Updating the Georgia Statewide Travel Demand Model (GSTDM) Phase 1: *Integration of MPO Models*

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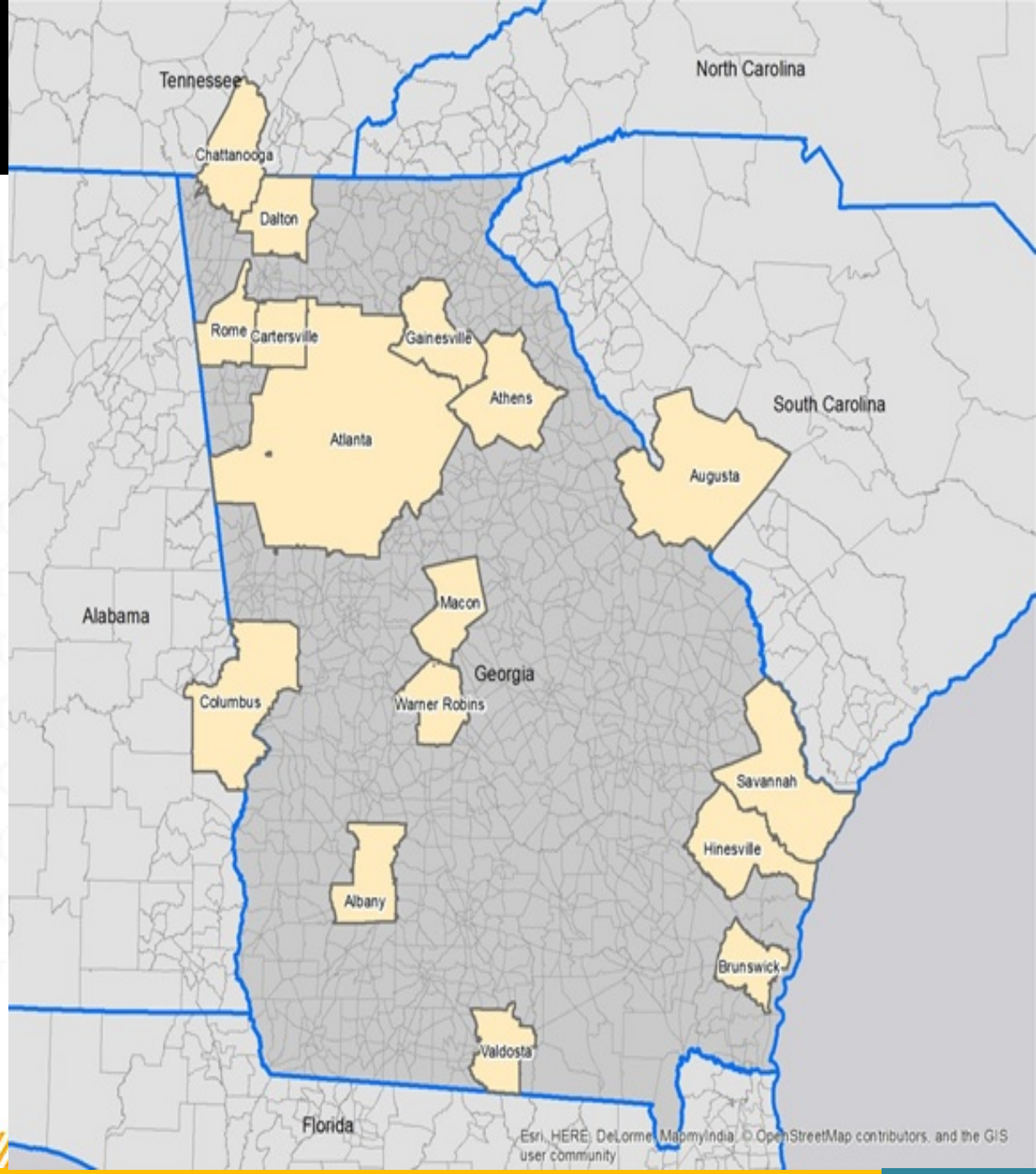
Purpose

- Integrate the MPO models' zonal systems, data, and transportation networks into the Georgia Statewide Travel Demand Model
- Help transportation planning efforts to be better coordinated between the state and MPO levels
- Simplify the future maintenance of the statewide model and maintain consistency with MPO models



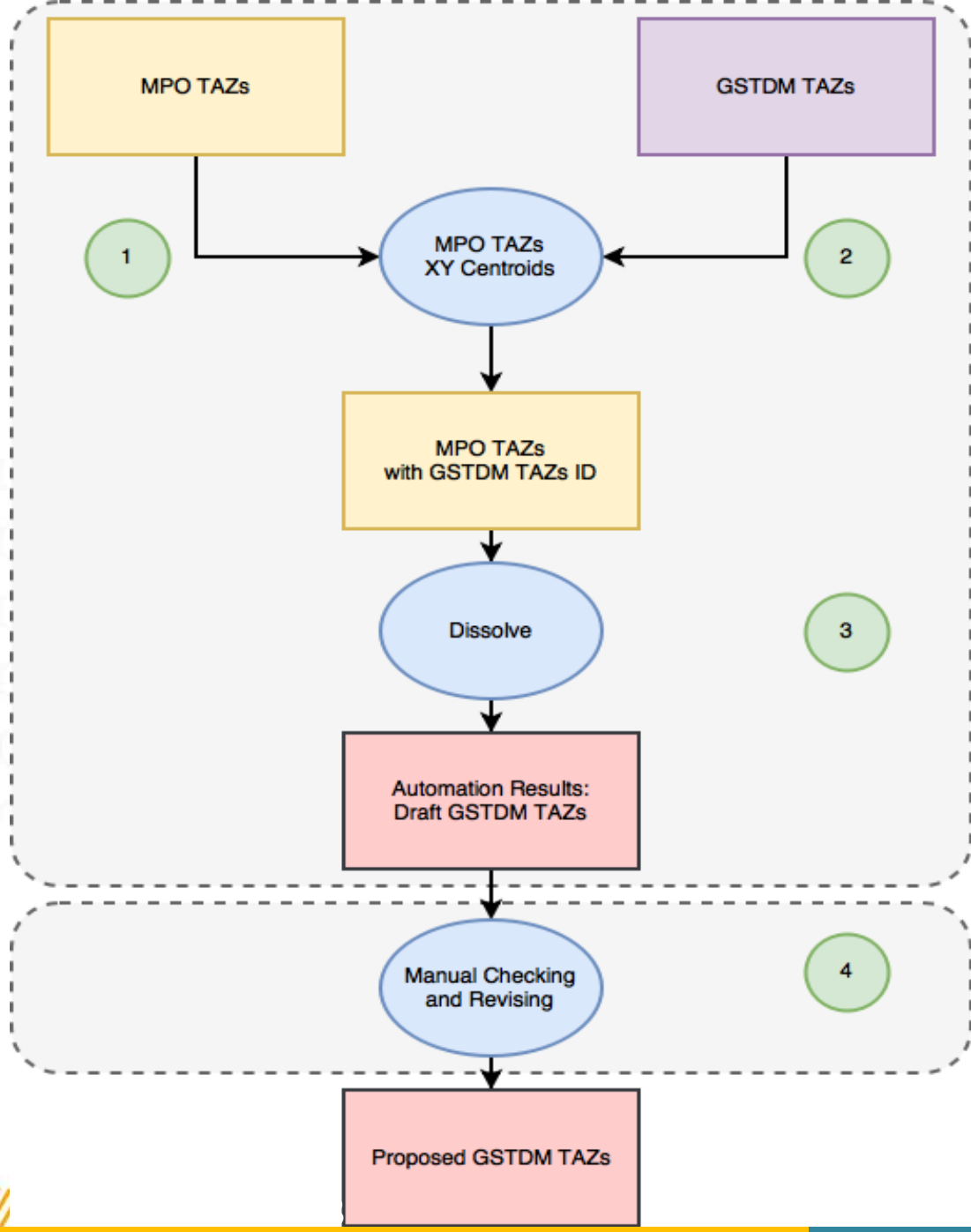
Integration of MPO TAZs into the statewide model

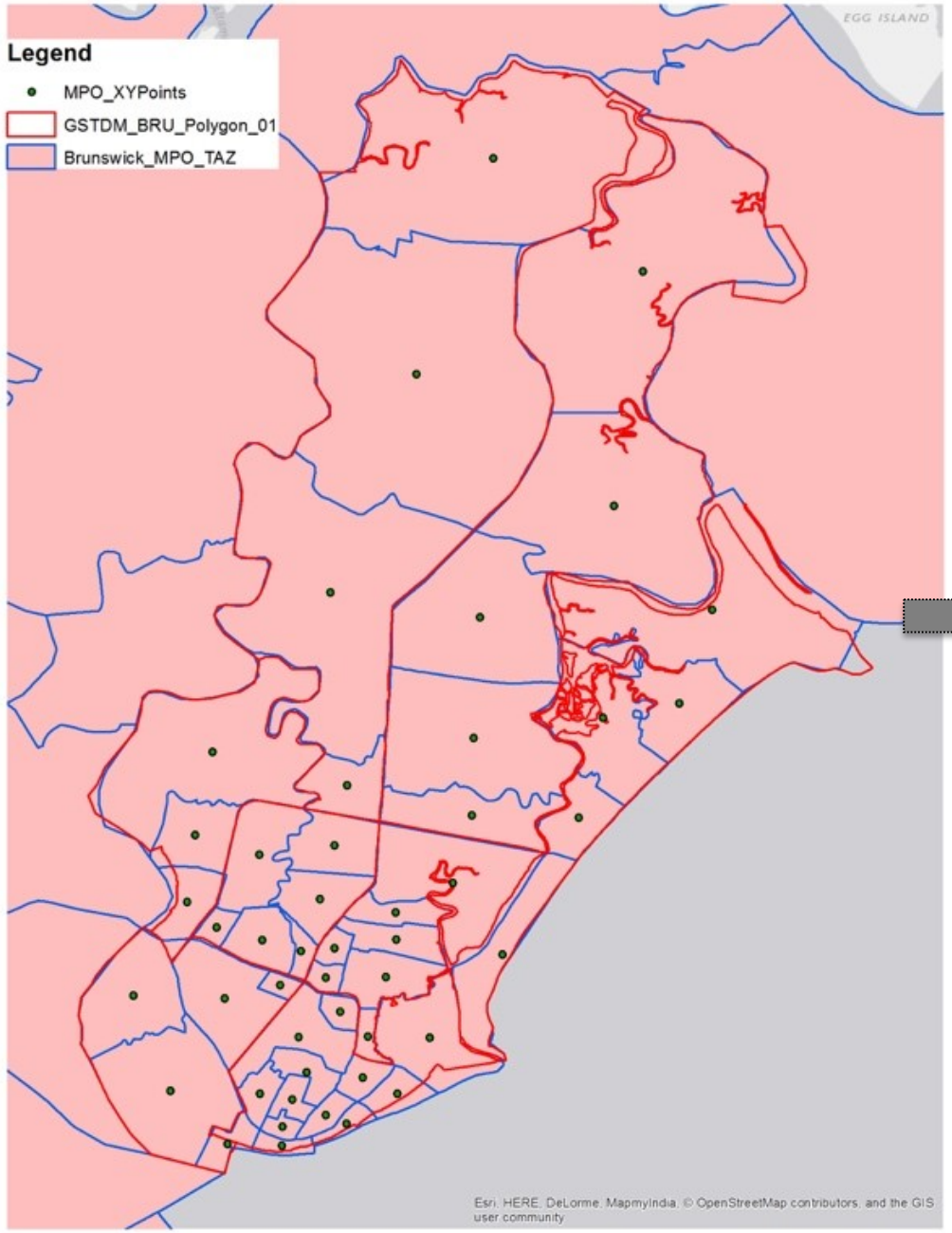
Problem:

Statewide TAZ boundaries are not consistent with those of MPO's, resulting in inconsistencies with data transfer and comparisons.

Solution:

Redraw GSTDM TAZs using MPO TAZ boundaries, maintaining the same total number of GSTDM TAZs with perfect nesting.




Legend
MPO_XYPoints
GSTDM_BRU_Polygon_01
Brunswick_MPO_TAZ
EGG ISLAND
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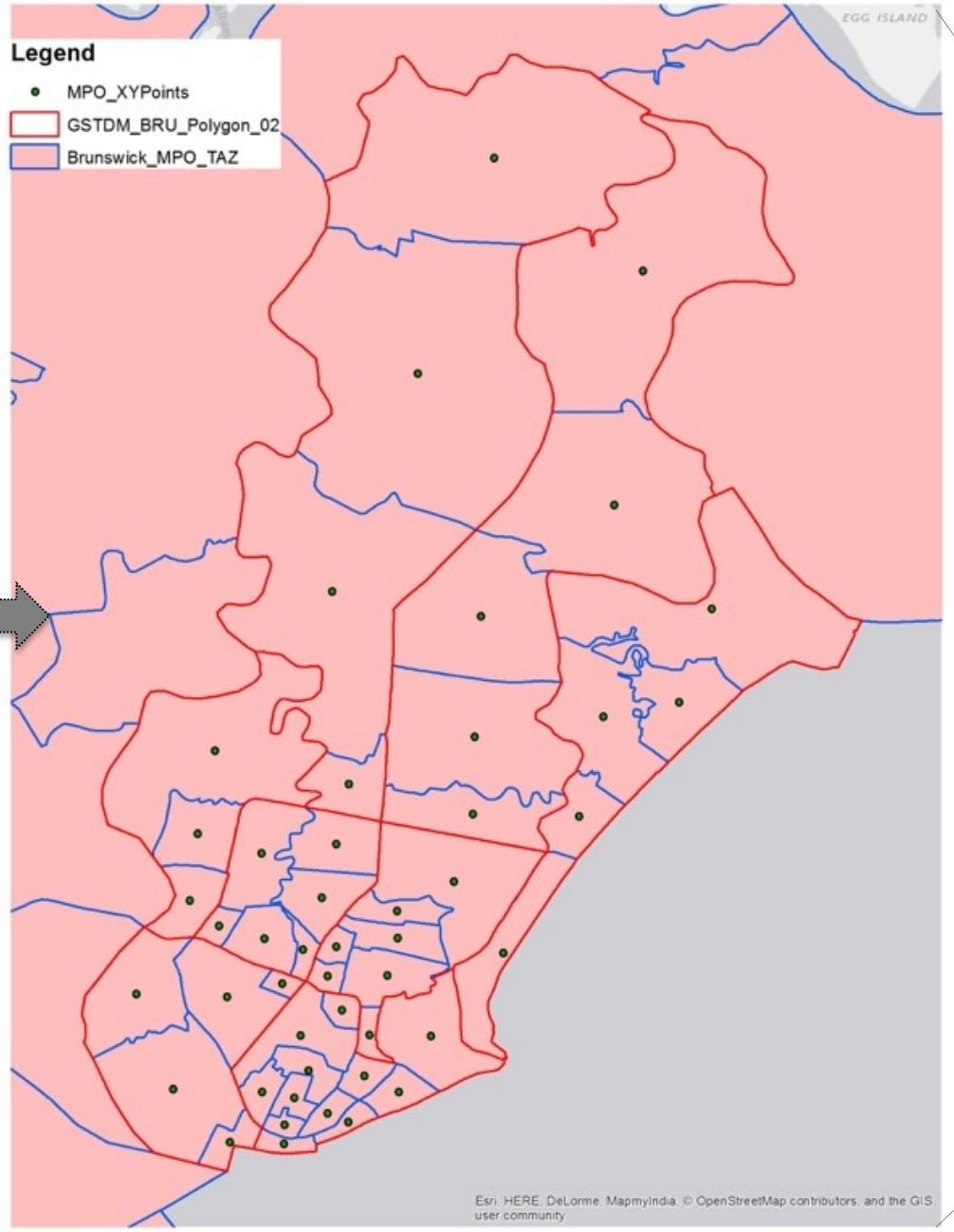
Legend
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Brunswick_MPO_TAZ
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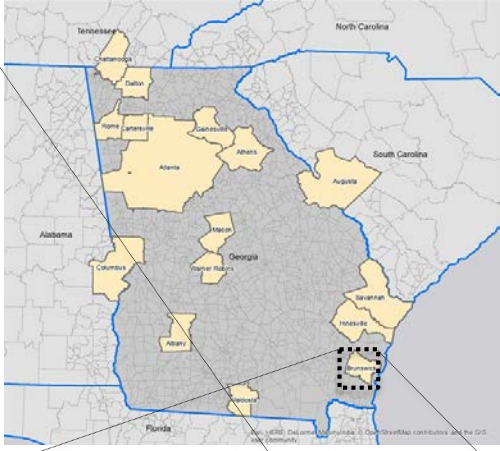
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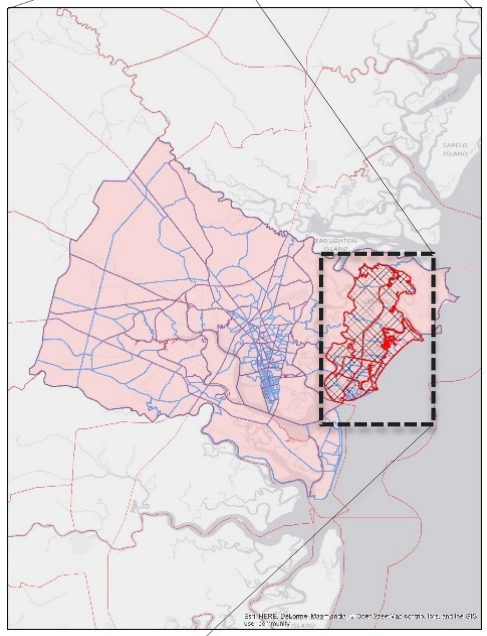


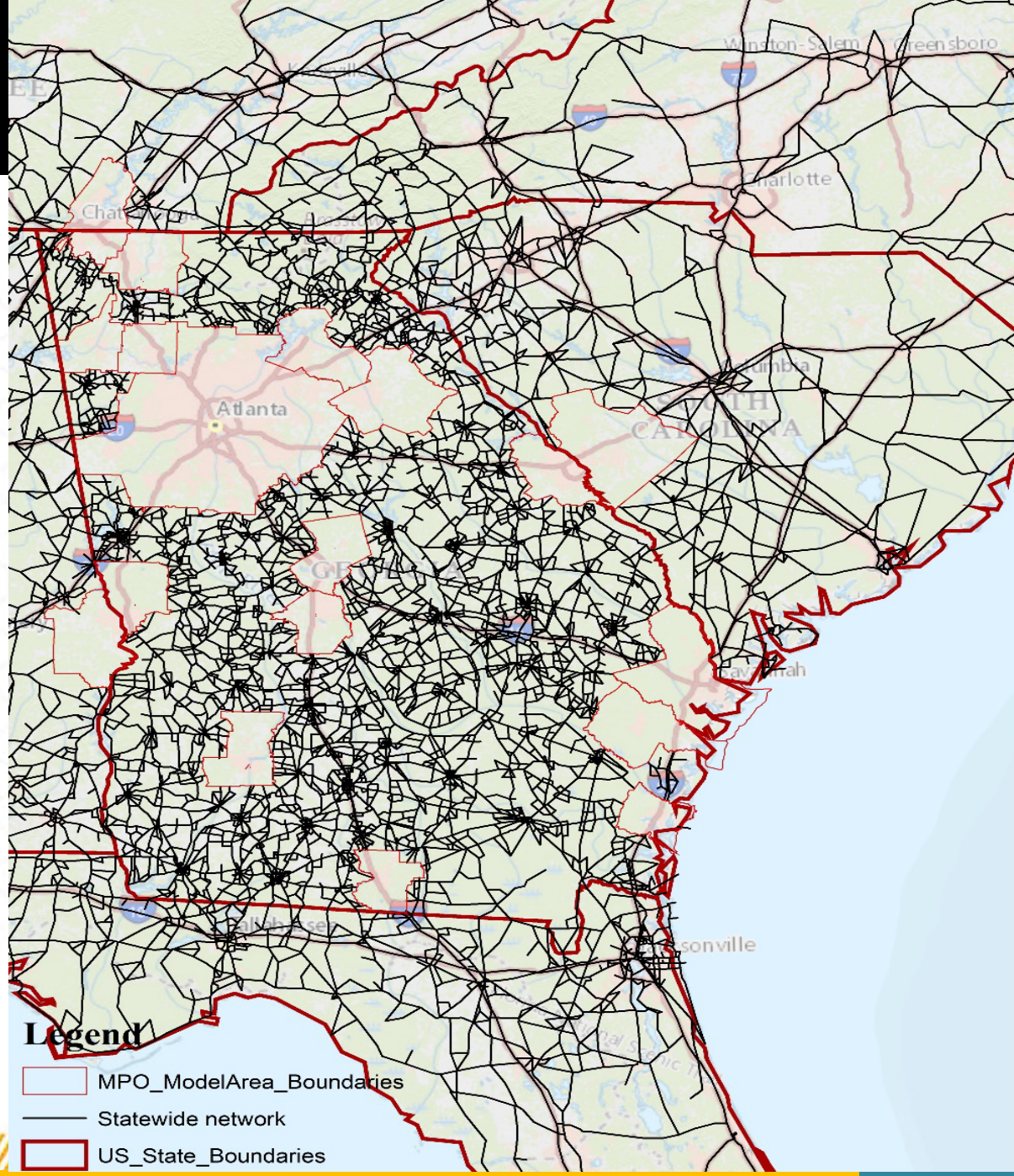
Network integration

Problem:

To achieve consistency with the MPO models, we need to update the statewide network.

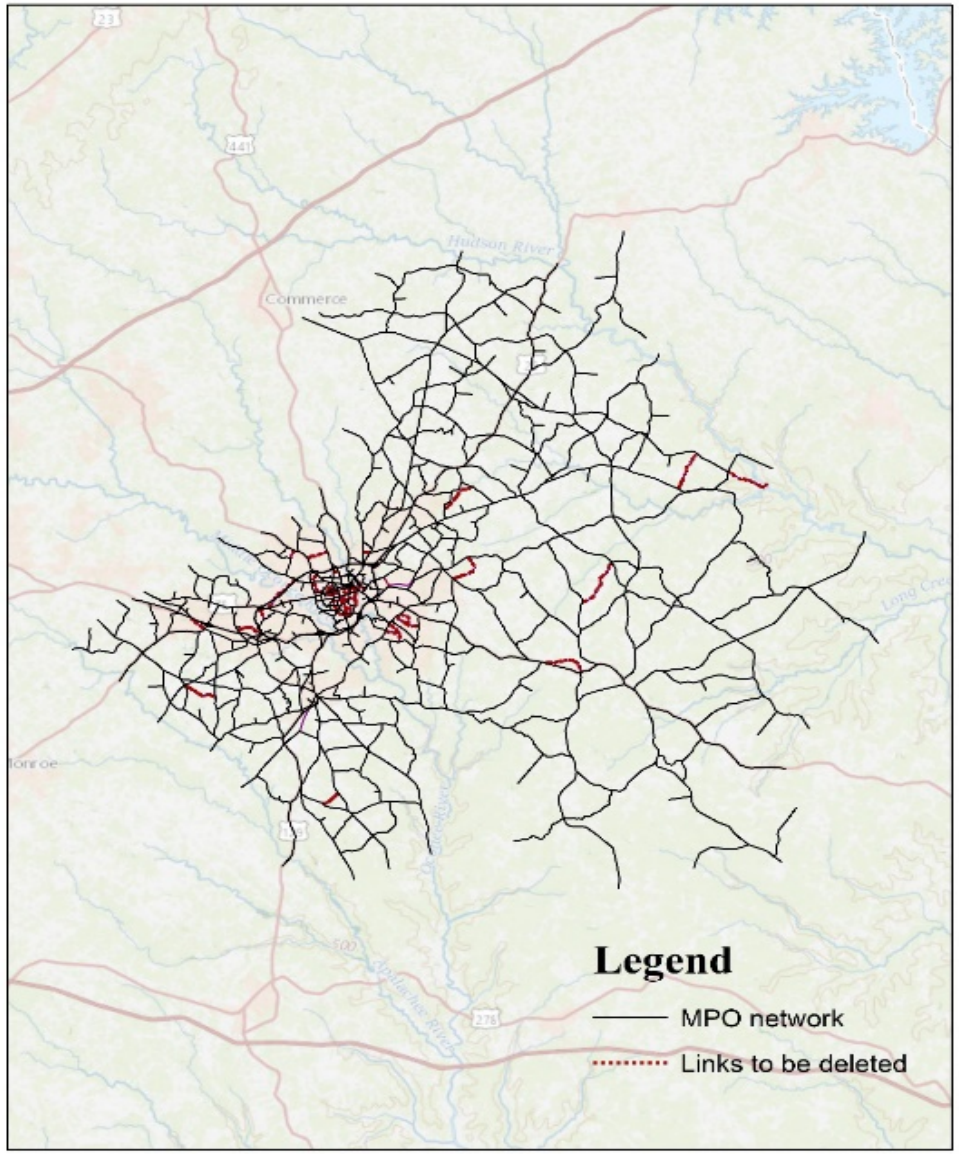
Solution:

Devise a procedure to identify relevant parts of MPO networks and import them into the statewide model.



Network integration (2)

- Identify relevant part of MPO networks:
  - ✓ Run network assignment based on statewide TAZs
  - ✓ Use additional set of criteria
- Resolve discrepancies between attribute tables:
  - ✓ Rename or add information from other sources
- Join the relevant part of MPO networks to statewide network and connect external stations.



An example of the selection of relevant part of the Athens network

Summary and key takeaways

- GSTDM TAZs are redrawn using geographies from MPO TAZs, and are “linked” to the MPO TAZs through correspondence tables for easy comparison of input/output data.
- Statewide network is updated using “relevant” portions of the MPO models.
- Proposed approach simplifies maintenance for future updates: e.g. if MPO TAZs (and network) change, the statewide TAZs (and network) are easily updated.
- State DOTs should consider **adopting MPO-level zonal systems**, or develop methods to **link them together**.
- Inside the MPO modeling areas of the statewide networks, DOTs should **adopt full MPO networks** (if their zones are already updated to the MPO level) or **a subset of the MPO network** considered relevant for statewide modeling.

Georgia Tech

Thank you for your attention!

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