_ODOT



Tips

- **Joining, Merging, Grouping** in your .aprx before hand.
- **LOD**
 - Scale-Based Sizing
 - Generalize layers based on scale
- **Create an Index**



What's Next

- Automation for data updates of PROD .lyr files → .vtpk → service
- Deeper dive into .vtpk (tile by tile / entire dataset)
- Terrain and Hybrid basemap caching and publishing
- Potential (mostly) phase out of raster basemaps?
- JSON vs. GUI
- Further standardization of symbology, color, font as style (.stylx) *

Thoughts



Dabble.

Explore different functions of JSON.

Easy to jump into, think of future workflows.