Chicago Metropolitan Agency for Planning

# Chicago Region Highway Safety Analysis – 2008 Update

**Presented February 5, 2008**

**by Parry Frank and Tom Murtha**

**Programming and Operations**

# Highway Safety Analysis

- Update of 2005 analysis
- Collaboration with IDOT and other partners using newly available data
- Response to federal safety initiatives
- This and future data to support regional and state programming and local safety initiatives

# Aspects of Highway Safety

- Traveler Behavior – Human Factors
- Roadway and Roadside Characteristics
- Vehicle Characteristics and Performance
- Environment: Weather, Visibility

# Approaches to Highway Safety

- Reduce Crash Risk
  - Transportation Perspective: per Million VMT or per Million Entering Vehicles
  - Public Health Perspective: per 100,000 people
- Reduce Crash Severity
  - Focus on Fatal and Incapacitating Injury Crashes
- Reduce Exposure to Risk
  - Promote alternatives to automotive trips
  - Promote local, shorter trips

# Regional Impacts

- Primary: Fatalities and Injuries
  - Fatal Crash Every 17 Hours, 50 Minutes
  - Injury Crash Every 9 Minutes, 51 Seconds
- Secondary: Economic Costs of Crashes
  - Property Damage
- Tertiary: Incidents and Delays
  - Crash Every 1 Minute, 46 seconds

# Regional Highway Casualties: 2002 - 2006

| Injury Severity | 2002 | 2006 | % Change |
|---|---|---|---|
| Injury Reported, Not Evident | 38,296 | 29,850 | -22.1% |
| Non-Incapacitating Injuries | 36,453 | 31,997 | -12.2% |
| Incapacitating Injuries | 11,061 | 10,365 | -6.29% |
| Fatalities | 675 | 599 | -11.3% |
| Total Injuries and Fatalities | 86,485 | 72,811 | -15.81% |

# Regional Highway Casualty Rates

| Measure | 2002 | 2006 | % Change |
|---|---|---|---|
| Fatalities per Hundred Million VMT | 1.15 | 1.01 | -12.2% |
| Fatalities per Hundred Thousand Population | 8.12 | 7.05 | -13.2% |
| Non-Fatal Injuries per Hundred Million VMT | 145.58 | 121.52 | -16.6% |
| Non-Fatal Injuries per Hundred Thousand Population | 1,032.39 | 849.86 | -17.7% |

# Regional Highway Crashes: 2002 - 2006

| Most Harmful Event in Crash | 2002 | 2006 | % Change |
|---|---|---|---|
| Property Damage Only Crashes | 250,542 | 236,951 | -5.4% |
| Injury Crash | 58,853 | 51,234 | -12.9% |
| Fatal Crash | 606 | 552 | -8.9% |
| Total Crashes | 310,001 | 288,737 | -6.9% |

# Adopted Strategies

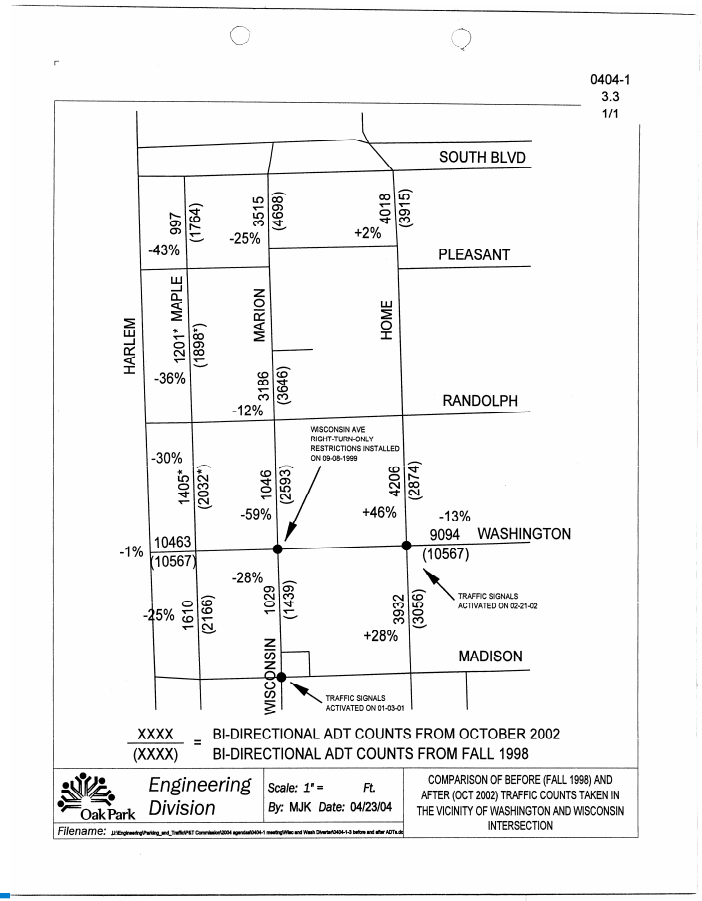
- Section 3.3.2.2 of Updated 2030 RTP
  - Information Systems
  - Highway Rail Crossing Safety
  - Intersection Safety (e.g. Signal Conspicuity, Red-Light Cameras, Sight Distances, Design Innovations)
  - Increase Large Truck Safety
  - Reduce Roadway Departure: Forgiving Design on High-Speed Facilities, Maintain Low Operating Speeds in Urban/Suburban Settings
  - Improve Safety of Vulnerable Users
  - Hazard Elimination
  - Special Attention to Children, Seniors, and People with Disabilities

# More Adopted Strategies

- Section 5.4 of Updated 2030 RTP: Pedestrian Safety
  - Control Excessive Speeds
  - Sidewalks
  - Landscaped Medians
  - Reduce Exposure by Minimizing Crossing Distances
  - Appropriately Timed Signals
  - Illumination
  - Hazard Elimination
  - Accommodate Bicycles with Bicycle Facilities
  - Accessible Public Rights of Way

# Importance of Community Approach

- Community-wide Crash Data
- Local Traffic Patterns
- Community Needs and Concerns



# Importance of Community Approach

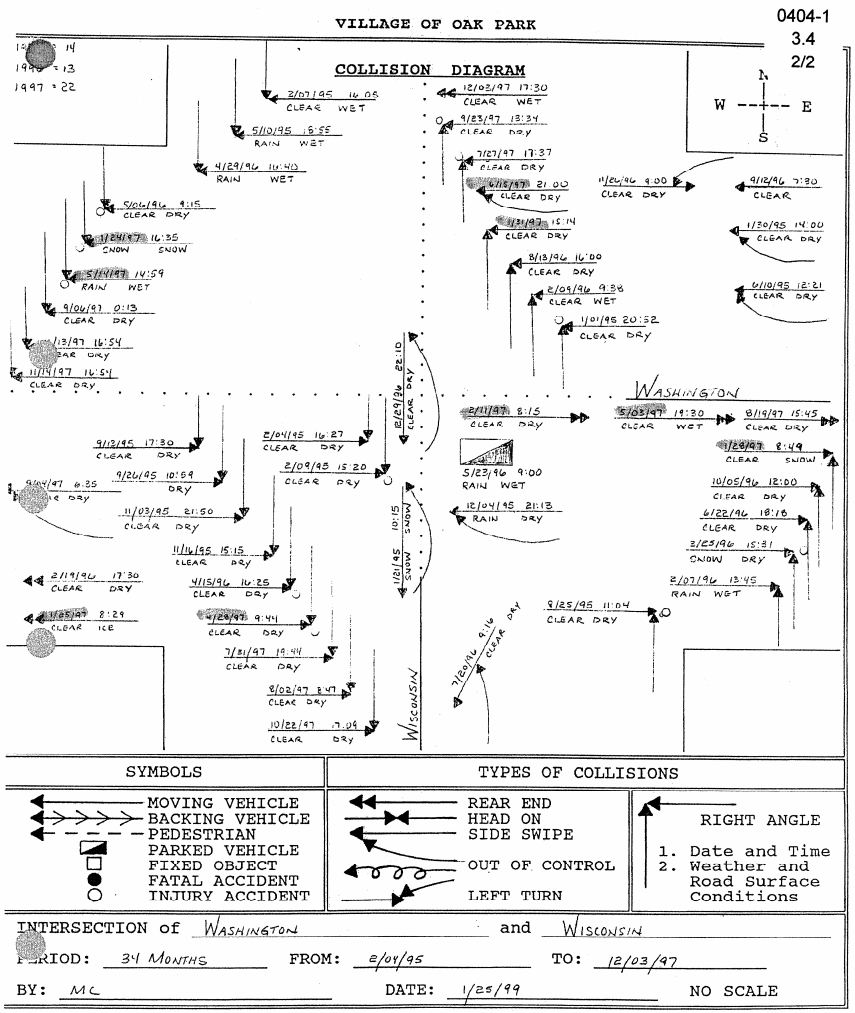
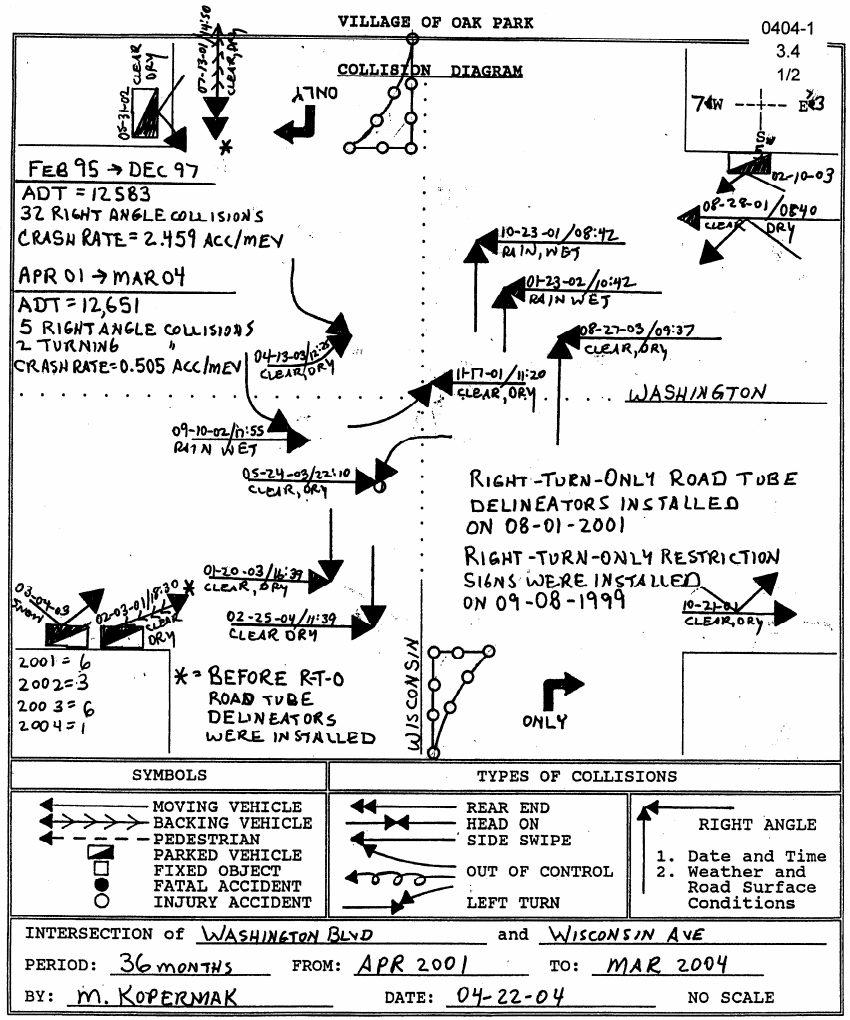



FIGURE 1 2/2




**34 Months before Improvement: 49 Crashes**

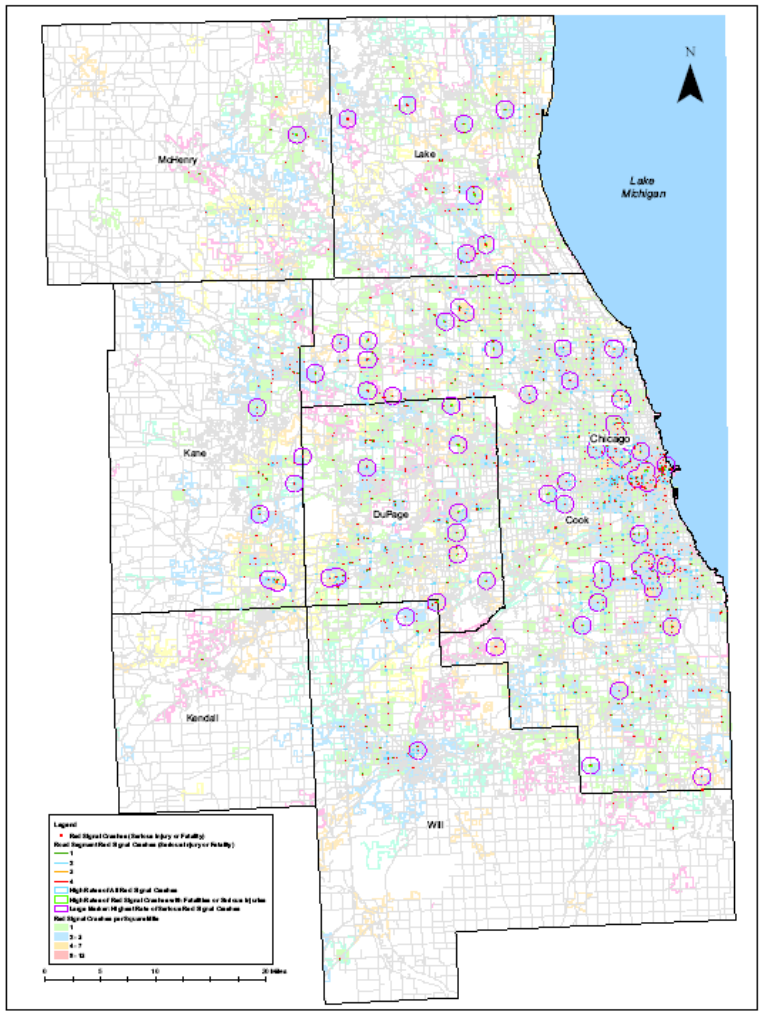
**36 Months after Improvement: 16 Crashes**

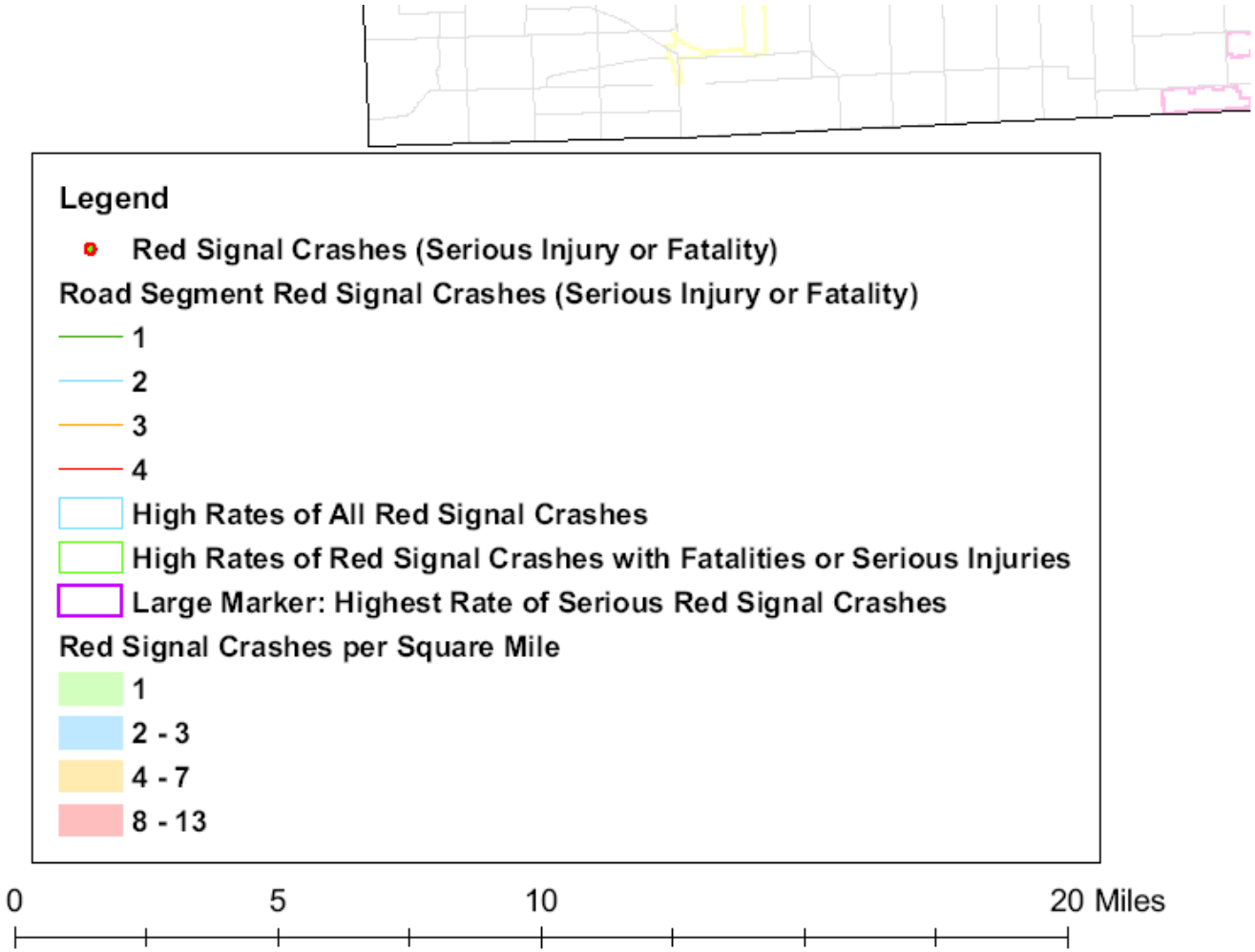
# Importance of Community Approach

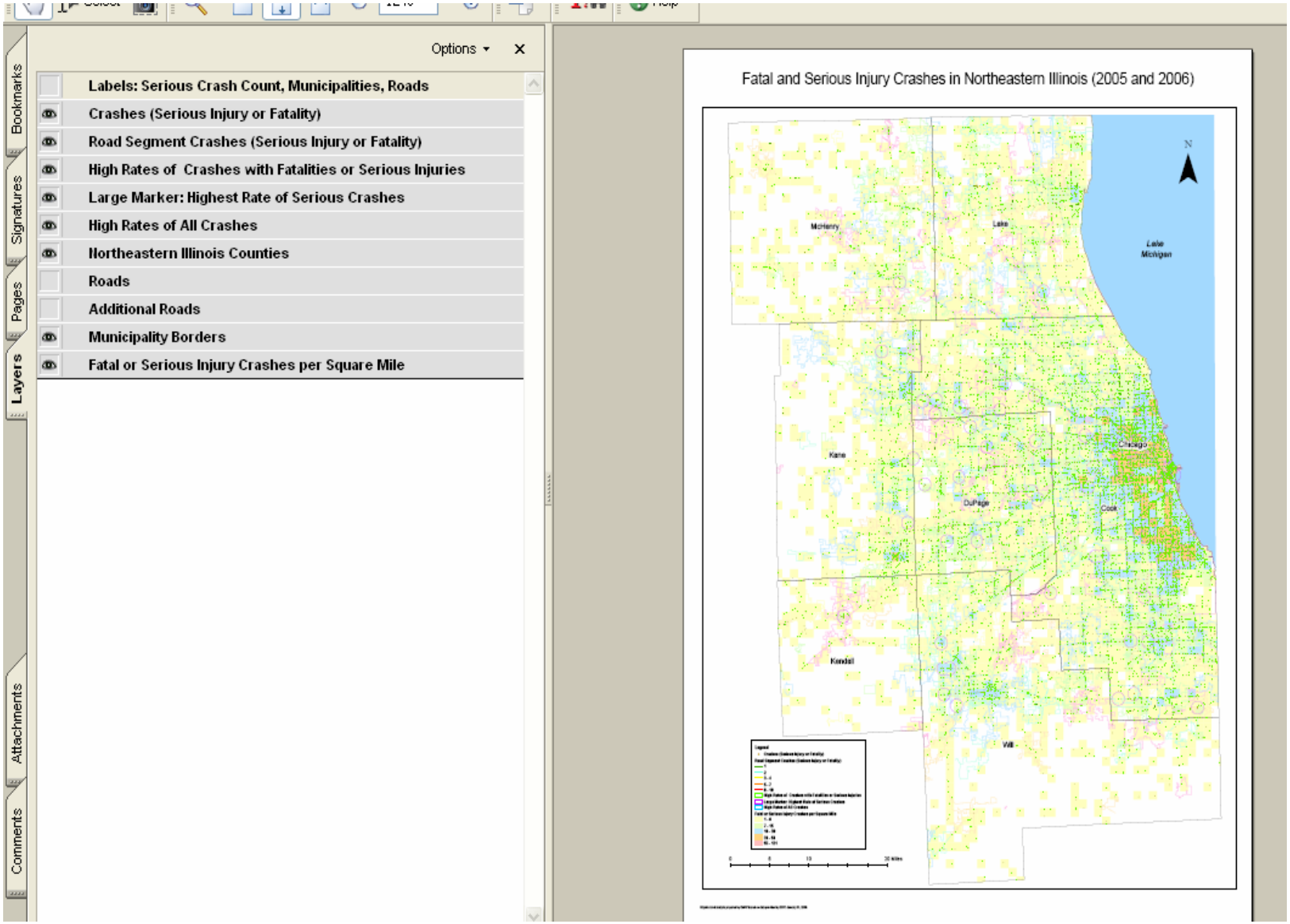
Our Support:

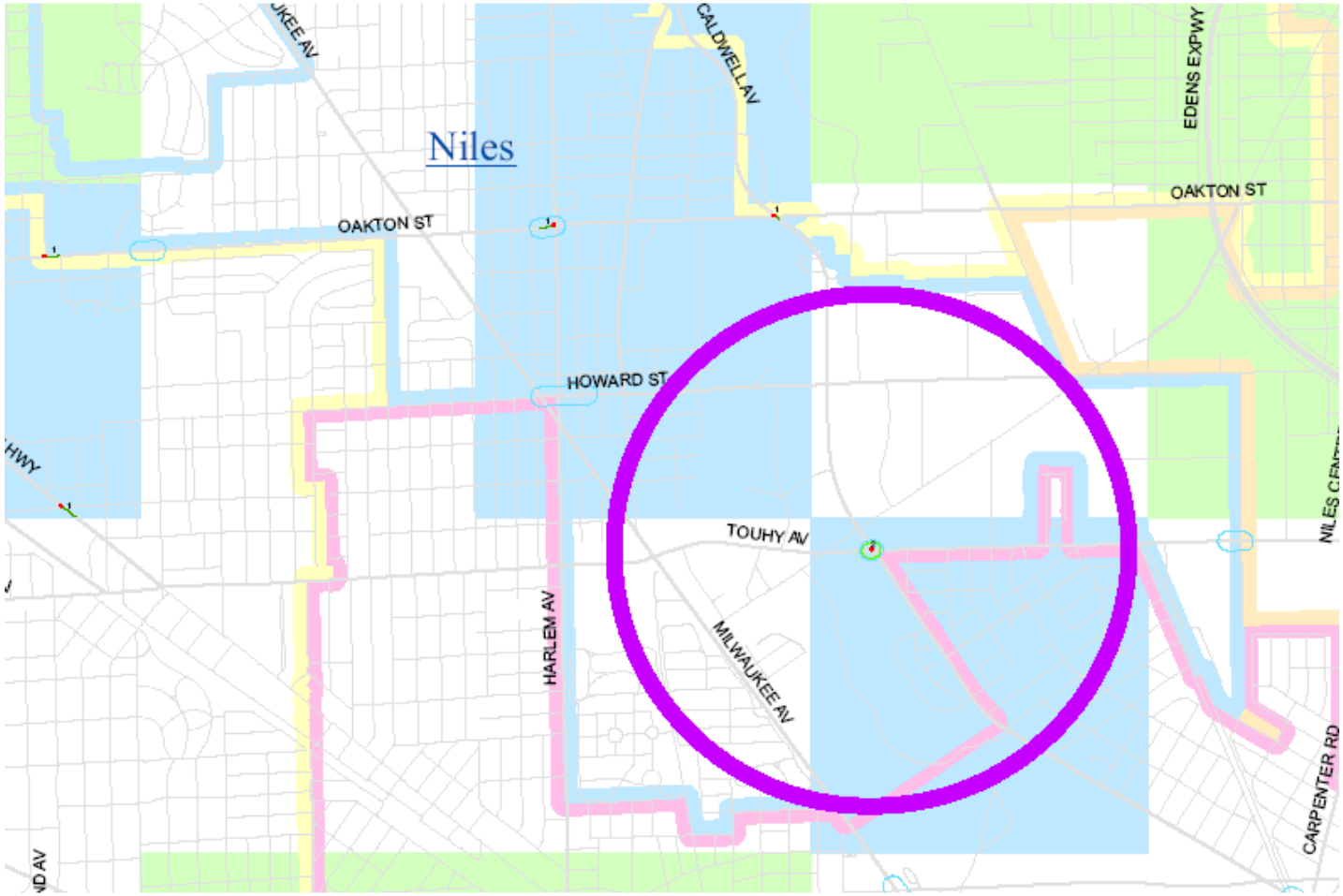
- State and Regional Data Collection
- State and Regional Data Analysis
- Safety Program Funding

Crashes Involving Disregarding Traffic Signal in Northeastern Illinois
Resulting in Fatalities or Serious Injuries during 2005 and 2006

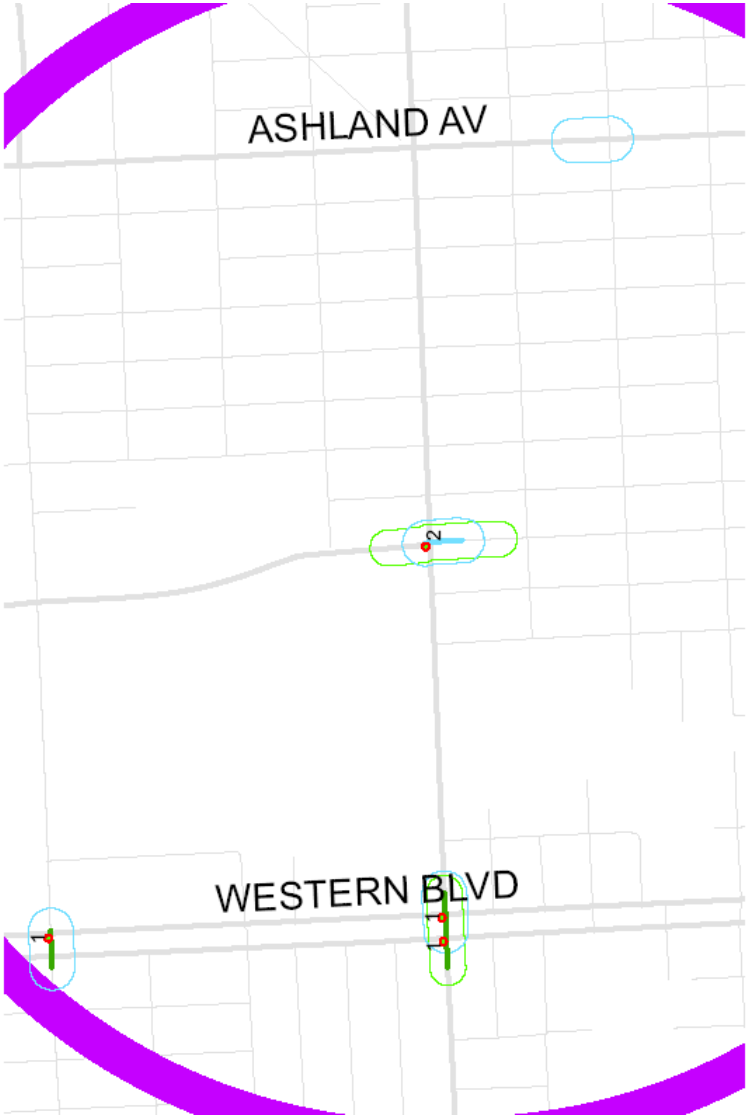


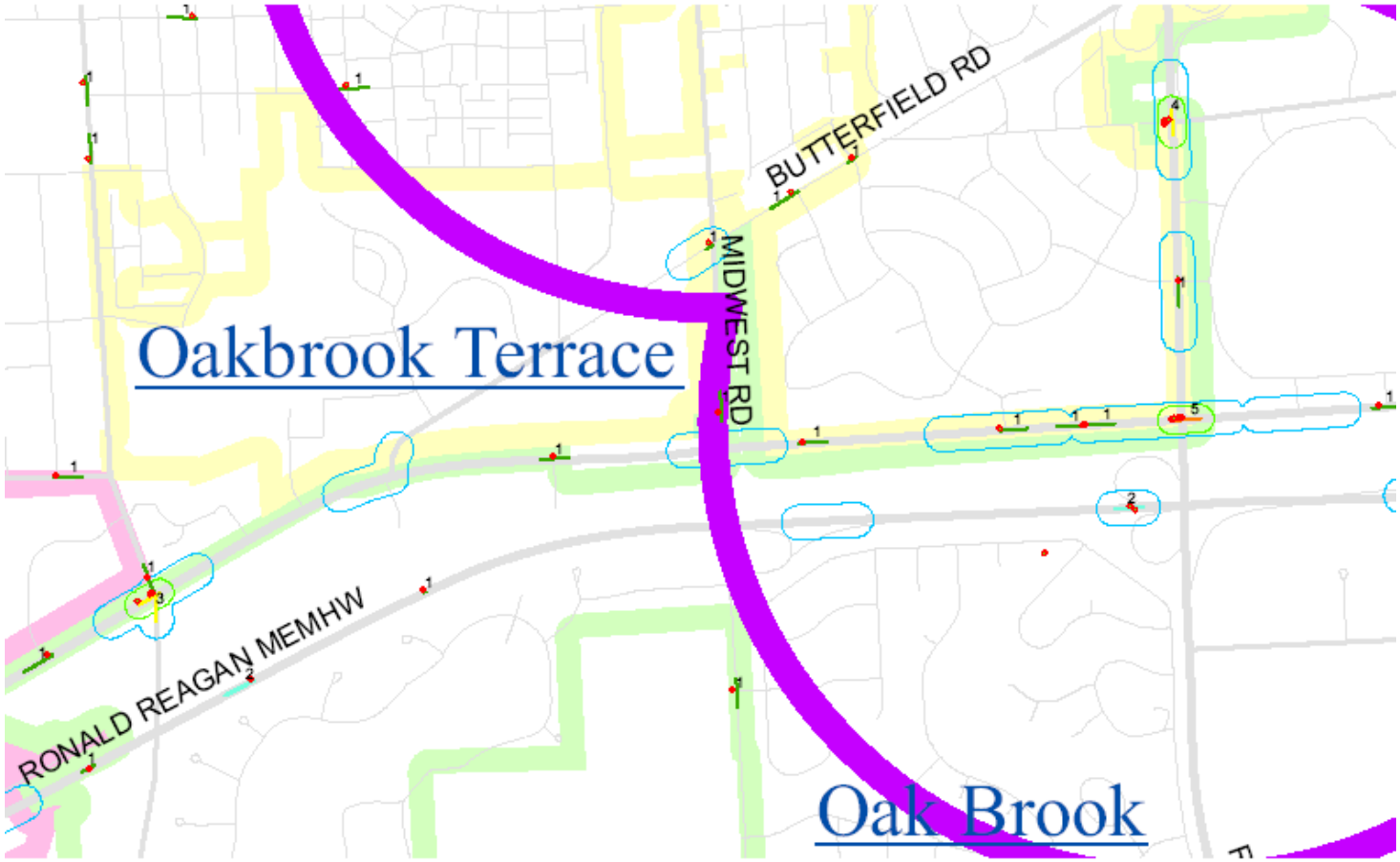

Legend
Red Signal Crashes (Serious Injury or Fatality)
Road Segment Red Signal Crashes (Serious Injury or Fatality)
1
2
3
4
High Rates of All Red Signal Crashes
High Rates of Red Signal Crashes with Fatalities or Serious Injuries
Large Marker: Highest Rate of Serious Red Signal Crashes
Red Signal Crashes per Square Mile
1
2 - 3
4 - 7
8 - 13
0
5
10
20 Miles


Options
Bookmarks
Signatures
Pages
Layers
Attachments
Comments
Labels: Serious Crash Count, Municipalities, Roads
Crashes (Serious Injury or Fatality)
Road Segment Crashes (Serious Injury or Fatality)
High Rates of Crashes with Fatalities or Serious Injuries
Large Marker: Highest Rate of Serious Crashes
High Rates of All Crashes
Northeastern Illinois Counties
Roads
Additional Roads
Municipality Borders
Fatal or Serious Injury Crashes per Square Mile
Fatal and Serious Injury Crashes in Northeastern Illinois (2005 and 2006)
N
McHenry
Lake
Lake Michigan
Kane
DuPage
Cook
Chicago
Kendall
Will


Niles
OAKTON ST
OAKTON ST
CALDWELL AV
EDENS EXPWY
HOWARD ST
TOUHY AV
HARLEM AV
MILWAUKEE AV
CARPENTER RD


2


WESTERN BLVD
ASHLAND AV
1
1
2


BUTTERFIELD RD
MIDWEST RD
Oakbrook Terrace
RONALD REAGAN MEMHW
Oak Brook

# Each crash map tracks a certain type of crash:

- Late-Night
- Speeding
- Trucks and Semi Trailers
- Head-On
- Sideswipe-Same Direction
- Sideswipe-Opposite Direction
- Angle Crashes.
- Red Light Running
- Over-Turned Vehicle
- Motorcycle
- Fixed Object
- Parked Vehicles

# Possible Funding Opportunities

- The IDOT Bureau of Safety Engineering is requesting projects for the Highway Safety Improvement Program (HSIP). Funding is specifically available for local roads and streets. In order to qualify for these funds an analysis of the location needs to be preformed that will include a cost-benefit calculation for the project. The projects need to be submitted by March 1, 2008.

# CMAP Highway Safety Analysis - 2008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Thank You