

# ATC Network Customer Meeting Planning Update

February 28, 2008  
Corporate Headquarters  
Flora Flygt, Director of Planning





# Major Projects Update

- Verona-Fitchburg
  - Order received
- Paddock-Rockdale
  - Technical and public hearings held February 13<sup>th</sup>
  - Expect order 2<sup>nd</sup> quarter
- Rockdale-West Middleton (Cardinal)
  - Awaiting completeness determination/data requests



# Major Projects Update

- Eastern Upper Peninsula
  - Three emergency projects in service by mid-January
    - Two additional transformers
    - Cap bank to support voltage
  - Eastern UP Collaborative Study
    - Strategic Flexibility approach
    - Stakeholder input being sought

# 2007 TYA Update Results

|                                   | Mar<br>2005 | Sept<br>2005 | Mar<br>2006 | Nov<br>2006 | Nov<br>2007 |
|-----------------------------------|-------------|--------------|-------------|-------------|-------------|
| In 10-Year Assessment             | \$2.1       | \$2.4        | \$2.1       | \$1.7       | \$1.4       |
| Not in 10-Year<br>Assessment      | \$0.7       | \$1.0        | \$1.3       | \$1.4       | \$1.4       |
| Total 10-Year ATC<br>Expenditures | \$2.8       | \$3.4        | \$3.4       | \$3.1       | \$2.8       |

# 2007 TYA Update Results

|   | 2006 Assessment               | 2007 Assessment Update        |
|---|-------------------------------|-------------------------------|
| <b><i>New Transmission Lines Requiring New Right-of-Way</i></b> |                               |                               |
| 345 kV  | 6 lines / 216 miles           | 4 lines / 139 miles           |
| 138 kV  | 15 lines / 78 miles           | 13 lines / 75 miles           |
| 115 kV  | 2 lines / 26 miles            | 1 line / 14 miles             |
| 69 kV   | 7 lines / 40 miles            | 6 lines / 32 miles            |
| <b><i>Transmission Lines on Existing Right-of-Way</i></b>       |                               |                               |
| 345 kV  | 3 lines / 98 miles            | 2 lines / 82 miles            |
| 161 kV  | 1 line / 20 miles             | 1 line / 20 miles             |
| 138 kV  | 31 lines / 511 miles          | 22 lines / 433 miles          |
| 115 kV  | 4 lines / 68 miles            | 0 lines / 0 miles             |
| 69 kV   | 12 lines / 145 miles          | 11 lines / 96 miles           |
| <b><i>New Transformers to be Installed</i></b>                  |                               |                               |
| <b><i>(# of transformers / total increase in capacity)</i></b>  | 37 transformers / 6,733 MVA   | 23 transformers / 4,459 MVA   |
| <b><i>New Capacitor Banks to be Installed</i></b>               |                               |                               |
| <b><i>(# of installations / capacity)</i></b>                   | 39 installations / 1,311 MVAR | 38 installations / 1,307 MVAR |

# 2007 TYA Update Results

|                                     | 2006 345 kV lines                 | 2007 345 kV lines                    |
|-------------------------------------|-----------------------------------|--------------------------------------|
| 1                                   | Arrowhead-Stone Lake              | Arrowhead-Stone Lake                 |
| 2                                   | Gardner Park- Highway 22          | Gardner Park- Highway 22             |
| 3                                   | Paddock-Rockdale                  | Paddock-Rockdale                     |
| 4                                   | Rockdale-West Middleton           | Rockdale-West Middleton              |
| 5                                   | Morgan-Werner West                | Morgan-Werner West                   |
| 6                                   | West Middleton-North Madison*     | West Middleton-North Madison*        |
| 7                                   | Gardner Park-Stone Lake           | N/A (complete)                       |
| 8                                   | Oak Creek-Hale (Brookdale)        | N/A (cancelled - Elm Road Phase III) |
| 9                                   | Hale (Brookdale)-Granville        | N/A (cancelled - Elm Road Phase III) |
| <i>345-kV Placeholder Projects:</i> |                                   |                                      |
| 10                                  | Salem-Spring Green-West Middleton | Salem-Spring Green-West Middleton    |
| 11                                  | Rockdale-Mill Road                | Rockdale-Mill Road                   |
| 12                                  | n/a not yet in as a placeholder   | Fox Energy-North Appleton            |
| 13                                  | n/a not yet in as a placeholder   | Kewaunee-Point Beach                 |
| 14                                  | n/a not yet in as a placeholder   | Pleasant Prairie-Granville           |



# 2008 Ten-Year Assessment

- Study scope
  - Study period - 15 years
  - Sensitivities developed around load growth and directions of market flows
  - Models – 2009, 2013, 2018, 2023
- Schedule
  - Load models (June-August)
  - PSS/E Models & Analysis (August – January)
  - Project Requests (Jan-March 2008)
  - Writing (Spring 2008)
  - Review (Summer 2008)
  - Web Publication (Fall 2008)



# Order 890 Update

- Filed ATC's Attachment FF/K on December 7th
- Worked with customers and with MISO to integrate two approaches to Order No. 890
  - Ultimately ATC and MISO were on the same page
- Tariff effective February 7<sup>th</sup>
- Still waiting for order from FERC



The logo for the American Transmission Company (ATC) is located in the top left corner. It features a stylized black and white graphic of a transmission tower or insulator structure.

# ATC Order No. 890 Implementation

- Economic Projects – Meeting February 21<sup>st</sup>
  - Reviewed Top 30 constraints of 2007; virtually all have an identified “fix” in the latest Ten Year Plan
  - Posted top future constraints from 2007 Paddock-Rockdale 2011 and 2016 studies
  - For 2008 studies, ATC will begin case development of futures with MISO MTEP09 PROMOD cases



# ATC Order No. 890 Implementation

- Economic Projects
  - Reviewed potential key drivers and study assumptions: Peak load and energy growth rates, Natural gas costs, CO2 tax, Amount and location of renewables, amount and location of low-cost generation within ATC, and transmission additions (including CapX 2020)
  - February 21st meeting materials are posted at: <http://www.atc10yearplan.com/A8.shtml>
  - ATC is requesting “first round” of feedback by March 5th and will post preliminary project list and study assumptions by April 15th

The logo for the American Transmission Company (ATC) is located in the top left corner. It features the letters 'ATC' in a bold, red, sans-serif font. A black swoosh underline is positioned beneath the letters, extending to the right. Below the swoosh, the text 'AMERICAN TRANSMISSION COMPANY' is written in a smaller, black, sans-serif font, followed by a registered trademark symbol (®). Underneath that, the tagline 'THE ENERGY ACCESS COMPANY' is written in an even smaller, black, sans-serif font.

# ATC Order No. 890 Implementation

- 2009 Ten Year Assessment Stakeholder Meetings
  - Initial meeting - ~May 2008
  - Methodology discussion; stakeholder input on assumptions
- The first meeting will be followed by at least two additional forums
  - Report back preliminary results
  - Solicit additional need and solution option comments
  - Report final results

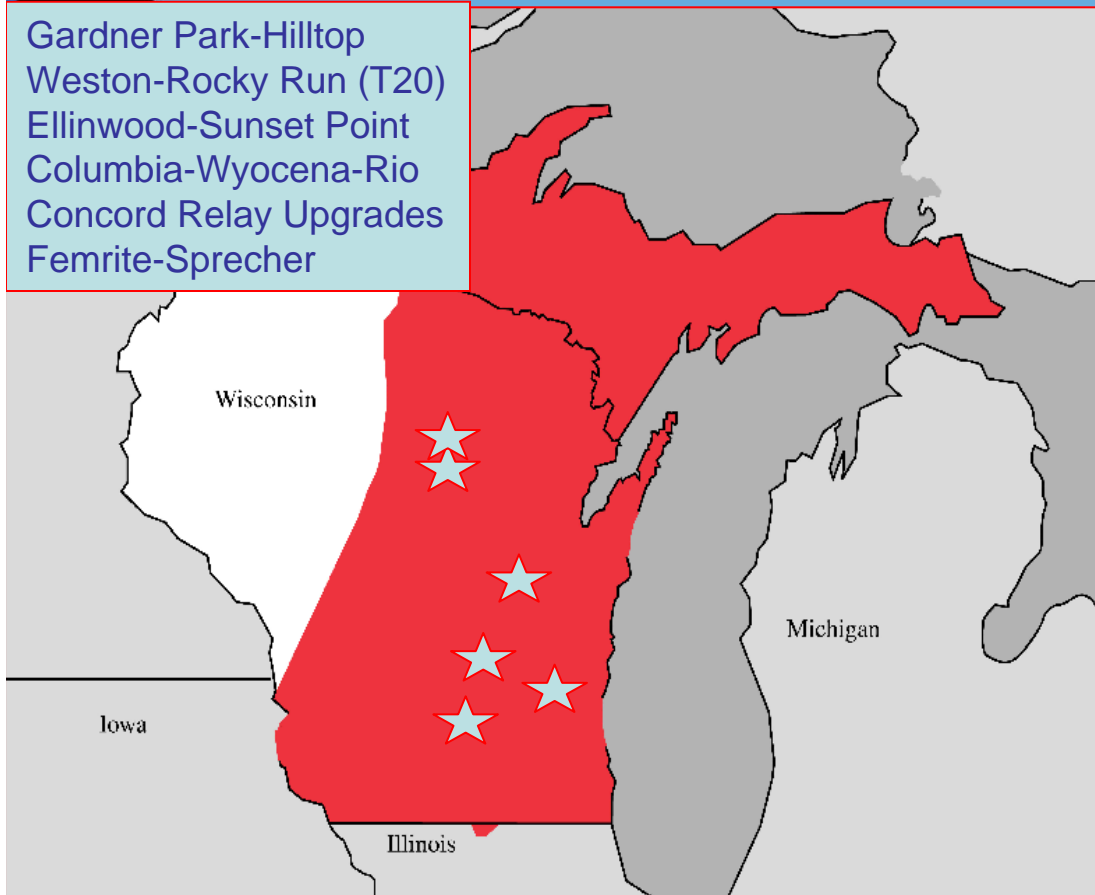
The logo for the American Transmission Company (ATC) is located in the top left corner. It features a stylized black and red graphic of a transmission tower or line structure.

# ATC Order No. 890 Implementation

- Preliminary Agenda – Initial Meeting
  - Overview of ATC Network Project Planning
    - Order 890 Attachment K filing
    - 10-Year Assessment Process
      - Annual
      - Existing overview
      - Proposed 2009 process & schedule
    - Network Project Development Process
    - Stakeholder Meetings - Purpose and Benefits
  - Proposed Scope of Studies
  - Proposed Futures
  - Proposed Modeling Assumptions
    - Load forecast
    - Market Flows
    - Generation Locations/Types
  - Action items for Follow-up

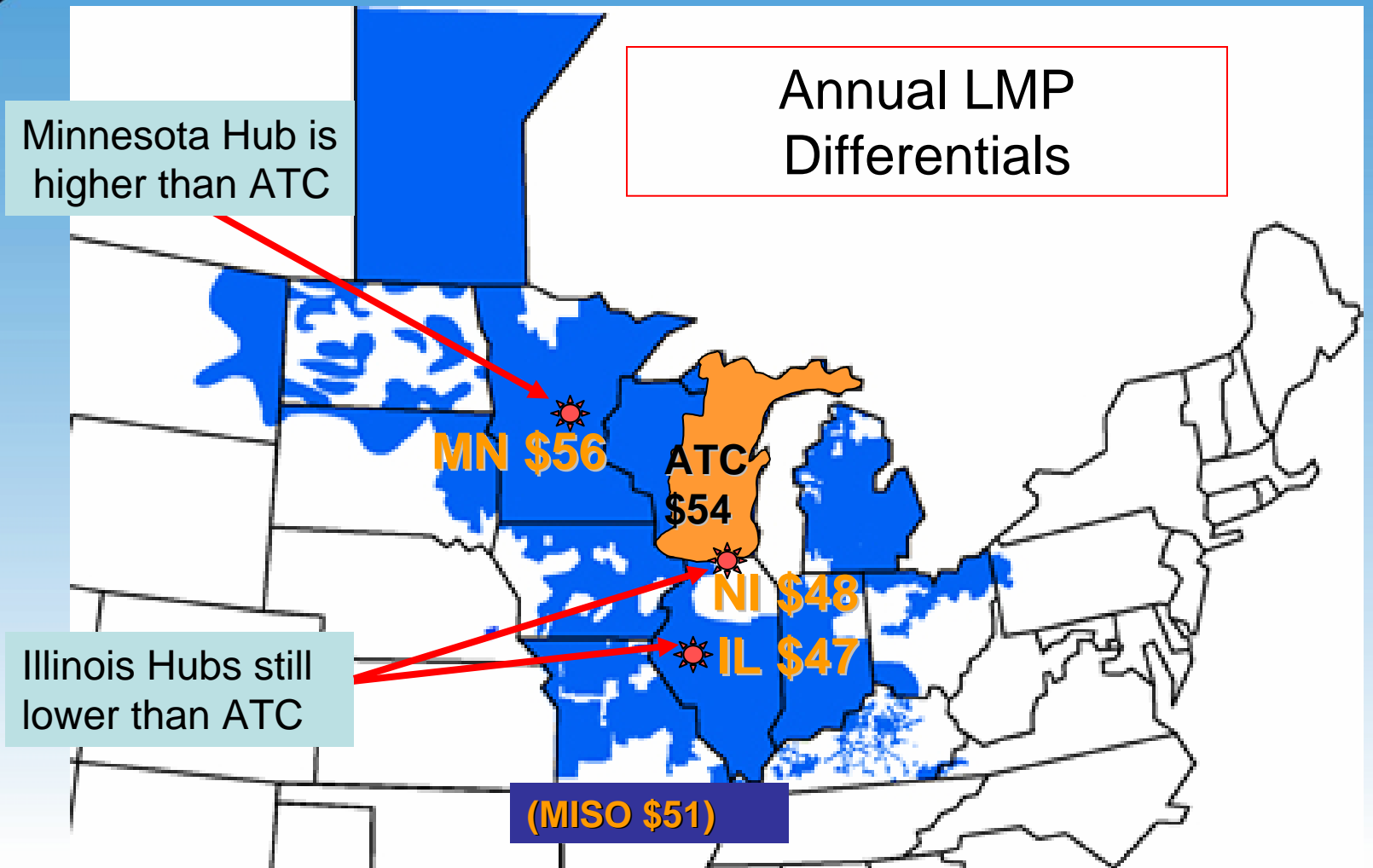
# Access Metric Review

Gardner Park-Hilltop  
Weston-Rocky Run (T20)  
Ellinwood-Sunset Point  
Columbia-Wyocena-Rio  
Concord Relay Upgrades  
Femrite-Sprecher



- Projects were justified by Reliability Needs
- Projects also provided \$3.6 Million in 2007 due to reduced energy costs and losses
- Forecasting a continuation of 2007 savings, approximately 80% of project costs are offset
- Project costs = ~\$84 million

# Access Metric Review



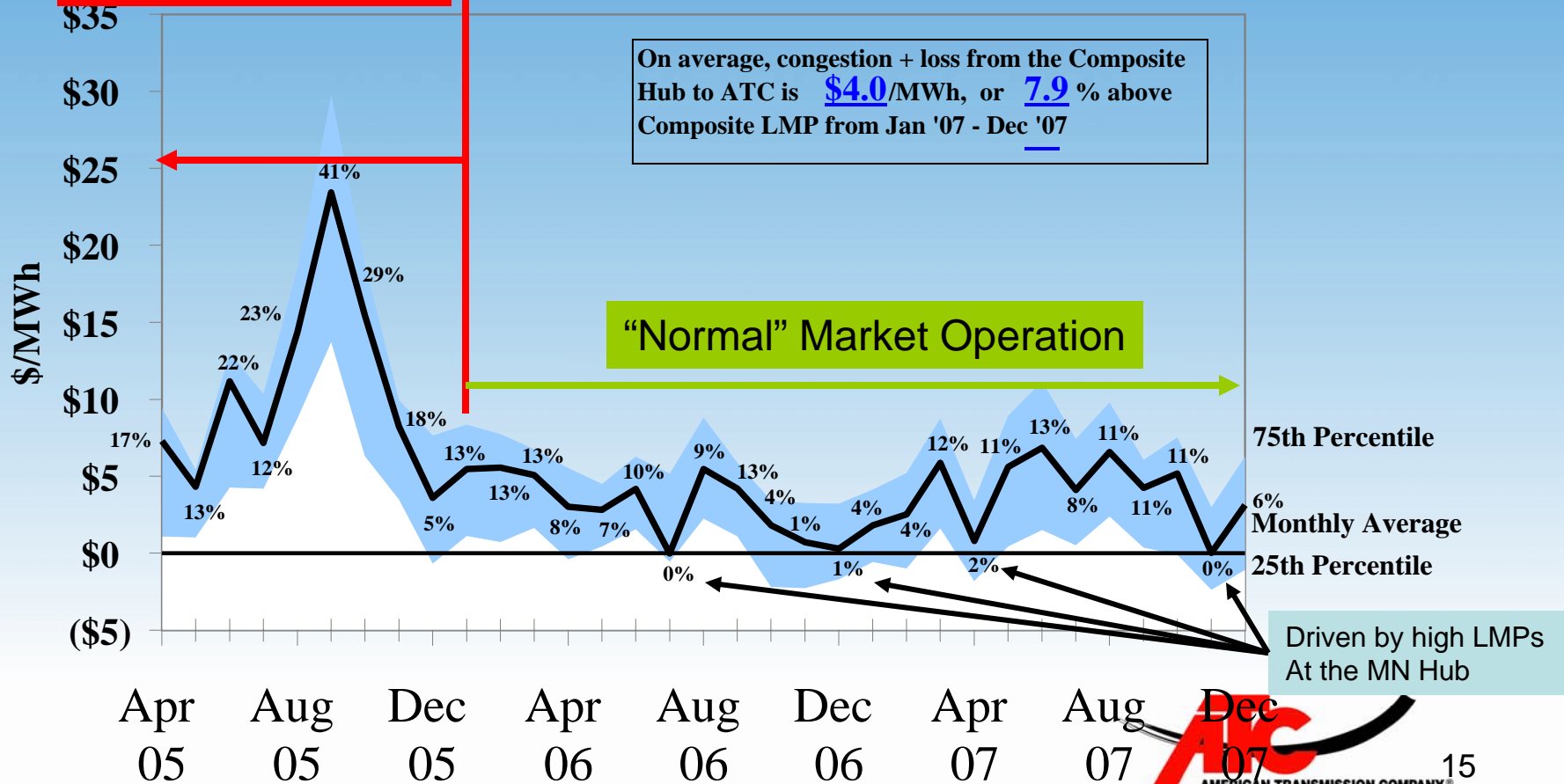
# Access Metric Review

- Katrina
- Coal conservation
- Market Start-up

## Monthly LMP Differentials

### Into-ATC Metric

On average, congestion + loss from the Composite Hub to ATC is **\$4.0/MWh**, or **7.9%** above Composite LMP from Jan '07 - Dec '07



# Access Metric Review

| Number of hours in which this constraint occurred | <div style="border: 1px solid red; padding: 5px; text-align: center;"> <h2>Top Ten Constrained Elements</h2> </div> <p><b>Constraint (DA Market)</b></p> |
|---|--|
| 11241   | <b>Total for all ATC Day Ahead constraints 1-1-2007 thru 12-31-2007</b>  |
| 1999  | Paddock 345/138 kV Transformer T21 flo Wempletow n - Rockdale 345 kV   |
| 1409  | Eau Claire - Arpin 345 kV  |
| 648   | Hintz - Werner 138 kV flo North Appleton - Werner West 345 kV  |
| 523   | Ellington - Hintz 138 kV flo North Appleton - Werner West 345 kV   |
| 290   | Pleasant Valley - Arthur Rd 138 kV flo Saukville - Barton 138 kV   |
| 661   | Highw ay V - Preble 138 kV flo Lost Dauphin - Red Maple 138 kV   |
| 529   | Stiles - Pulliam 138 kV (64441) flo Stiles - Pulliam 138 kV (64451)  |
| 326   | North Appleton - Werner West - Rocky Run 345 kV  |
| 441   | Stiles - Pulliam 138 kV (64451) flo Stiles - Pulliam 138 kV (64441)  |
| 292   | Stiles - Pulliam 138 kV (64451) flo Morgan-White Clay 138 kV   |

- Total of Top Ten Constraint hours = 7,118 (63%)
- Total number of constraints = 112



# Access Metric Review

#3 Hintz – Werner  
#4 Ellington – Hintz  
#8 N Appleton – Werner West  
Weston Unit 4 (2008)  
Gardner Park – Hwy 22 (2009)

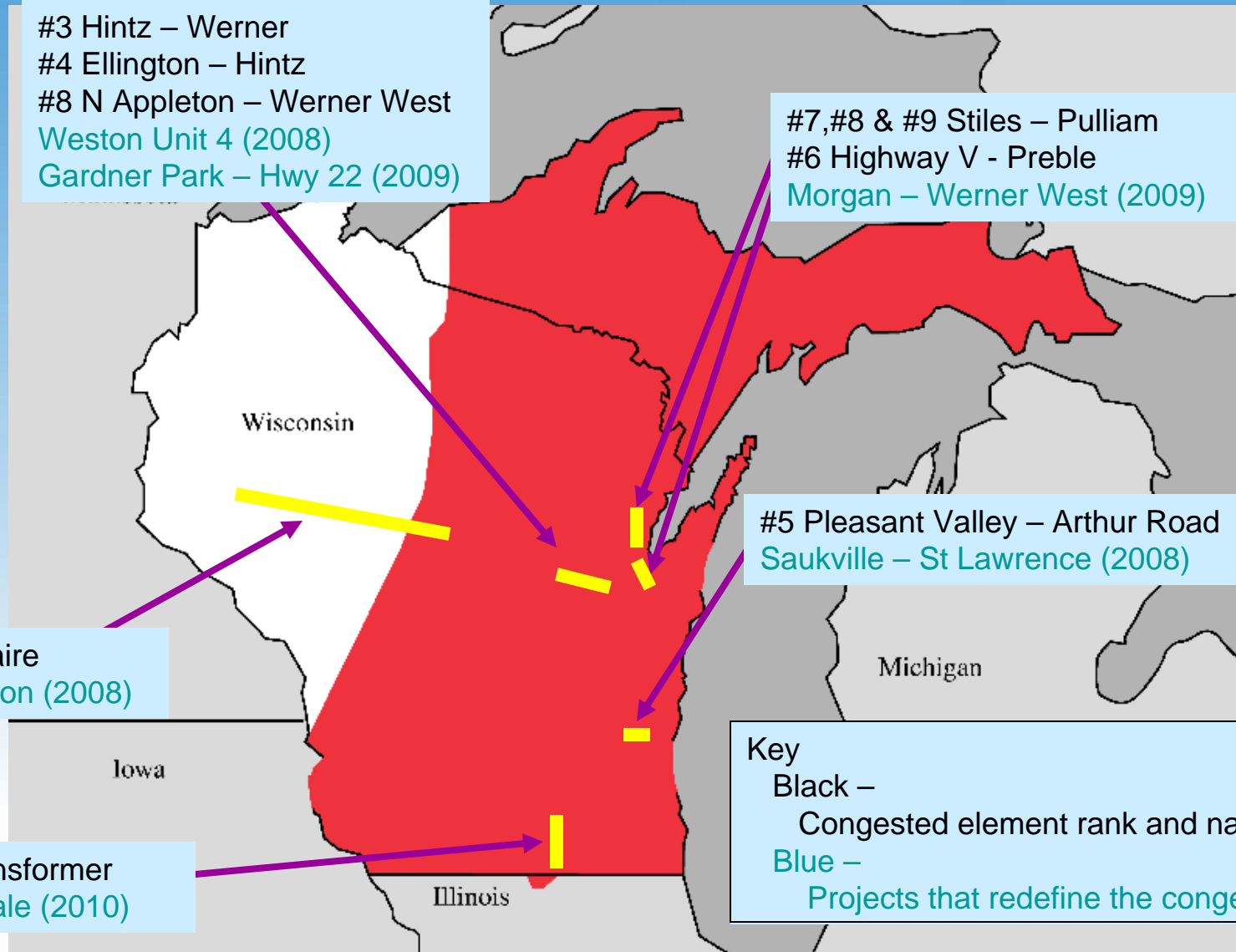
#7, #8 & #9 Stiles – Pulliam  
#6 Highway V - Preble  
Morgan – Werner West (2009)

#5 Pleasant Valley – Arthur Road  
Saukville – St Lawrence (2008)

#2 Arpin – Eau Claire  
Arrowhead – Weston (2008)

#1 Paddock Transformer  
Paddock-Rockdale (2010)

Key  
Black –  
Congested element rank and name  
Blue –  
Projects that redefine the congestion





# Questions?