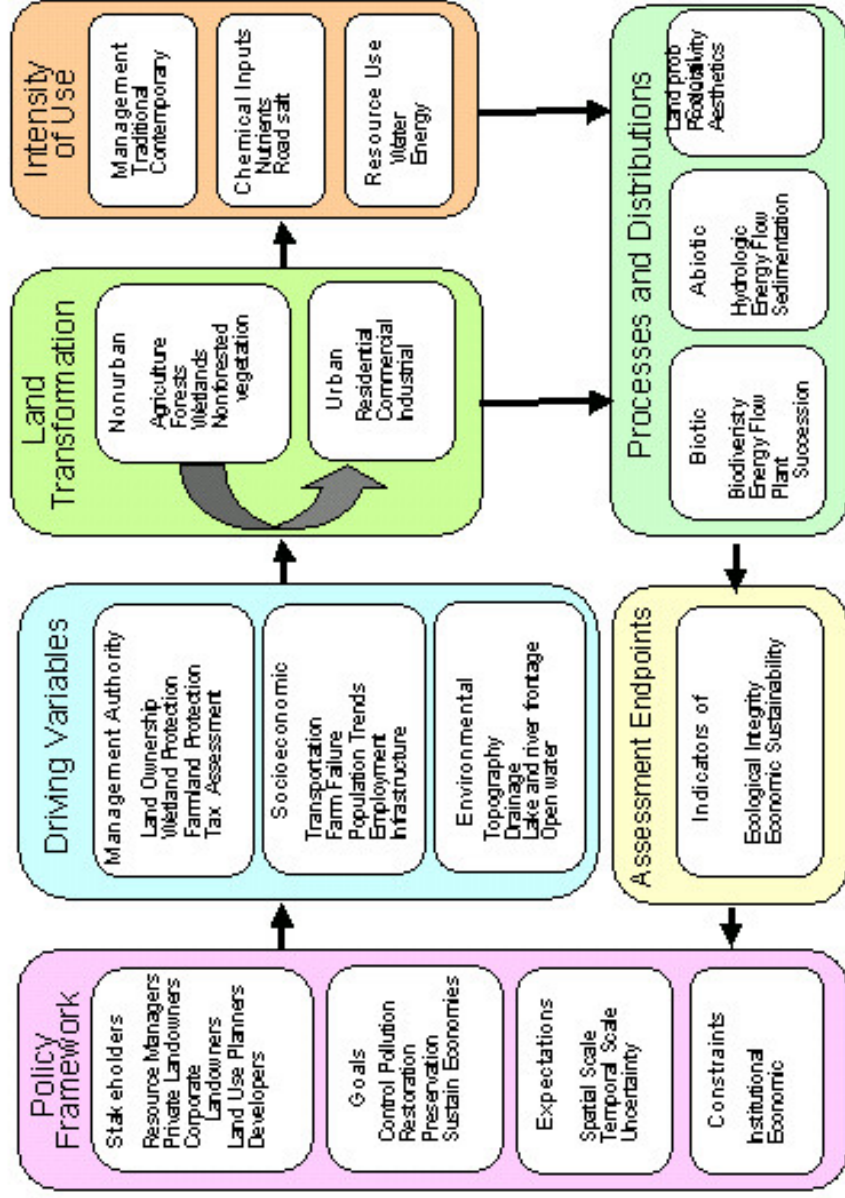


Land Transformation Model (LTM)

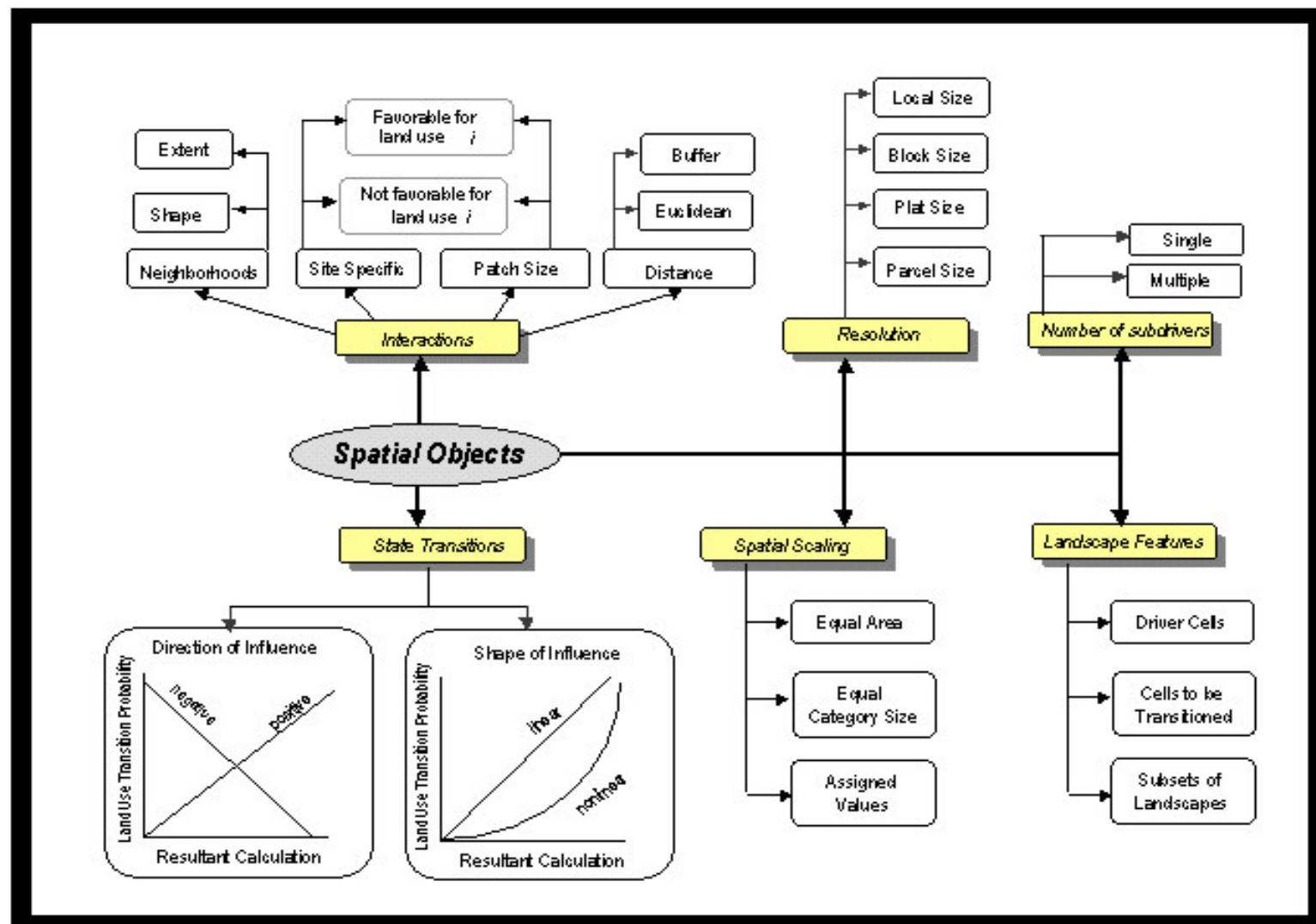
Dr. Bryan C. Pijanowski
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- Early LTM (Pijanowski, 1997)
 - Conceptual framework
 - Spatial framework
 - GIS integration
- LTM Coupled with Artificial Neural Network (ANN) (Pijanowski et al, in press)
 - Model process
 - Case study: Grand Traverse Bay, Michigan
 - Assumptions
- Transferability and influence of scale (Pijanowski et al, 2001)
 - Twin Cities Metropolitan Area (TCMA) & Detroit Metropolitan Area (DMA)
 - Internal versus external learning
 - Local versus regional learning

Conceptual Elements of the Land Transformation Model

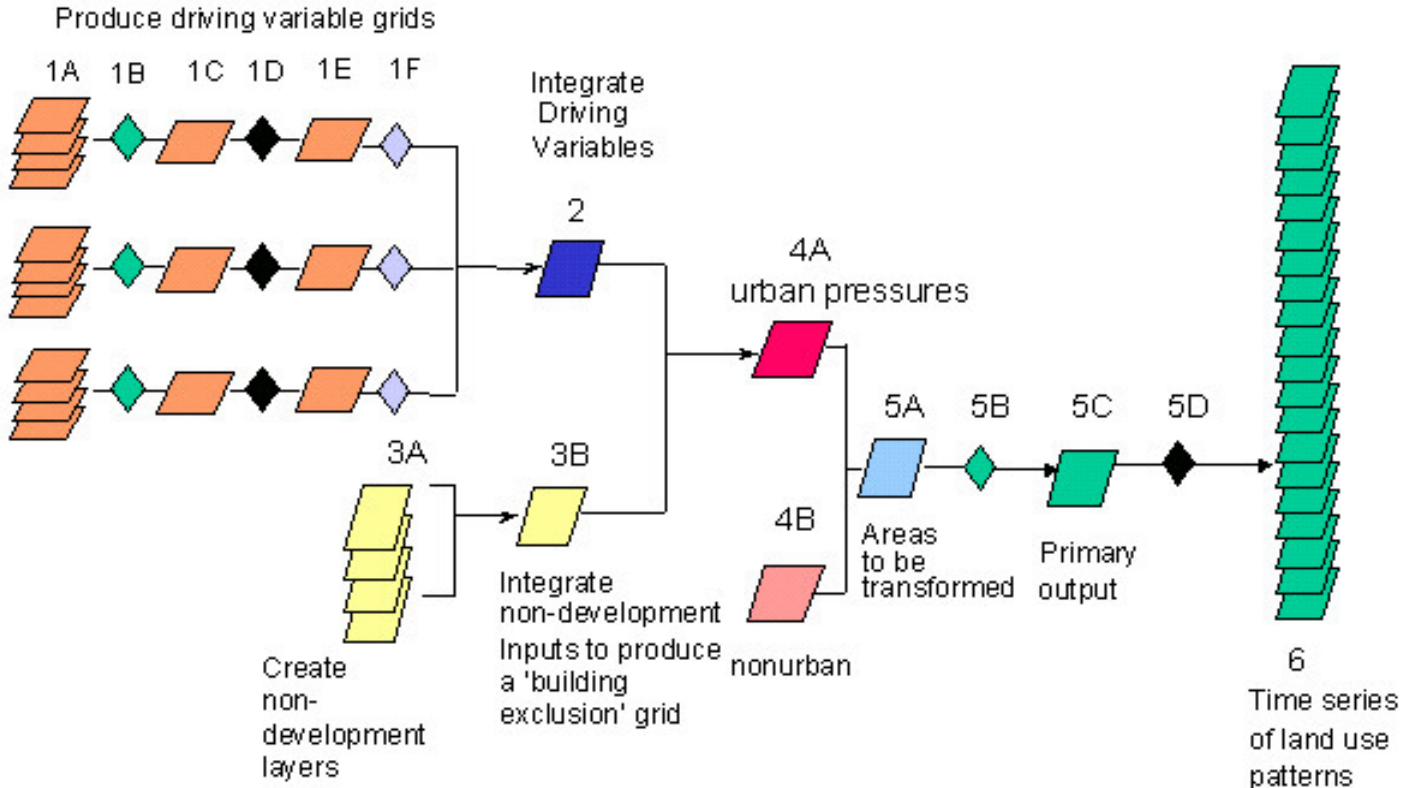


LTM Spatial Object Class Hierarchy



GIS Integration

Model Calculation Process



Conclusions

Note changes to model

- Model coupled with ANN, less emphasis on hydrological and geochemical modules
- Six module conceptual framework?

Value of land use change models

- Explore mechanisms by which land use change occurs and social, economic and spatial variables that drive it.
- Project potential future environmental and economic impacts of land use change.
- Evaluate the influence of alternative policies and management regimes on land use and development patterns.

How does the Land Transformation Model compare?

- Are “predictive variables” driving land use change?
 - Population main driver in model
 - Do “predictive variables” reflect hidden drivers?
- Drivers are not dynamic.

Yet, recent work with ANNs generates interesting geographic questions concerning the variability of land use change.