



LDA Evaluation – Cleveland Area

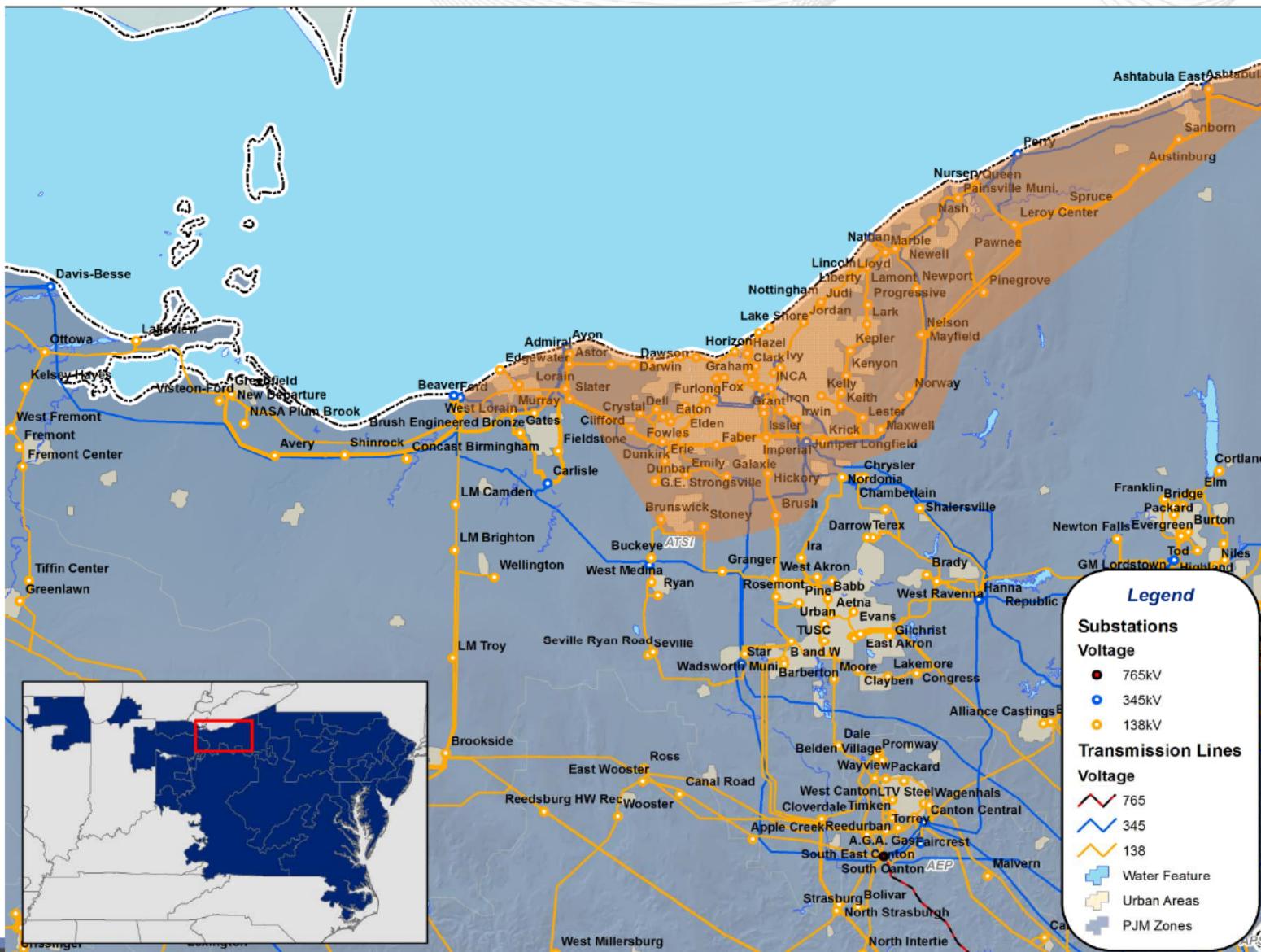
PJM Planning Committee
Mark Sims
12/15/2011

- Overview
- Operations
- At-risk generation
- Simulation

- Existing ATSI LDA
- Cleveland Reactive Operational Interface
- South Canton LDA
- Greater Cleveland LDA

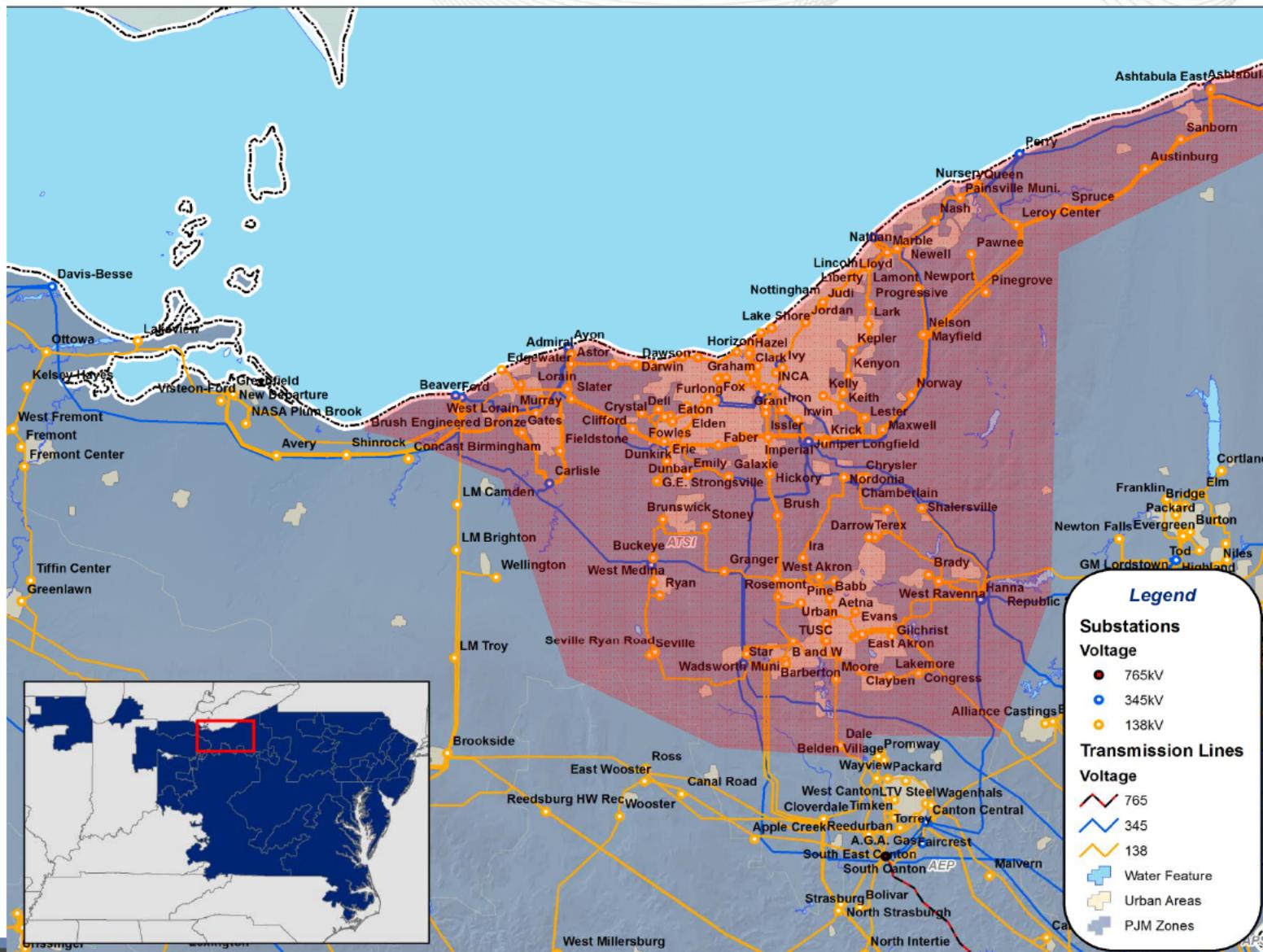


Approximate Cleveland Reactive Operational Interface

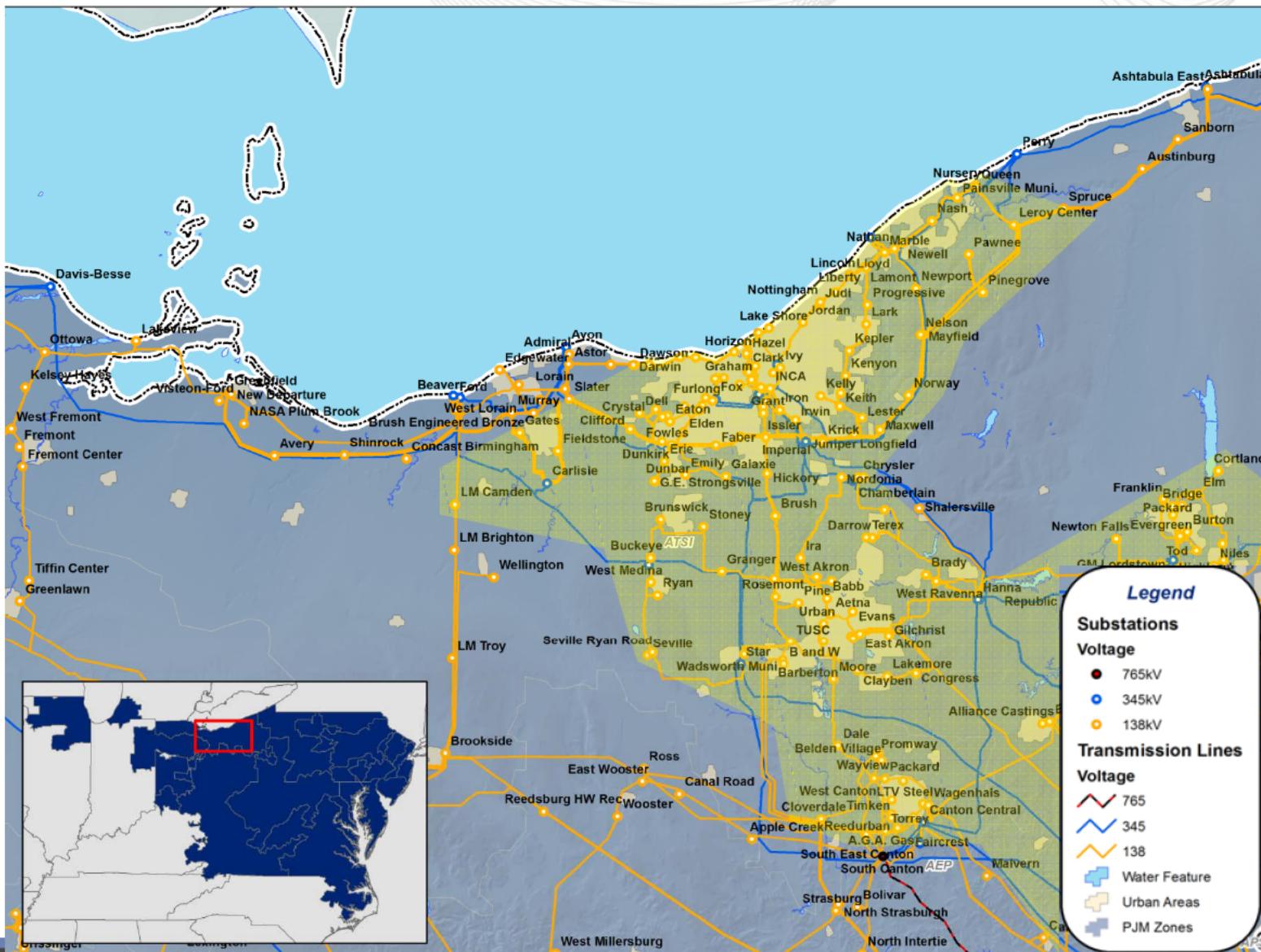




Greater Cleveland LDA



South Canton DFAx LDA



Legend

Substations

- | Voltage |
|---------|
| 765kV |
| 345kV |
| 138kV |

Transmission Lines

- | Voltage |
|---------|
| 765 |
| 345 |
| 138 |
- Water Feature
Urban Areas
PJM Zones

- 2016 Study Year CETO Values

Existing ATSI LDA	South Canton LDA	Greater Cleveland LDA
4360	7010	5080

- CETL>CETO for all three LDA's
- Thermal Limit before Voltage Limit

- Default Voltage Outage Pattern
 - Result:
 - not a stressful voltage dispatch
 - Thermal CETL > 115% of CETO other than a terminal equipment limited facility
- Alternative Load Deliverability - Voltage Outage Pattern
 - Result:
 - Voltage Collapse for l/o an at-risk unit
 - Low voltage magnitude

- Importance of Voltage Dispatch pattern
- Stakeholder Input
- Next Steps