TESTIMONY ON SENATE BILL 802

Presented to the Senate Urban Affairs and Housing Committee

By
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My name is Barry Hutchins. I am the Senior Public Safety GIS Program Manager for the County of Lycoming. I am pleased to appear before you today to discuss Senate Bill 802. I will focus my remarks on Public Safety aspects in regards to currently available geospatial data concerning infrastructure and anticipated infrastructure geospatial data supporting Next Generation 9-1-1 in the Commonwealth.

I note that the Joint State Government Commission report on Common Interest Ownership Communities in the Commonwealth of Pennsylvania, Pursuant to House Resolution 350 of 2009 is dated December 2011. In that time period there were indeed gaps in readily available geospatial data in regards to infrastructure. It also predates the formation of the State Geospatial Coordinating Board, which by its intent has fostered increased cooperation and sharing of geospatial data by State, County, and Local entities across the Commonwealth. PennDOT has several Commonwealth wide data sets of roadways, as illustrated in the following series of screen captures showing 2019 data:
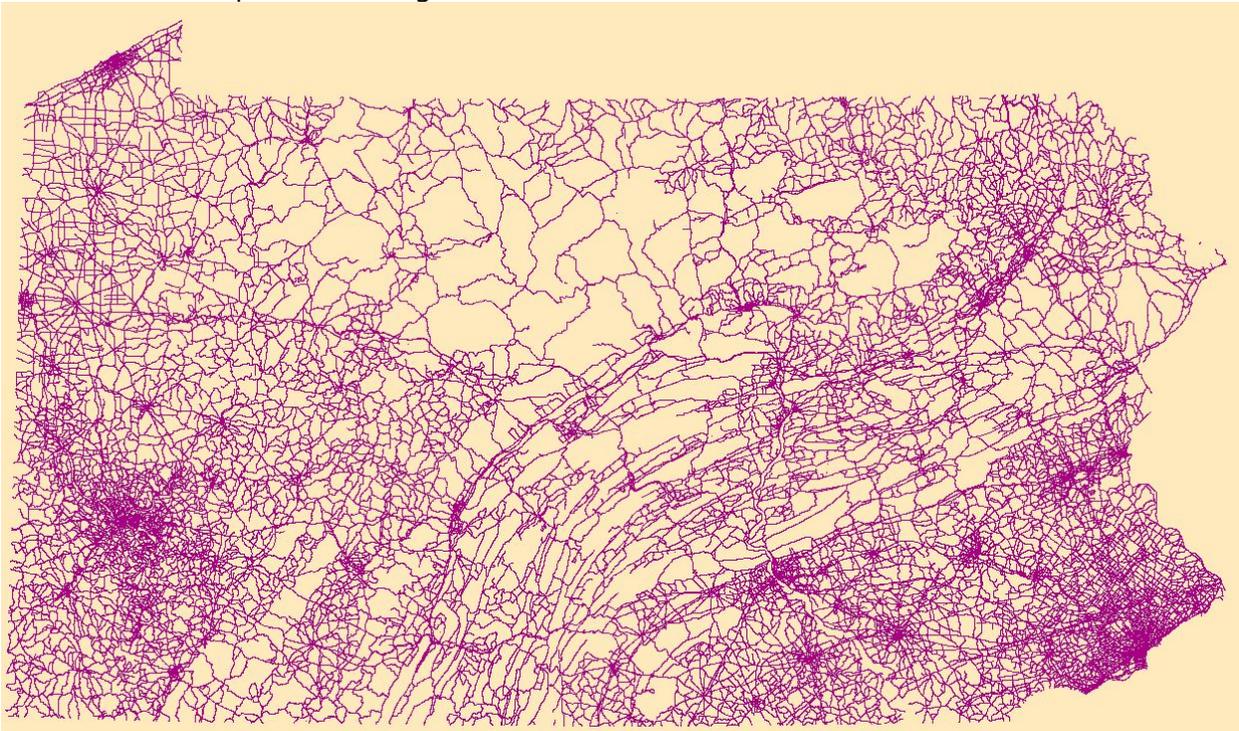

Figure 1: State Highways

PennDOT also maintains a data set of local roads; primarily to support Liquid Fuels Fund distribution. Recently local roads not eligible for liquid fuels have also been included in this data set.
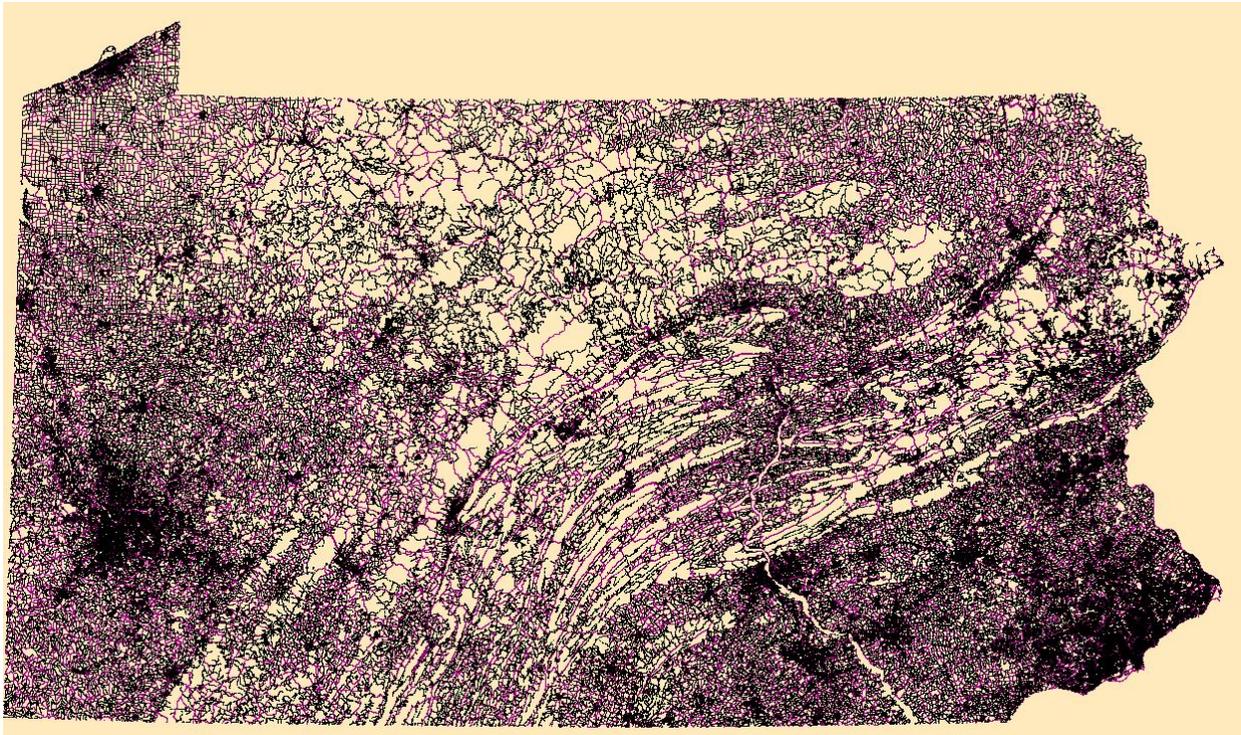
Figure 2: State and Local Roads combined

There are Commonwealth wide imagery data sets that can be used to augment the road networks; and 'fill in the gaps' where road infrastructure is missing.
The following is from the National Imagery Inventory Program, known as NAIP. While it is desirable to have higher resolution imagery to support Public Safety activities, NAIP will suffice when no other imagery is available. The NAIP imagery is not confined to just Pennsylvania, which means it will support cross boundary Public Safety missions when necessary.
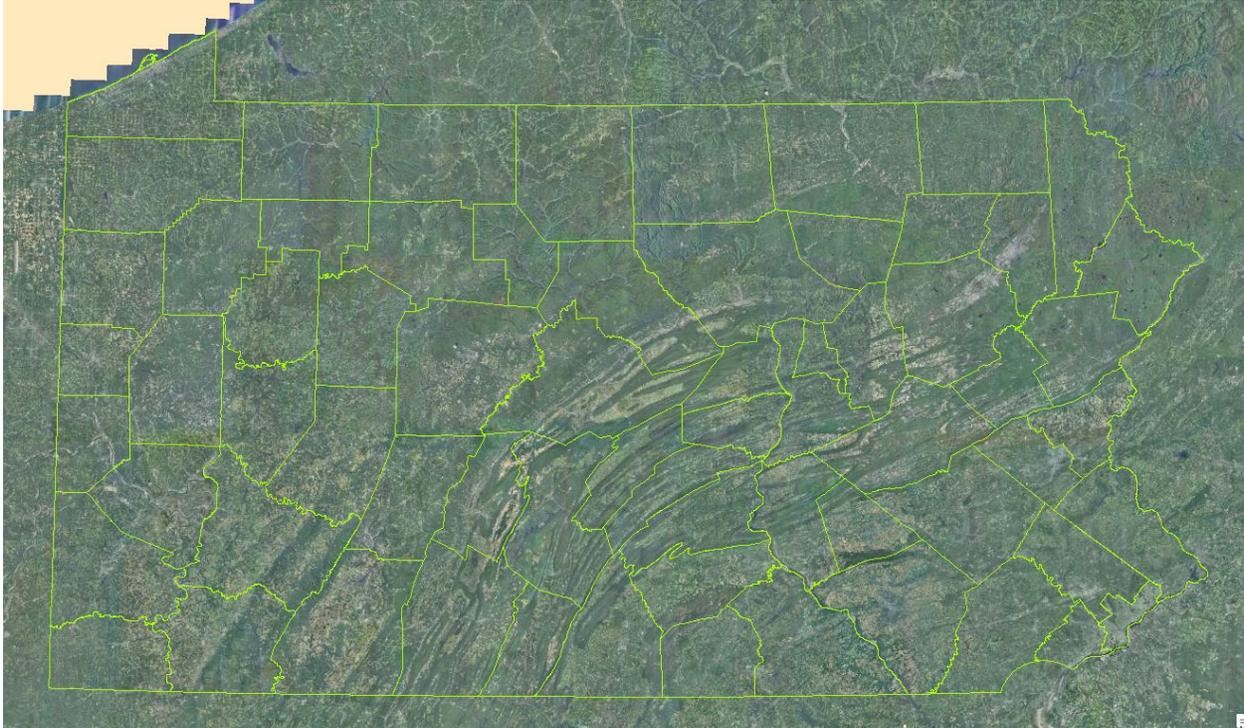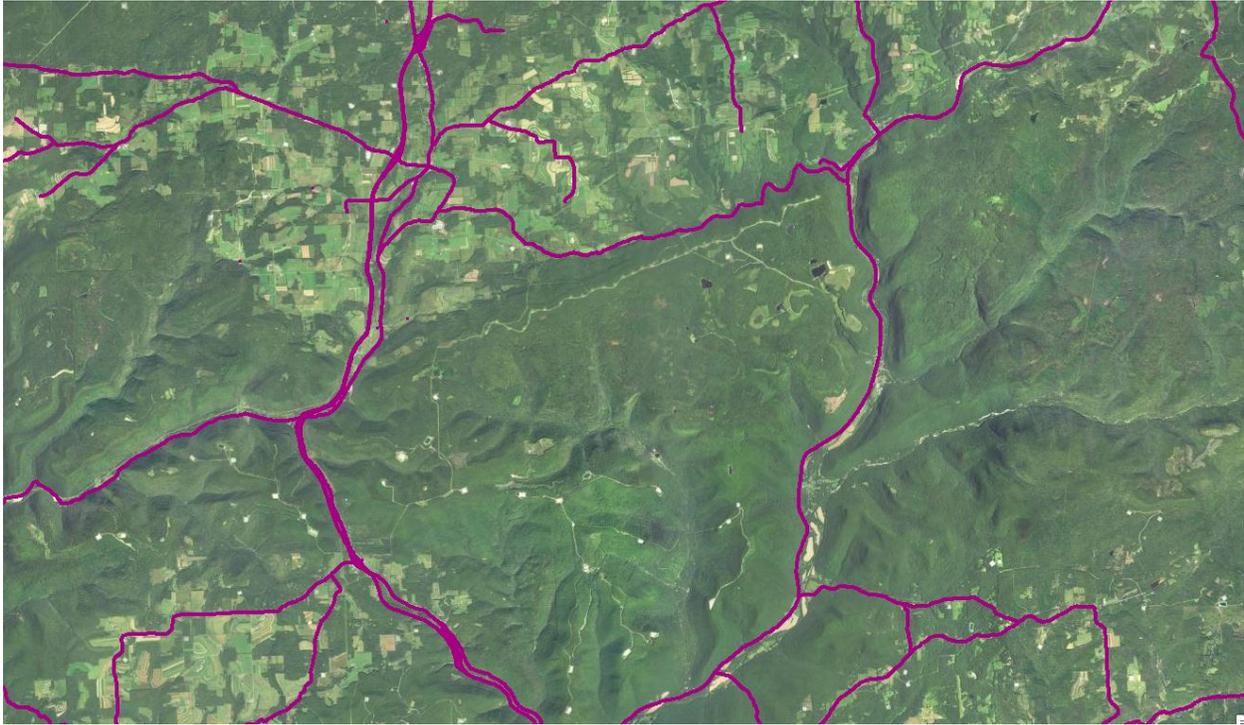
Figure 3: NAIP imagery

Figure 4: State Roads on NAIP imagery

Figure 4 illustrates roads not included in the PennDOT state roads layer are clearly visible in NAIP imagery
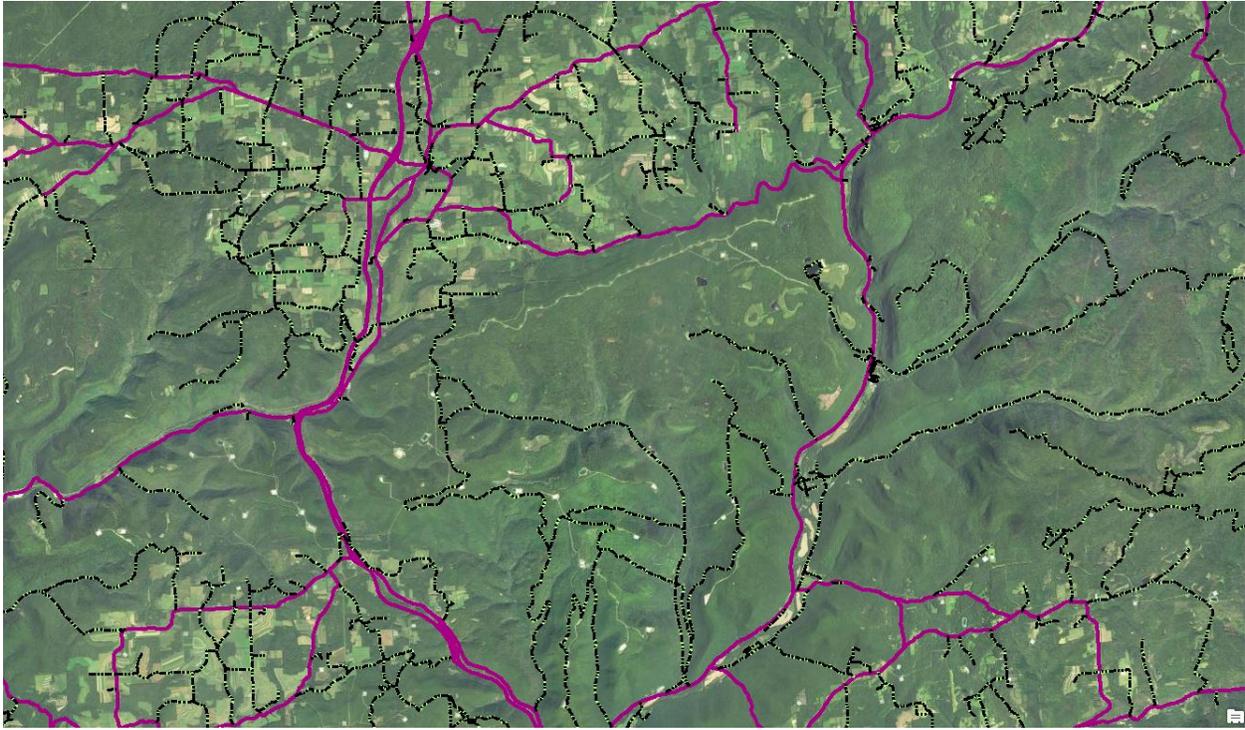
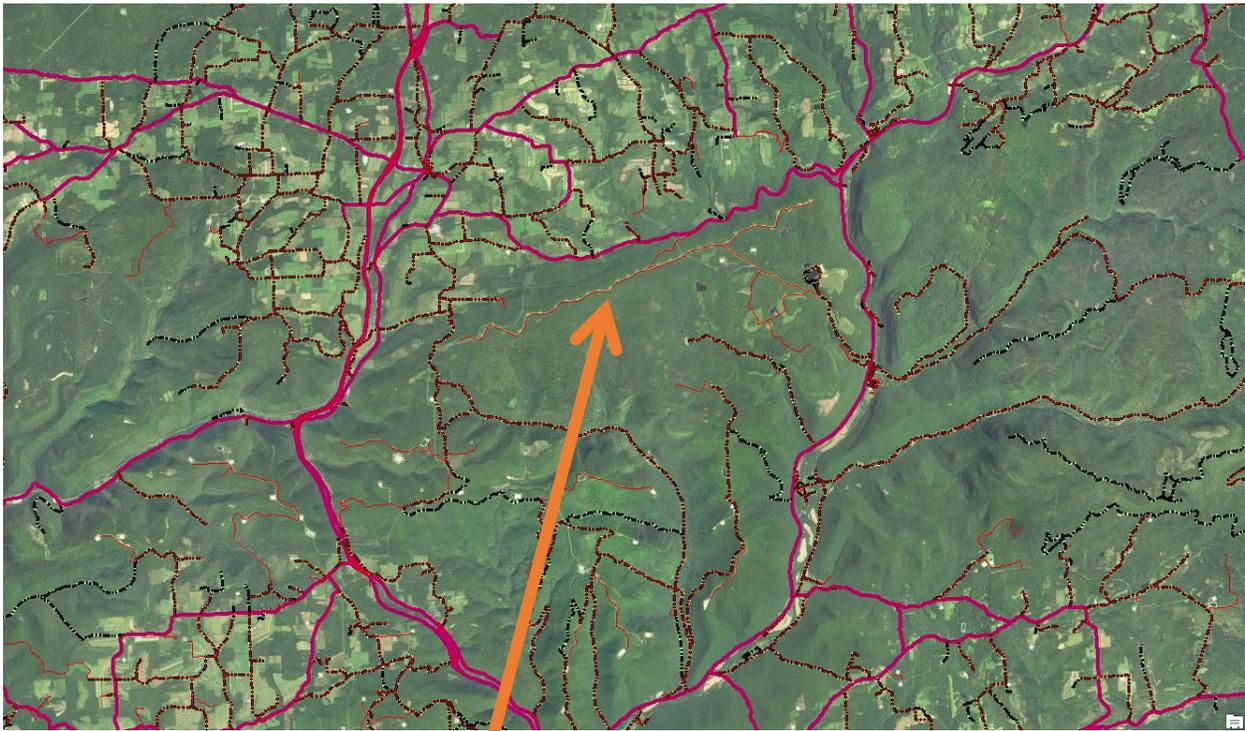Figure 5: PennDOT local roads added to NAIP

Figure 6: PSAP named roads added to NAIP

Note that the local PSAP data fills in the data gap found in the PennDOT data.

Figure 7: Addition of un-named private roads from PSAP data (light green lines)
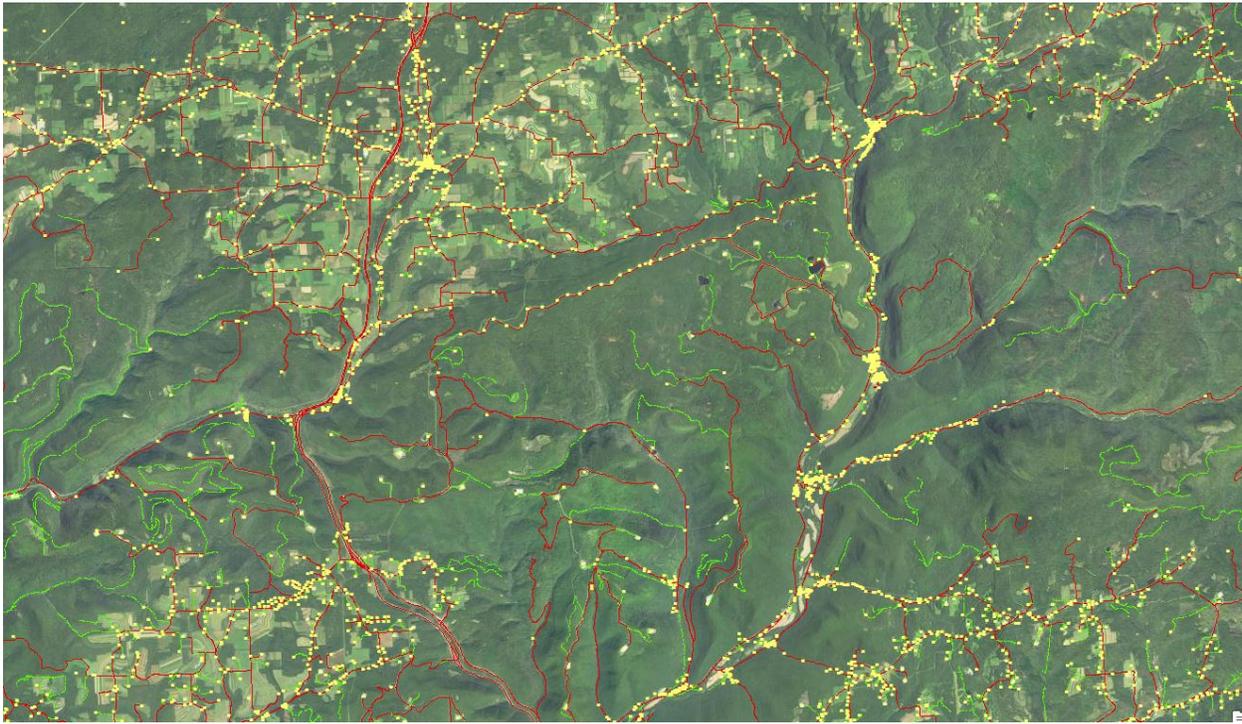

Figure 8: Addressed Site/Structure Points added (required for NG9-1-1)

Figure 9: Determining missing roadways from imagery

Although leaf-off imagery and in a higher resolution Is preferred for digitizing roads not in a dataset; as illustrated above, many times existing roads or trails can easily be found (highlighted in yellow).

The Next Generation 9-1-1 initiative in the Commonwealth will greatly enhance the existing geospatial infrastructure data. Detailed information on the initiative can be found on the PEMA website. I will briefly cover some of the data highlights found in the GIS Data Model (Figure 10) Additions, corrections, and updates to NG9-1-1 data sets will be measured in days, not weekly, monthly, or yearly: as an example, currently some corrections or updates to 9-1-1 telephone data records are require to be completed within 72 hours. It is anticipated that the NG 9-1-1 date sets will have a similar requirements.

Figure 10: NENA NG 9-1-1 GIS Data Model

Items 3.1 and 3.2, the Road Centerlines and Site/Structure Address Points are Required layers. This means that as the Commonwealth moves forward with full implementation of NG 9-1-1, there will be very few gaps if any in those data sets. CIOCs with addresses will be part of the data set as will other site/structure locations along private roads. The Site/Structure Address Point schema contains fields for Building, Floor, Unit, Room, Additional Location Information (to name a few), beyond the fields for the main address of the site/structure.
Items 3.12 and 13, Unincorporated Community Boundary and Neighborhood Community Boundary are Strongly Recommend layers and may become Required layers in future versions of the data model. These layers should allow for clear delineation of CIOCs in the NG 9-1-1 data.

In summary, some of the desired infrastructure data listed in SB802 is already available in State, County, and Local datasets. As the Commonwealth continues to move forward with full NG 9-1-1 deployment, the required layers of Road Centerlines and Site/Structure Address Points will capture all addressed sites or structures and their associated named roads. Many PSAPs and County Planning Agencies also maintain a GIS layer for private roads and driveways. The Unincorporated Community Boundary and the Neighborhood Community Boundary can and should be used to delineate CIOCs (note, that does not preclude using those layers to delineate entities that are not CIOCs such as a village, or a locally known neighborhood i.e. West End). Other infrastructure related to CIOCs mentioned in SB802 while occasionally useful to Public Safety, is not mission critical when it comes to routing the 9-1-1 call to the correct PSAP, nor is it critical to routing the responder to the scene. An annual report containing the desired data is inadequate for NG9-1-1 purposes and would need to be in a geospatial format or a database to be consumed in that system.