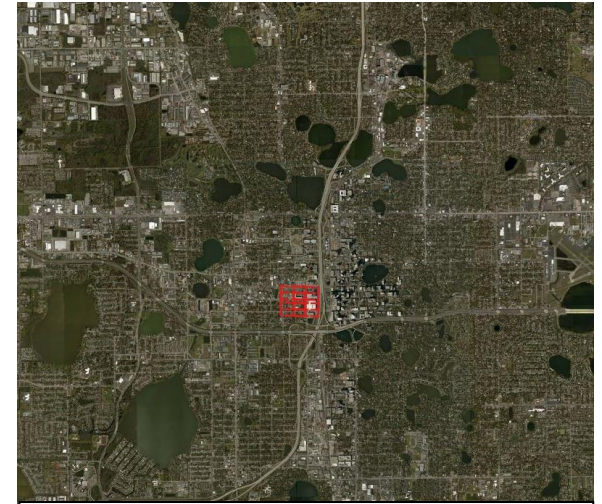
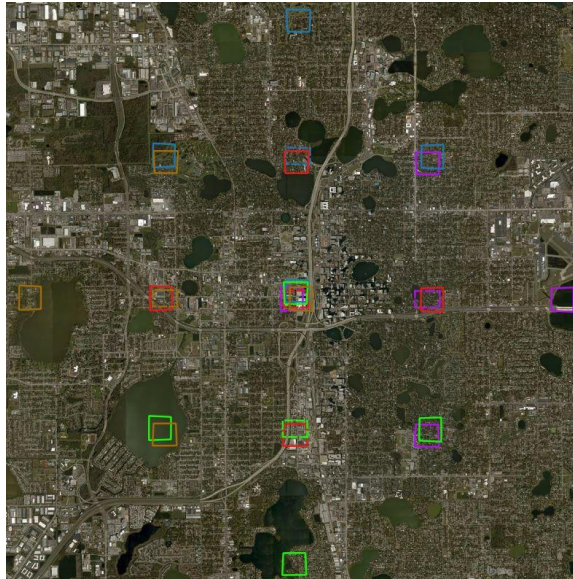
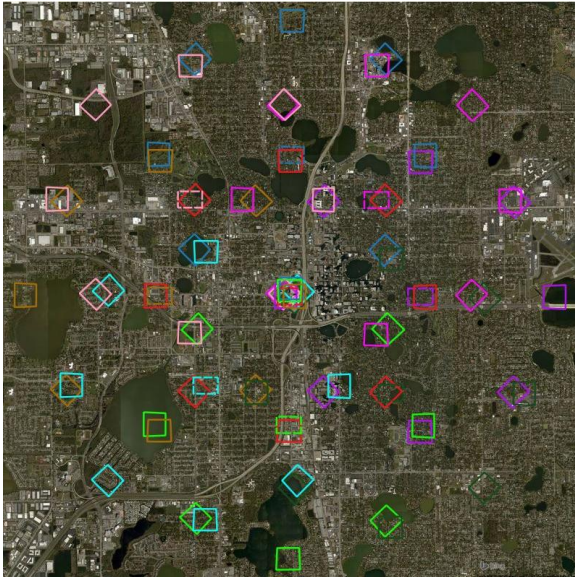


9 is greater than 5 is greater than 1

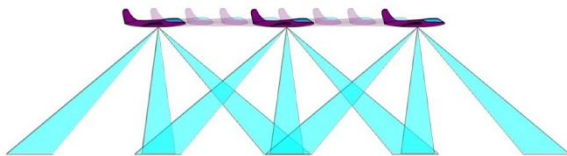
Leverage the superior geometry of Wide-Field/Tele-View and increased number of look directions



Conventional vertical mapping system only a few exposure stations with 1 look each contribute to the solution for a given AOI

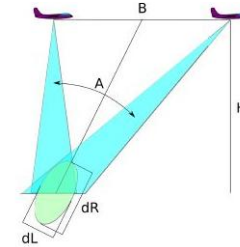
Wide-Field/Tele-View Octoblique a minimum of 9 exposure stations with 9 looks each contribute to the solution of a given AOI

Wide-Field/Tele-View 5 oblique system a minimum of 5 exposure stations with 5 looks each contribute to the solution of a given AOI



Comparison of the overlap of conventional vertical only mapping systems (right illustration) with the corresponding overlap associated with Tele-View systems. Note that the triangulation geometry of the Wide-Field systems is much stronger than that in the vertical mapping case.

The Wide-Field/Tele-View designs incorporate multiple telephoto systems pointing in substantially different directions while fixed into a single, highly rigid physical assembly. When imagery from one telephoto camera is combined with that from a different camera, the very large difference in the two look directions is what contributes to photogrammetric stability. In these configurations, the front-to-back and side-to-side full-field angle can be anywhere between 60 and 120 degree. This is substantially superior to the vertical only mapping systems.



The air-base, B , and the flying height, H , are frequently used to characterize vertical photography. However the parallax angle, A , is a more general metric. For oblique mapping, a very useful quantity is the "intersection dilution of precision" or IDOP defined as the ratio of relative range precision, dR and relative lateral precision, dL .

The IDOP values associated with Wide-Field/Tele-View systems are approximately 1.4, 1.2, and 1.0. Note that these are all better or considerably better than even at the sweet spot in a classic vertical only camera system's neat model which has a value near 1.5.

* Reference background imagery from BingMaps, footprints from initial Octoblique test missions

* Off to the museum with conventional 1 sensor and 5 sensor solutions ... where they belong with the rest of Grandpa's tools.