

# Why Should I Care: Innovative Performance Measures That Matter to Non-Modelers

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# Challenges

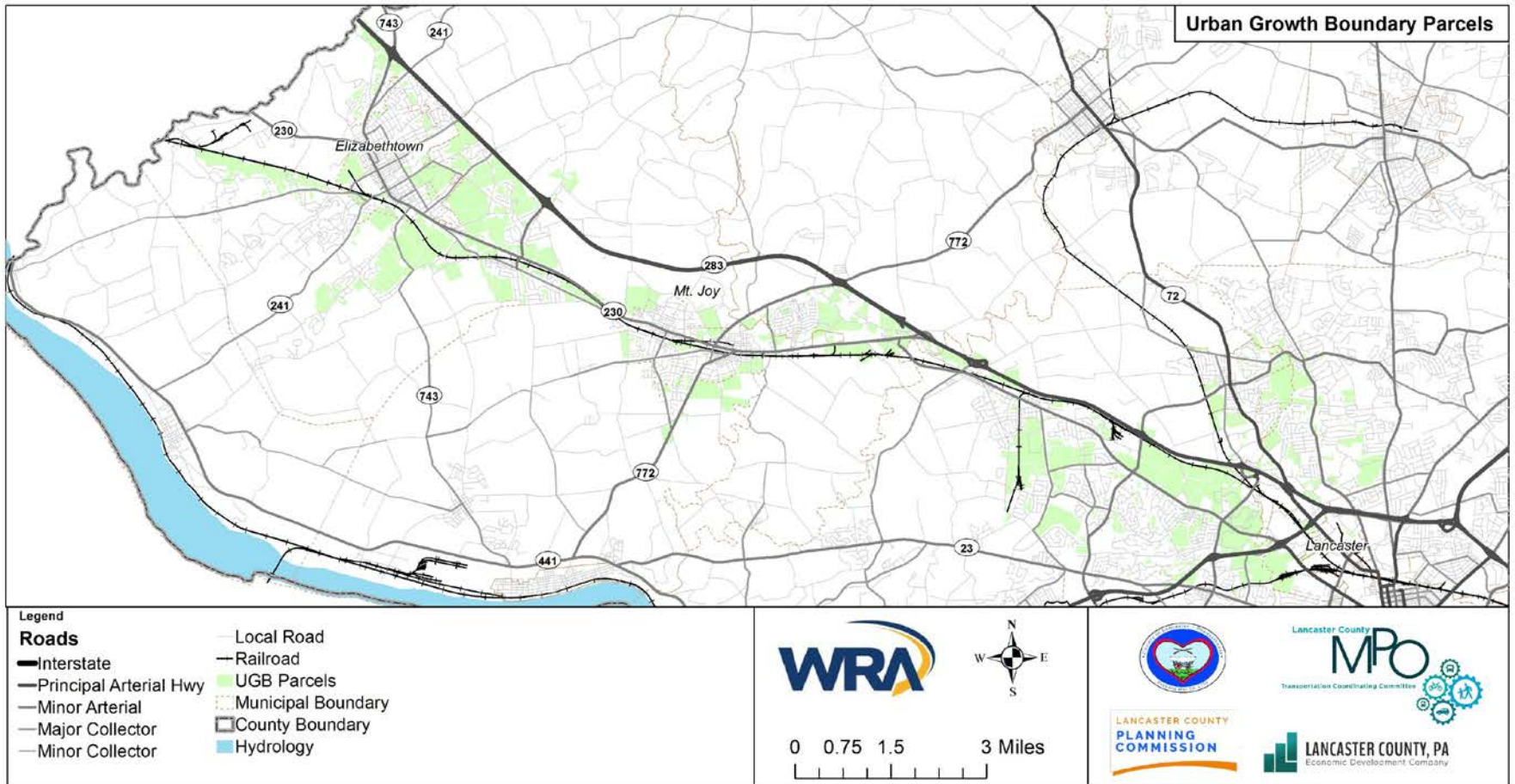
- Modeling is increasingly being used as a tool to provide insights into more diverse and complex projects
- We need to continue to provide results that are meaningful to stakeholders, easily explained, and easily produced



# SR 283/230 Corridor Study

- Joint project between the Lancaster County Planning Commission and the Lancaster County Economic Development Commission
- Problem Statement
  - Lancaster County faces important economic development and land use management challenges within the key transportation corridors of Routes 283 and 230. Need to accomplish the following:
    - Enhance approaches to managing land use to the mutual and reinforcing benefit of all uses and all communities
    - Use sound relationship among jobs, housing, and transportation to direct transportation strategies and investments
    - Use a regionally agreed upon approach that can be replicated along other corridors within the county

# Corridor Location



# Corridor Study Steering Committee

- South Central Transit Authority
- Lancaster Farmland Trust
- Spooky Nook Sports
- The Wegner Group
- Union Community Bank
- Lift, Inc.
- Mount Joy Borough
- Mount Joy Township
- Rapho Township
- Elizabethtown Borough
- East Hempfield Township
- Elizabethtown Area School District

# Performance Measures

- Two-fold performance measurement
  - Land Use Scorecard – determine which land use is likely and which parcels are most likely to be developed first
    - Industrial
    - Commercial
    - Residential
    - Agricultural
  - Scenario Performance Measures – determine multimodal impacts of land use scenarios

# Model Enhancements

- Model Pre- and Post-Processor
  - Convert study area TAZ's from traditional resolution to parcel resolution
  - Enhance mode choice to account for walking
  - Streamlined process to reduce run-time and improve performance

# Industrial Land Use

Metric No.	Measure	Weight	Comparison
I-1	Parcel size	1	Bigger is better
I-2	Parcel shape	1	Square is better
I-3	Parcel fragmentation	1	Less is better
I-4	Nearby residential density	1	Sparse is better
I-5	Adjacent to existing industrial	1	More similar uses better
I-6	Adjacent to vacant/infill parcel	1	Potential to combine with other parcel for more development
I-7	Nearby roadway Functional Classification	1	Higher class is better
I-8	Travel time to interstate	1	Closer is better
I-9	Direct access to interstate	0.5	Access is better
I-10	Travel time to transit	1	Closer is better
I-11	Access to railroad	0.5	Access is better
I-12	Access to water/sewer service	1	Access is better



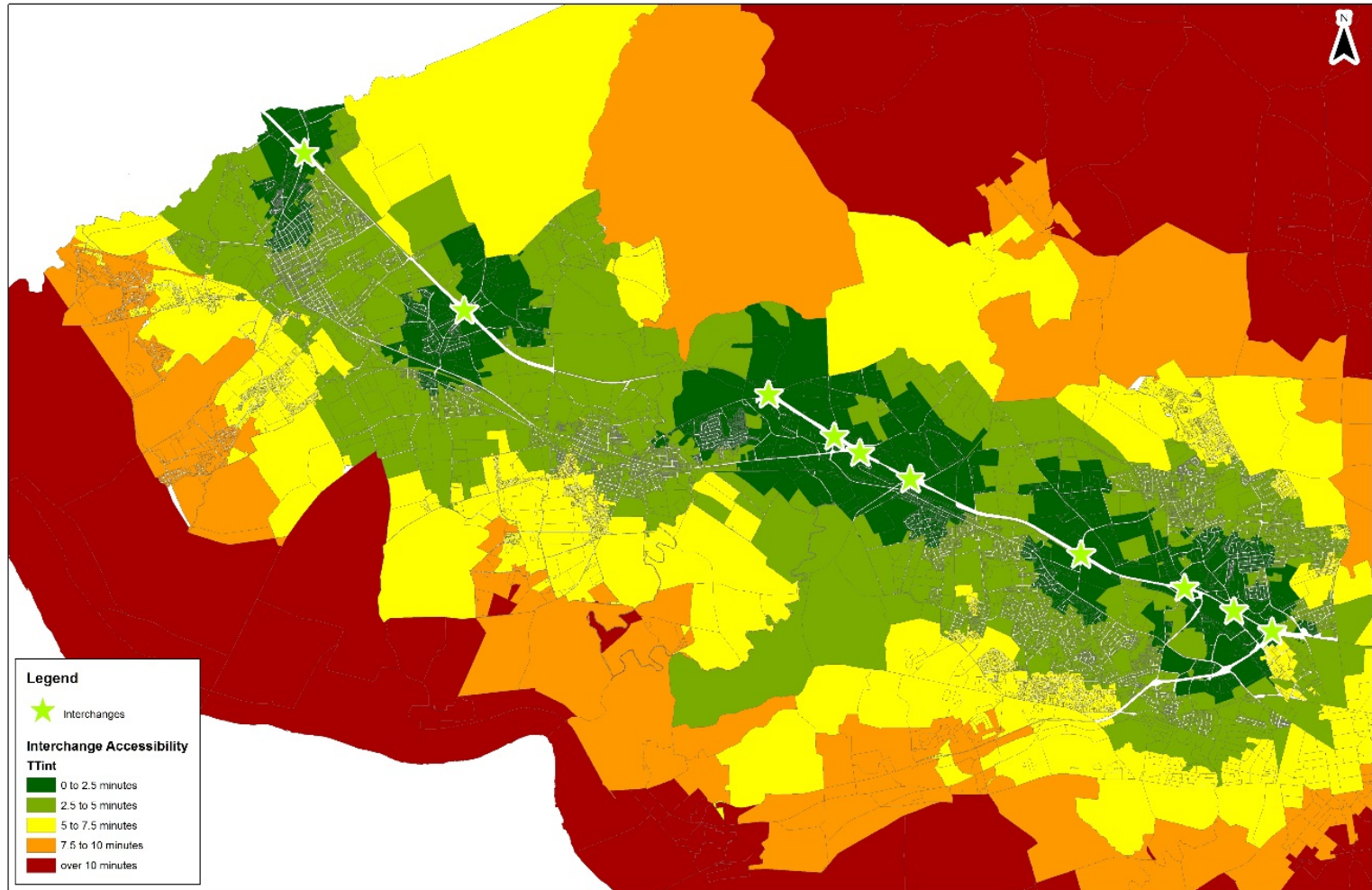
# Commercial Land Use

Metric No.	Measure	Weight	Comparison
C-1	Parcel shape	0.5	Square is better
C-2	Parcel fragmentation	0.5	Less is better
C-3	Adjacent to existing commercial	1	More similar uses better
C-4	Adjacent to vacant/infill parcel	1	Potential to combine with other parcel for more development
C-5	Nearby roadway Functional Classification	1	Collector or Minor Arterials Best
C-6	Travel time to police/fire/EMS	1	Closer is better
C-7	Travel time to transit	1	Closer is better
C-8	Commuting travel time to central business districts	1	Closer is better
C-9	Access to water/sewer service	1	Access is better
C-10	Walkability - sidewalk network nearby	1	Higher is better

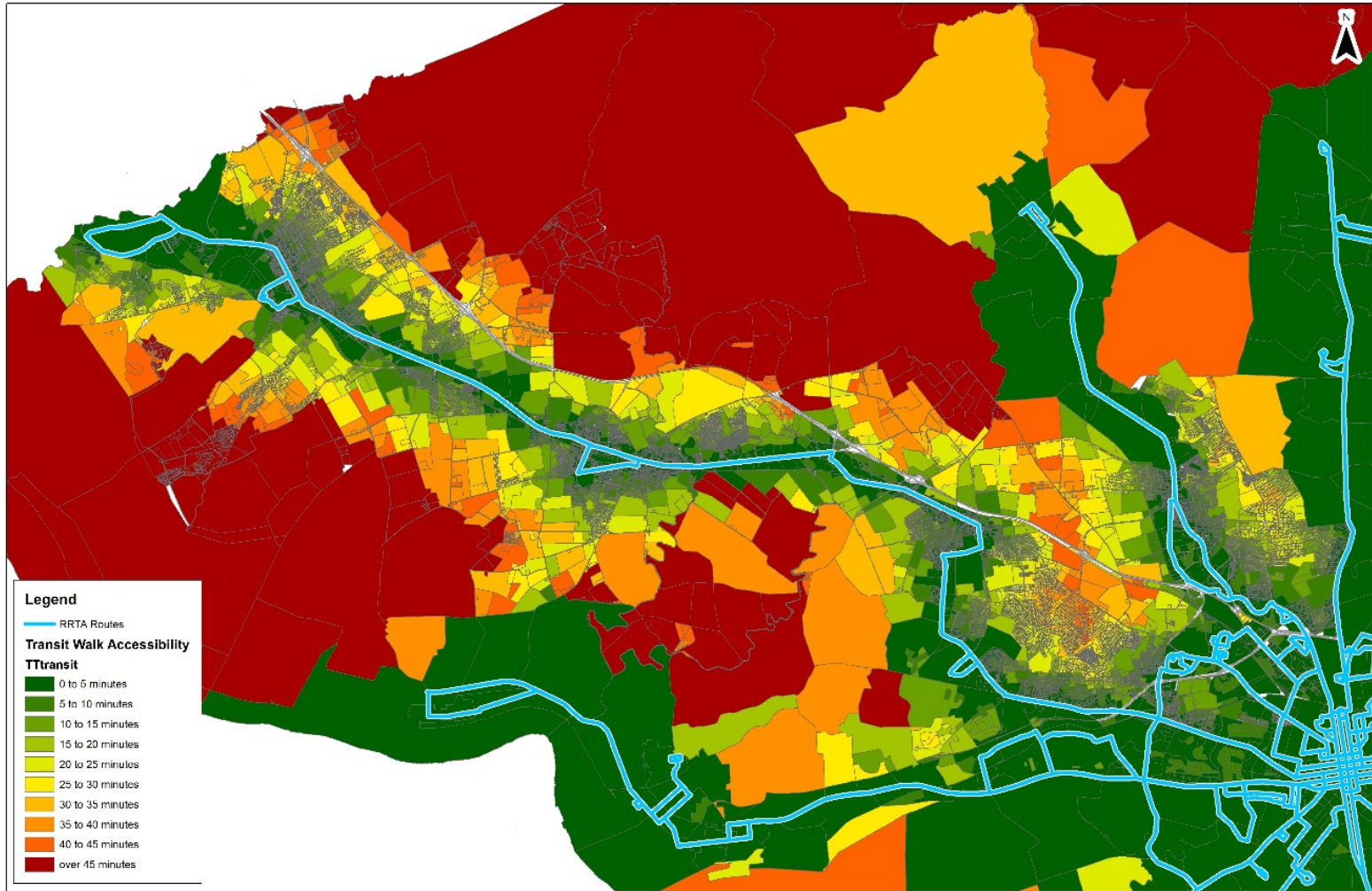
# Residential Land Use

Metric No.	Measure	Weight	Comparison
R-1	Parcel shape	0.5	Square is better
R-2	Parcel fragmentation	0.5	Less is better
R-3	Nearby residential density	1	Denser is better
R-4	Distance from industrial land use	0.5	Further is better
R-5	Distance from agricultural land use	0.5	Further is better
R-6	Adjacent to existing residential	1	More similar uses better
R-7	Nearby roadway speed limit	1	Lower is better (lower speed)
R-8	Walkability to: schools, parks, grocery, hospital, commercial/retail	1	Closer is better
R-9	Travel time to transit	1	Closer is better
R-10	Travel time to police/fire/EMS	1	Closer is better
R-11	Commuting travel time to central business districts	1	Closer is better
R-12	Access to water/sewer service	1	Access is better

# Drive Access to an Interchange



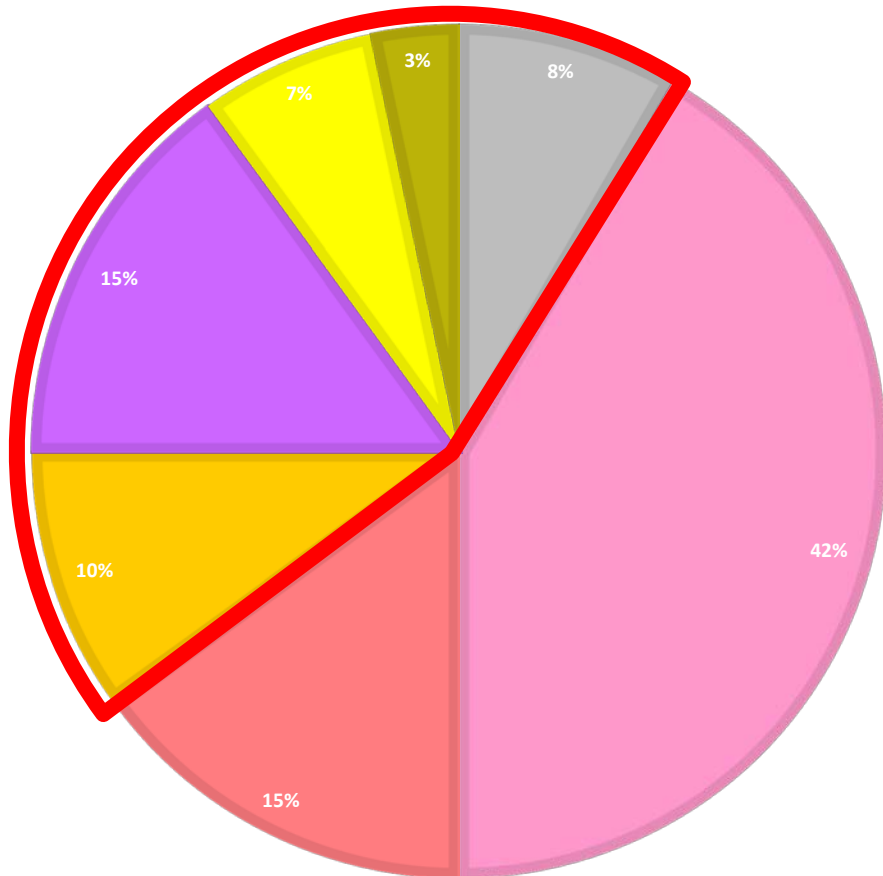
# Walk Access to Transit



# Optimal Land Use vs. Zoning

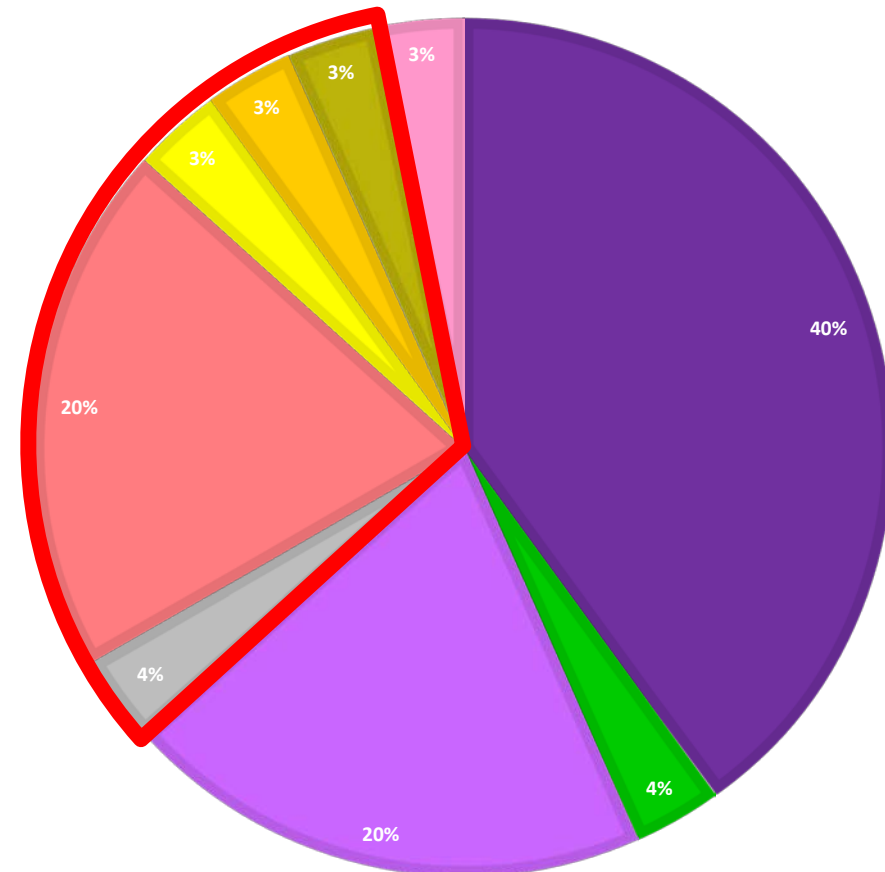
TOP 60 SCORING COMMERCIAL PARCEL CURRENT ZONING

OS MU C R2 I R1 R3

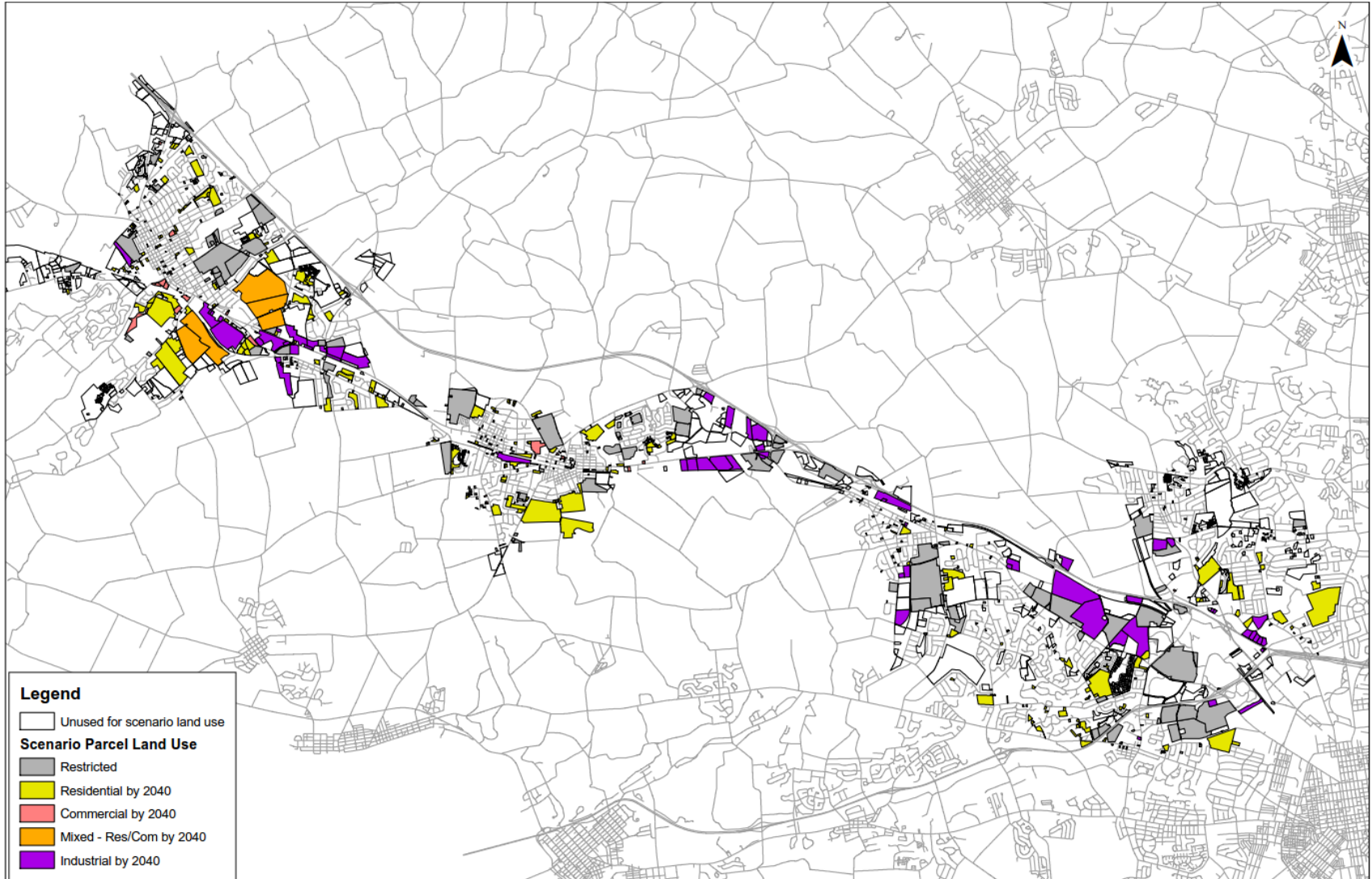


TOP 30 SCORING INDUSTRIAL PARCEL CURRENT ZONING

I A C/I Ins C R-1 R-2 R-3 MU

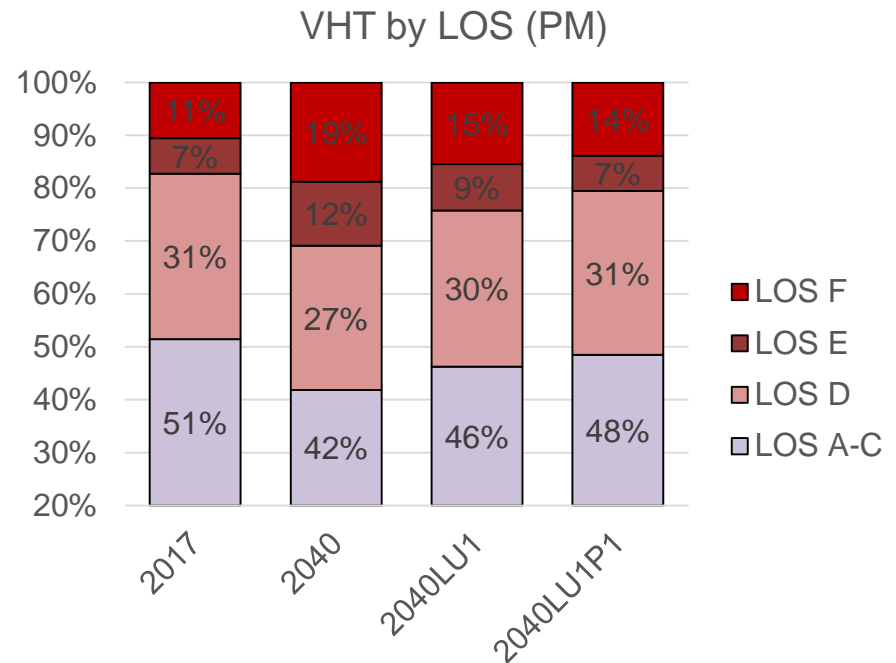


# Likely Developed Parcels in 2040



# Scenario Performance Measures

- Commercial Supply vs. Demand
  - P/A Balancing
- Travel Times
  - Harrisburg
  - Lancaster CBD
  - Mt. Joy
- Commuter Rail Access
- Bus Access
- Truck Volumes
- VHT by LOS
- Travel by Mode
- Average Commute Time
- Jobs Accessible within 20 miles
- School Access
  - Walk
  - Drive



# Conclusions

- Process was able to:
  - Compare scenarios for transportation and land use investments
  - Determine likely parcels for development by type
  - Produce easily explainable results to diverse stakeholders
- Outcomes
  - Provide input into countywide and municipal planning
    - Identify parcels to consider re-zoning
    - Identify parcels currently suitable for development
    - Identify transportation investments and their impacts on quality of life and likelihood of development



# Questions?



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