

# WIS 15 Access and Congestion Management Study

Local Officials' Meeting

April 4, 2017

# Overview

- Background
  - Congestion Management Process
  - Performance Measures
  - Access Management Planning Opportunity

- Traffic Data Collection

- Travel Demand Modeling

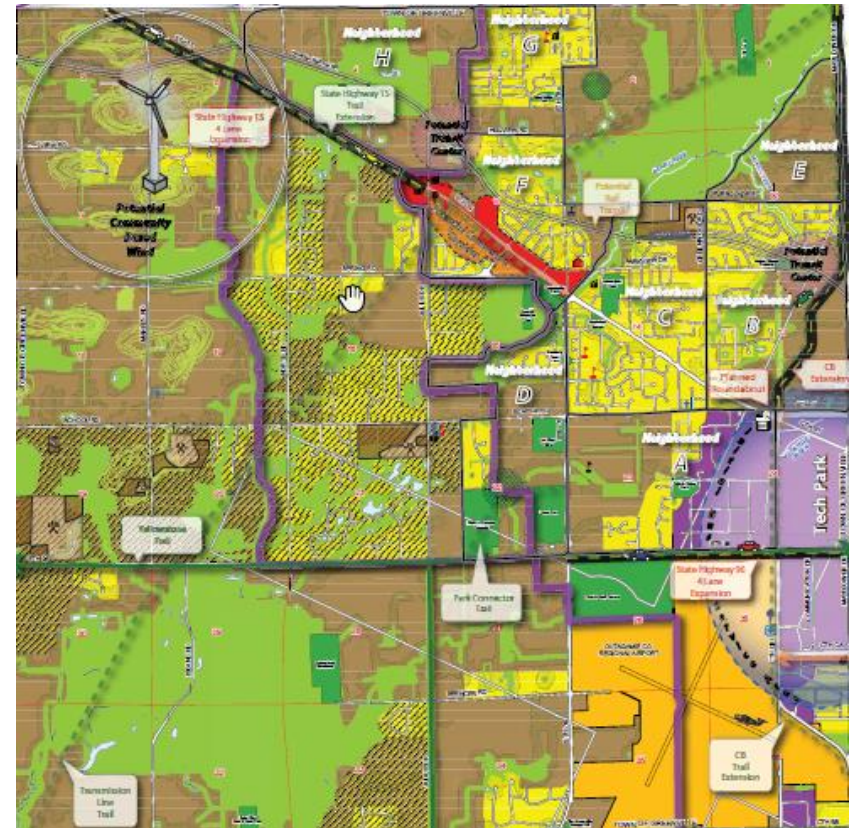
- Traffic Forecast



# Overview

- Goal of Study
- Study Status and Next Steps
- Current Access
- Local Land Use and Transportation Plans

continued...

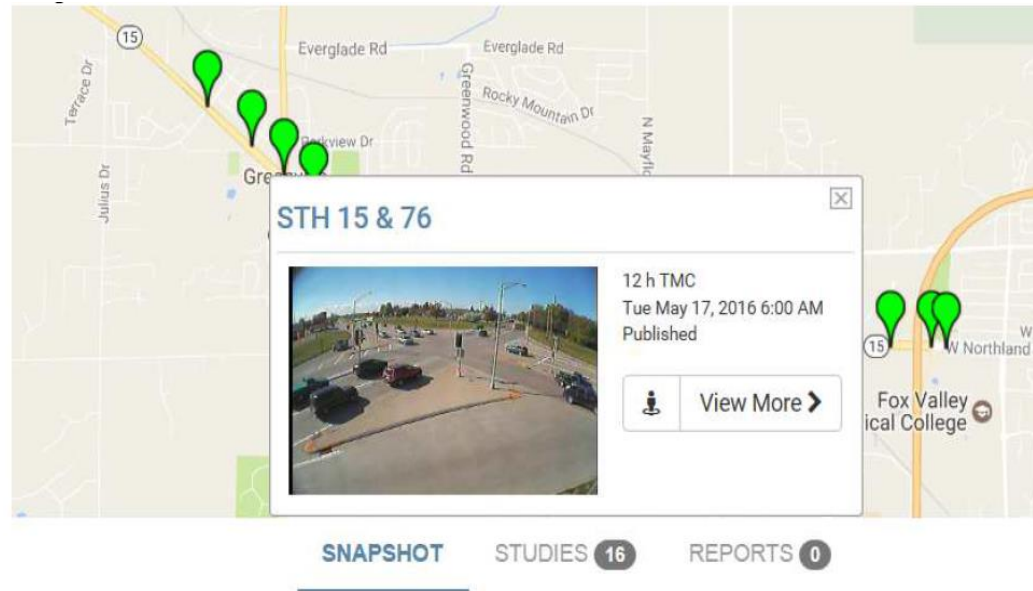


# Traffic Data Collection



# Traffic Data Collection

continued...



Traffic Counts by Class

Proprietary vehicle/object recognition software is used to process count data.



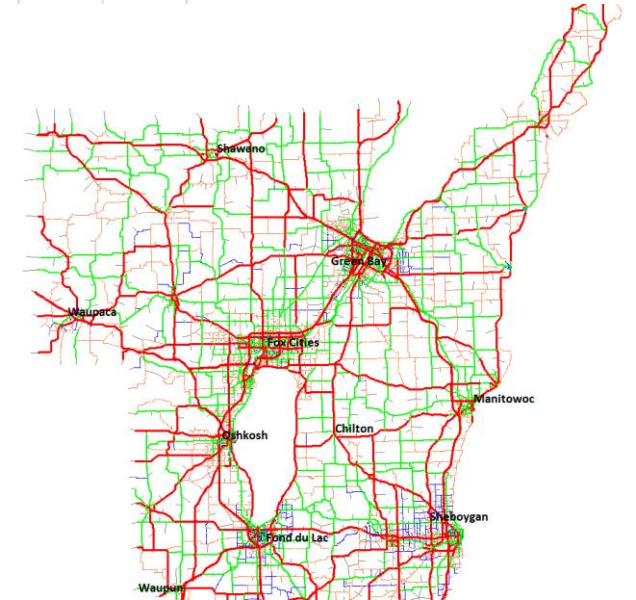


# Travel Demand Model

NE\_ST\_2010.DBF (P:\M\DOT\_NE\_Model\1-30-17\NorthEast\_Model\_V4\_2010\2010\FactInput\year 2010)

| ZONE | COUNTY  | SOURCE | HH  | POP  | RETAIL | SERVICE | TOTEMP | SCHENR | EMPLMEMB | CASINO_ATT | TOTBPSG | COLLEMR | SP30  | SP20 | SP30 | SP40 | SP11  | SP2   |
|------|---------|--------|-----|------|--------|---------|--------|--------|----------|------------|---------|---------|-------|------|------|------|-------|-------|
| 343  | Douglas | Fox    | 577 | 3089 | 29     | 208     | 361    | 0      | 0        | 0          | 0       | 0       | 24.38 | 4.43 | 0    | 0    | 0     | 17.17 |
| 344  | Douglas | Fox    | 277 | 689  | 3      | 128     | 258    | 809    | 0        | 0          | 0       | 0       | 19.40 | 1.22 | 0    | 2.13 | 29.34 |       |
| 345  | Douglas | Fox    | 304 | 879  | 0      | 67      | 131    | 0      | 0        | 0          | 0       | 0       | 19.40 | 1.22 | 0    | 2.13 | 29.34 |       |
| 346  | Douglas | Fox    | 35  | 81   | 5      | 41      | 75     | 0      | 0        | 0          | 0       | 0       | 19.40 | 1.22 | 0    | 2.13 | 29.34 |       |
| 347  | Douglas | Fox    | 73  | 185  | 23     | 88      | 149    | 0      | 0        | 0          | 0       | 0       | 9.38  | 1.48 | 0    | 0    | 24.02 |       |
| 348  | Douglas | Fox    | 524 | 1152 | 24     | 255     | 301    | 451    | 0        | 0          | 0       | 0       | 9.38  | 1.48 |      |      |       |       |
| 349  | Douglas | Fox    | 71  | 400  | 7      | 344     | 396    | 0      | 0        | 0          | 0       | 1775    | 5.07  |      |      |      |       |       |

- Traffic Counts are used to calibrate Travel Demand Models.
- The NE Region Travel Demand Model uses existing and future socio- economic data to generate person trips by mode and by trip purpose.



# Travel Demand Model

continued...

- The NE Region Travel Demand Model contains count input from over 8,000 locations
- The model contains a network of higher level arterial roadways
- Additional network details were added to represent the local streets that intersect WIS 15
- The model was calibrated with recent traffic counts and actual travel times to match existing conditions as closely as possible



# Travel Speed

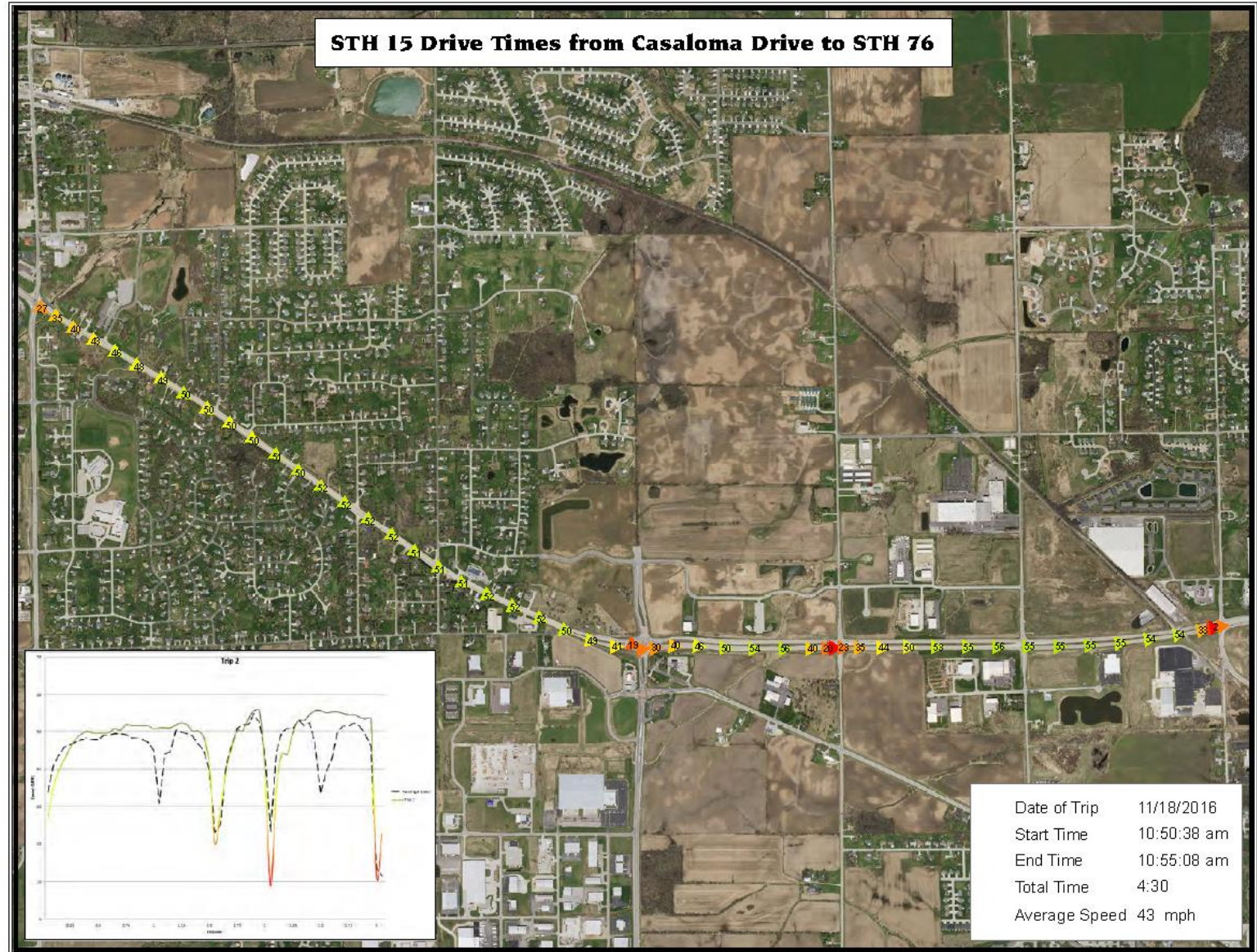
## National Performance Measures Research Data Set (NPMRDS)

Probe data including Cell Phone, Blue Tooth, GPS e.g.  
ATRI, Google, WAYS, HERE etc.

Travel time (minutes) for WI-15

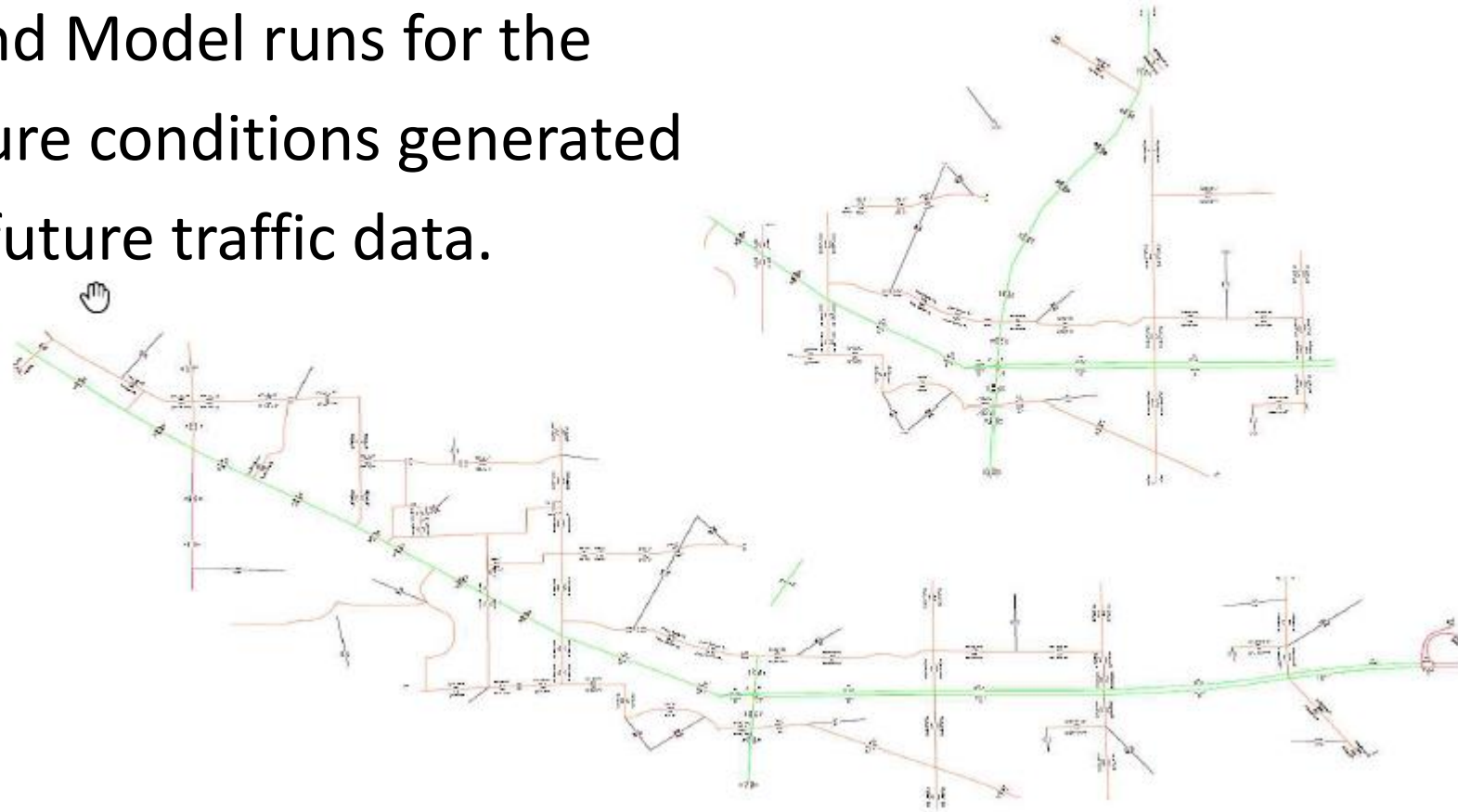
|       | WIS 15 between WIS 76 and I-41 |  |                 |
|-------|--------------------------------|--|-----------------|
|       | NPMRDS (Passenger vehicles)    | NPMRDS (Trucks and passenger vehicles) | NPMRDS (Trucks) |
|       | September 2016                 | September 2016                         | September 2016  |
| 12 AM | 4.24                           | 4.41                                   | 4.63            |
| 1 AM  | 4.71                           | 5.01                                   | 5.42            |
| 2 AM  | 6.66                           | 5.58                                   | 4.74            |
| 3 AM  | 4.16                           | 4.3                                    | 4.56            |
| 4 AM  | 4.38                           | 4.45                                   | 4.89            |
| 5 AM  | 4.52                           | 4.55                                   | 5.01            |
| 6 AM  | 4.67                           | 4.71                                   | 5.11            |
| 7 AM  | 5.02                           | 5.03                                   | 5.01            |
| 8 AM  | 4.95                           | 5.01                                   | 5.6             |
| 9 AM  | 4.84                           | 4.94                                   | 5.31            |
| 10 AM | 5.17                           | 5.16                                   | 5.04            |
| 11 AM | 5.05                           | 5.05                                   | 5.2             |
| 12 PM | 4.99                           | 4.99                                   | 4.99            |
| 1 PM  | 4.96                           | 5.05                                   | 5.5             |
| 2 PM  | 5.12                           | 5.06                                   | 4.97            |
| 3 PM  | 4.92                           | 4.99                                   | 5.25            |
| 4 PM  | 4.89                           | 4.93                                   | 5.15            |
| 5 PM  | 4.95                           | 5.02                                   | 5.34            |
| 6 PM  | 4.66                           | 4.74                                   | 5.11            |
| 7 PM  | 4.68                           | 4.84                                   | 5.33            |
| 8 PM  | 4.65                           | 4.66                                   | 4.67            |
| 9 PM  | 4.4                            | 4.51                                   | 4.86            |
| 10 PM | 4.93                           | 4.85                                   | 4.57            |
| 11 PM | 4.6                            | 4.8                                    | 5.13            |

## Drive Times on WIS 15-From Casaloma Drive to WIS 76

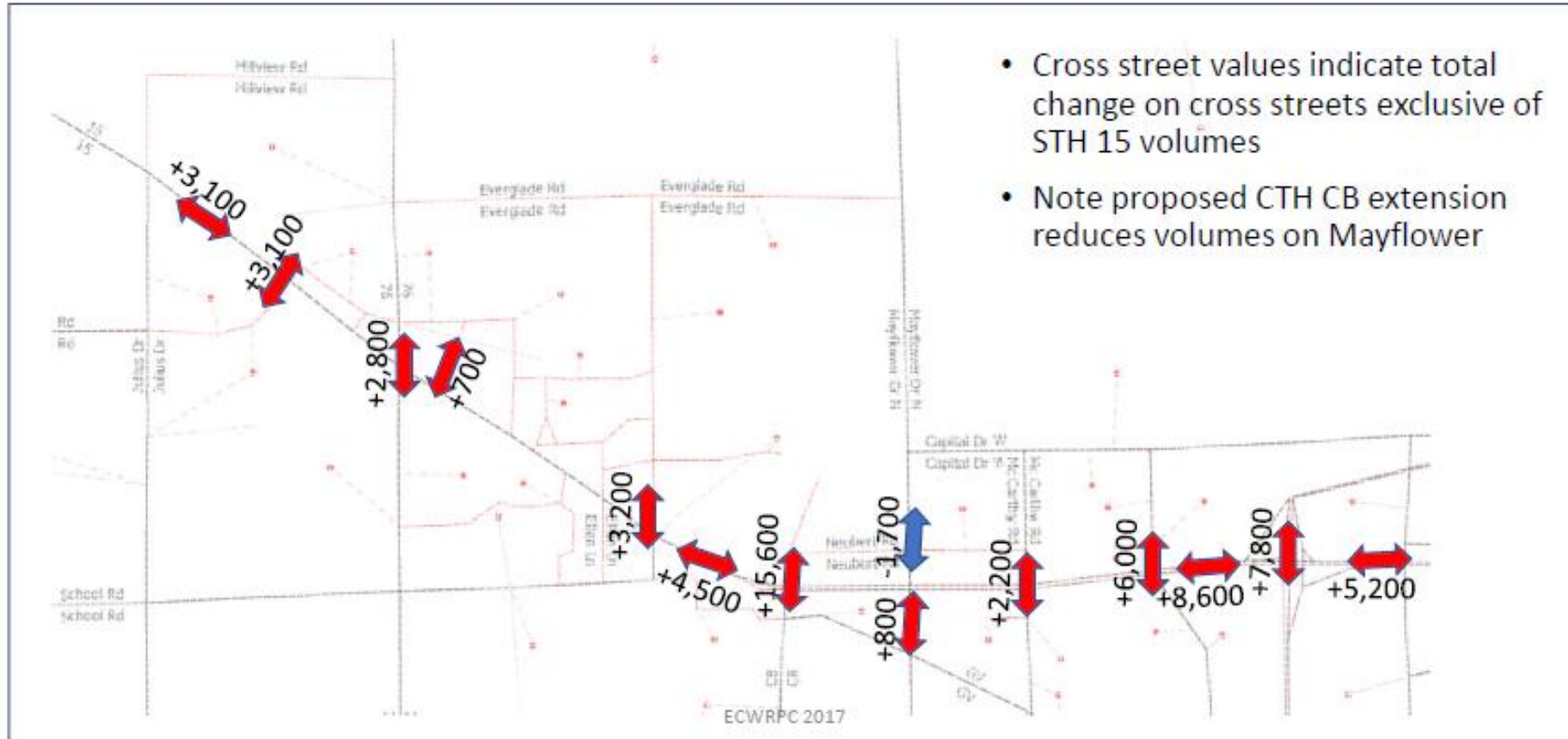


# Existing and Future Traffic Data

Travel Demand Model runs for the base and future conditions generated existing and future traffic data.

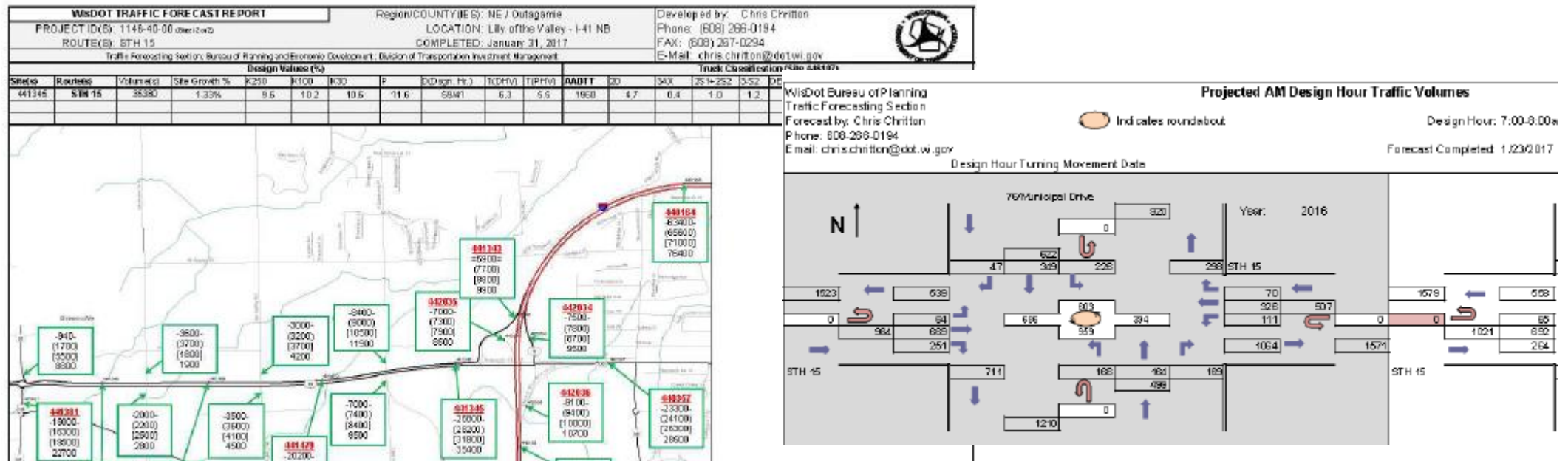


# Projected Traffic Growth



# Projected Traffic Growth

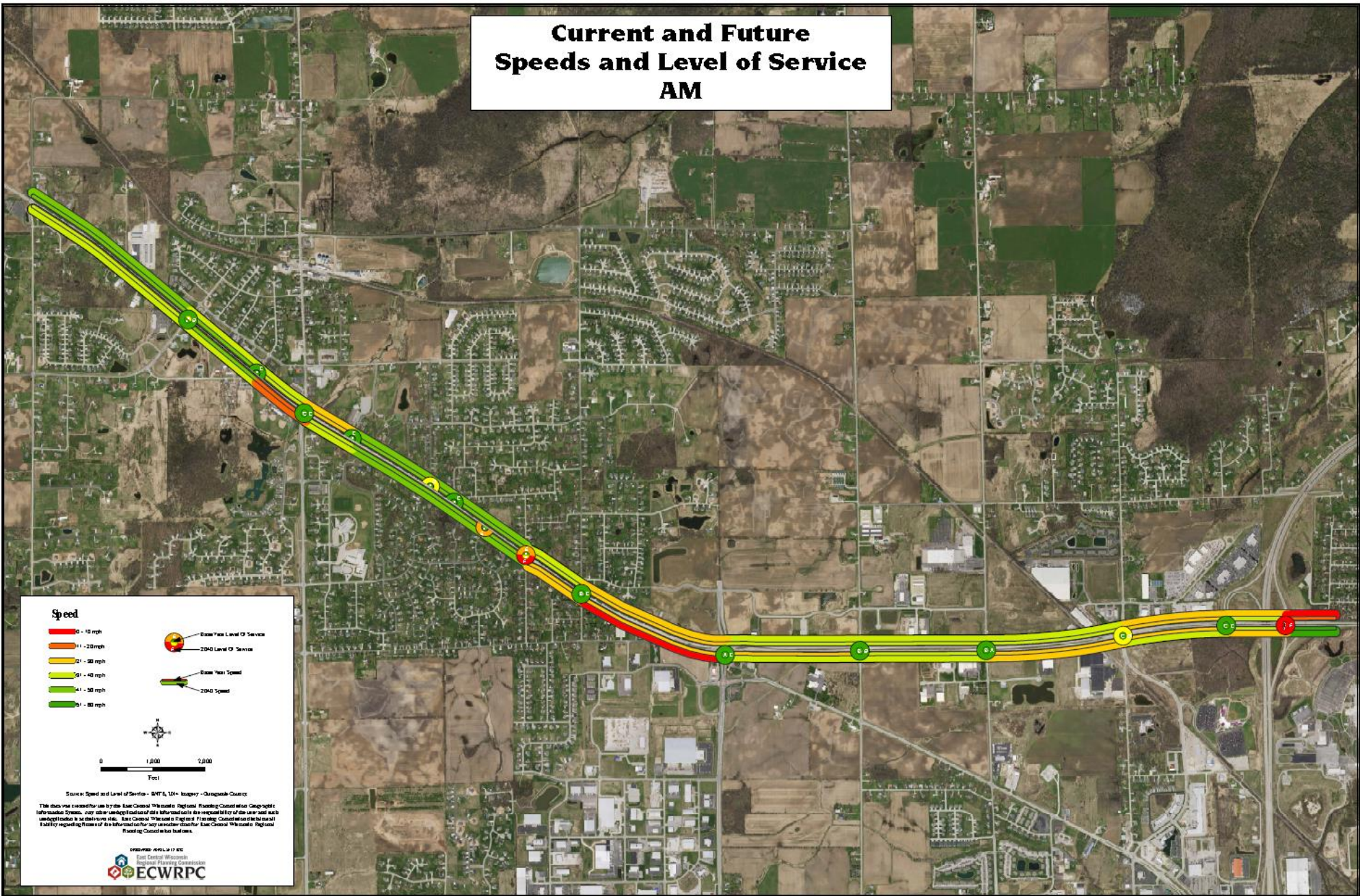
The travel demand model outputs are adjusted using other traffic forecasting tools to provide the final Forecast and turn volumes for analyzing traffic operations.



# Traffic Operations

- WIS 15 intersections are analyzed using existing and future traffic volumes to see how they operate.
- Operations are measured by Levels of Service.
- Level of Service A = free flow → Level of Service F = gridlock

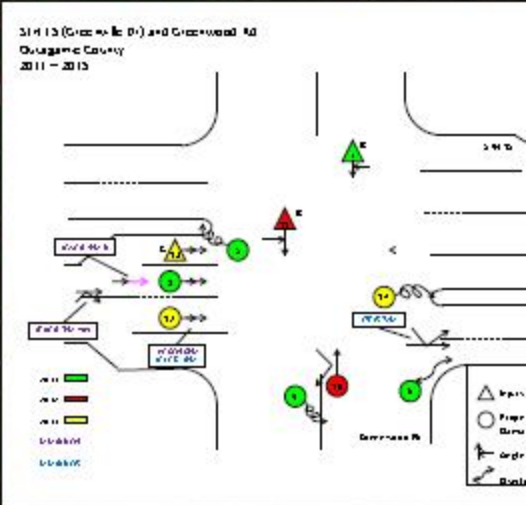
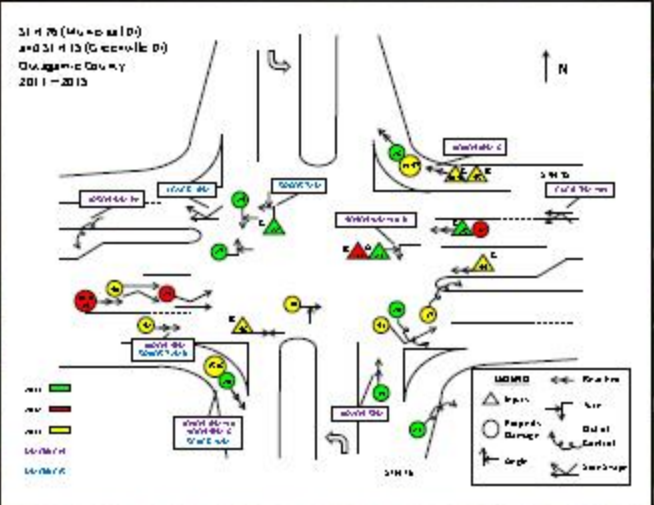
# Current and Future Speeds and Level of Service AM



# Current and Future Speeds and Level of Service PM

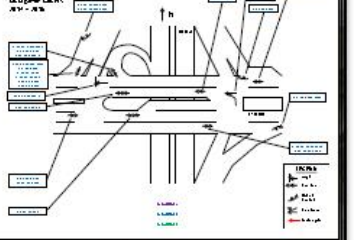
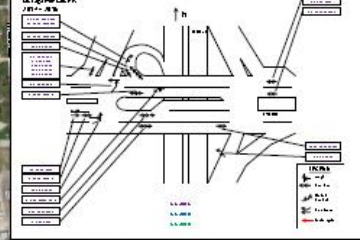
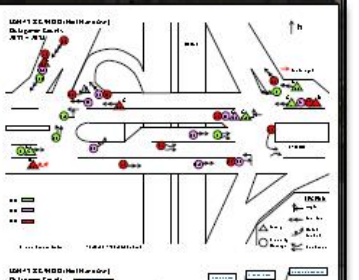
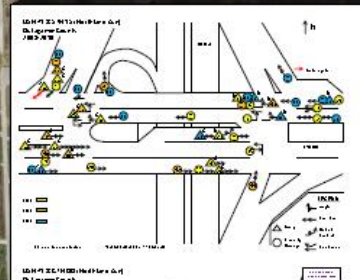
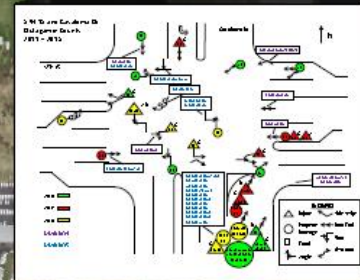
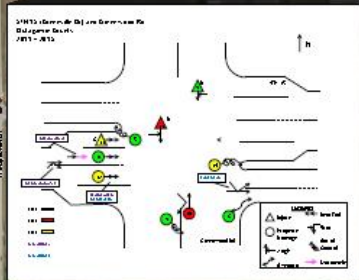
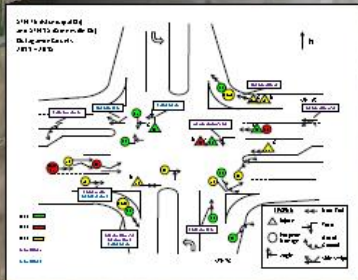


# WIS 15 Crash Diagrams Lily of the Valley Dr - CTH CB





# WIS 15 Crash Diagrams CTH CB - I 41



• CrashLocations2005 - 2016

Source: Crash data from the Wisconsin Department of Transportation, Imagery from Outagamie County 2014.

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