

<http://transportation.ky.gov/US68DCD/>

US 68 (Harrodsburg Road) Widening Project

SASHTO Conference

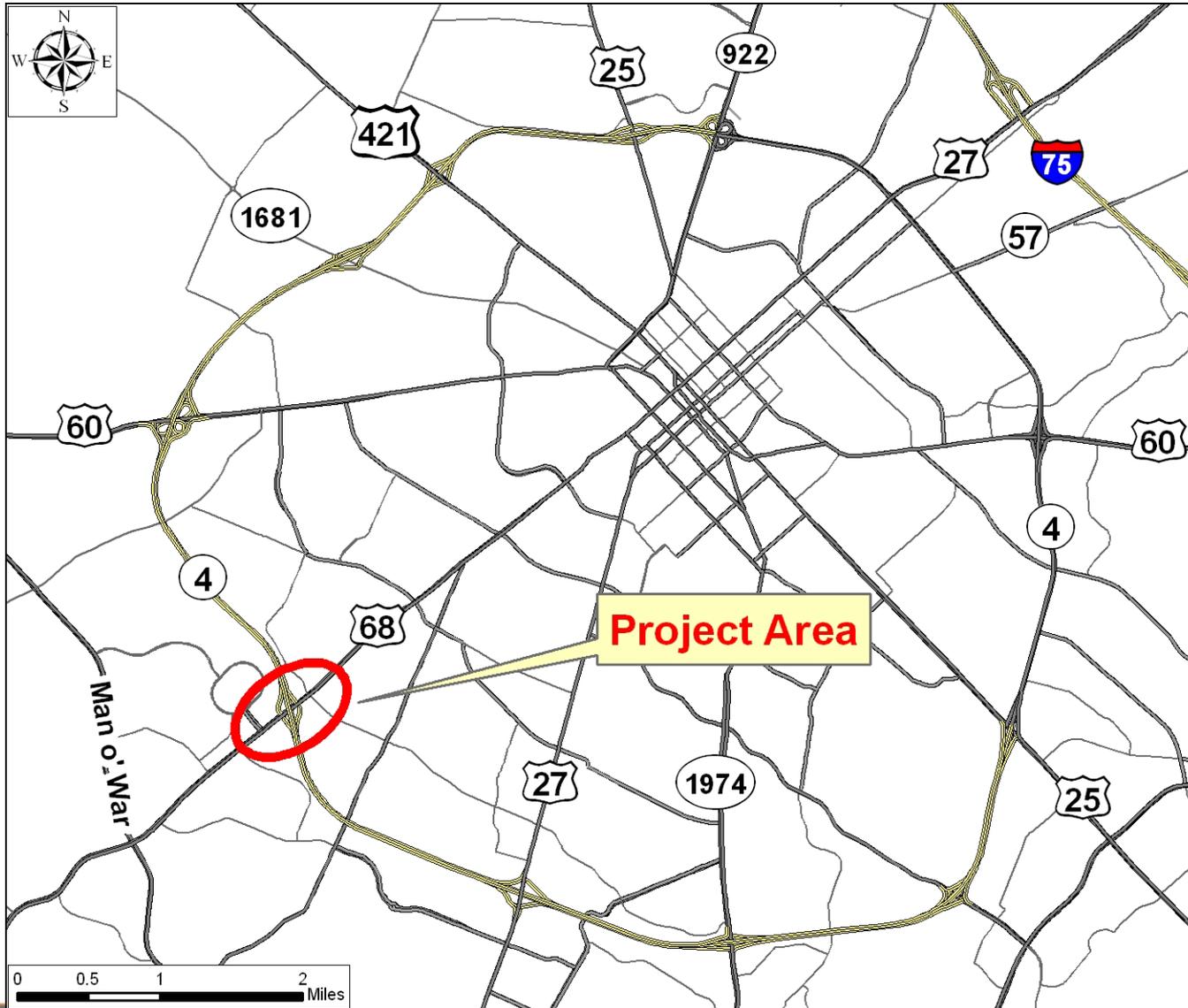
August 23, 2011



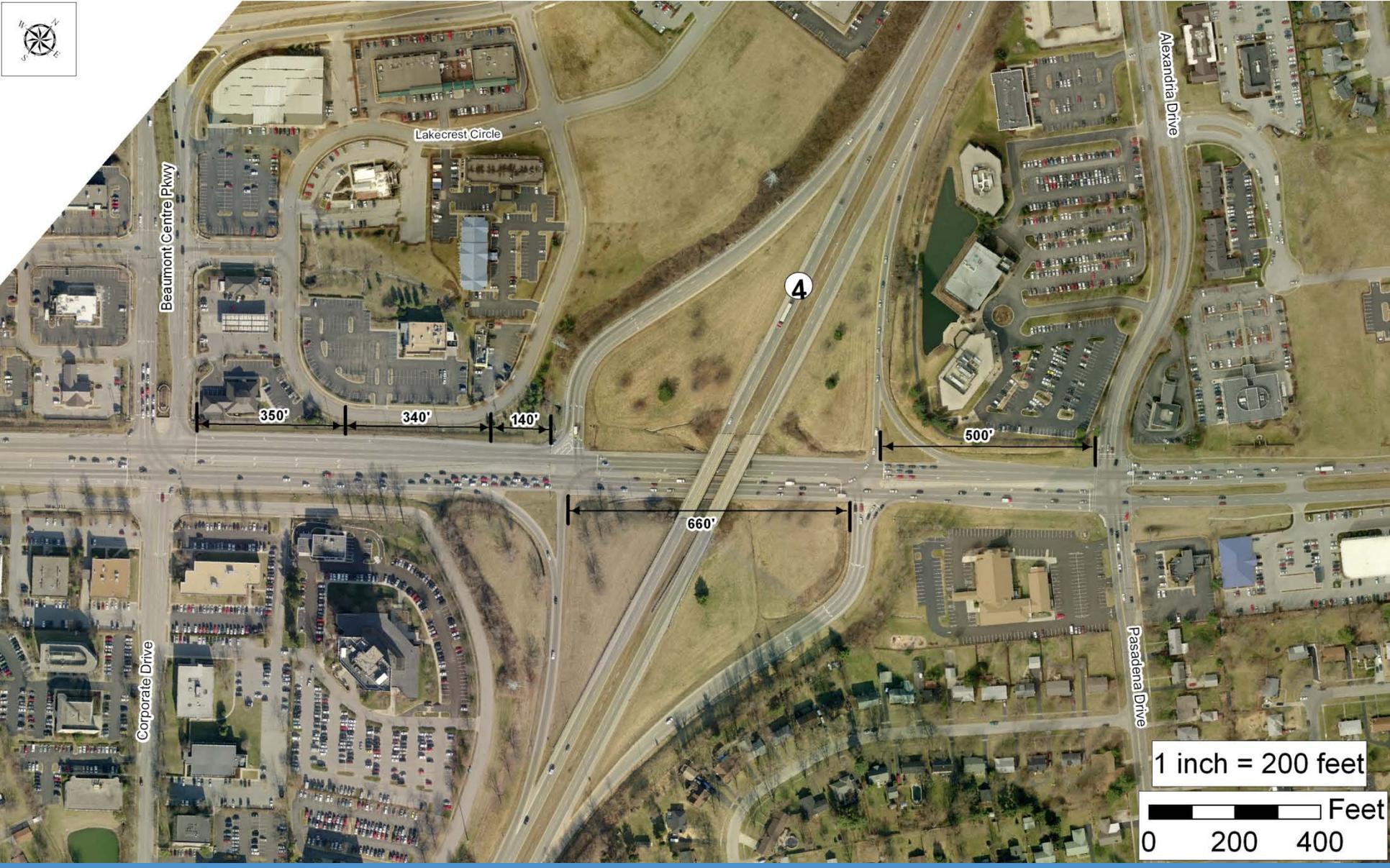
Discussion Items

- Kentucky's First
Double Crossover Diamond Interchange
 - Project Purpose and Need
 - Existing Issues
 - Alternatives
 - Schedule
 - Preliminary Lessons Learned

Project Location

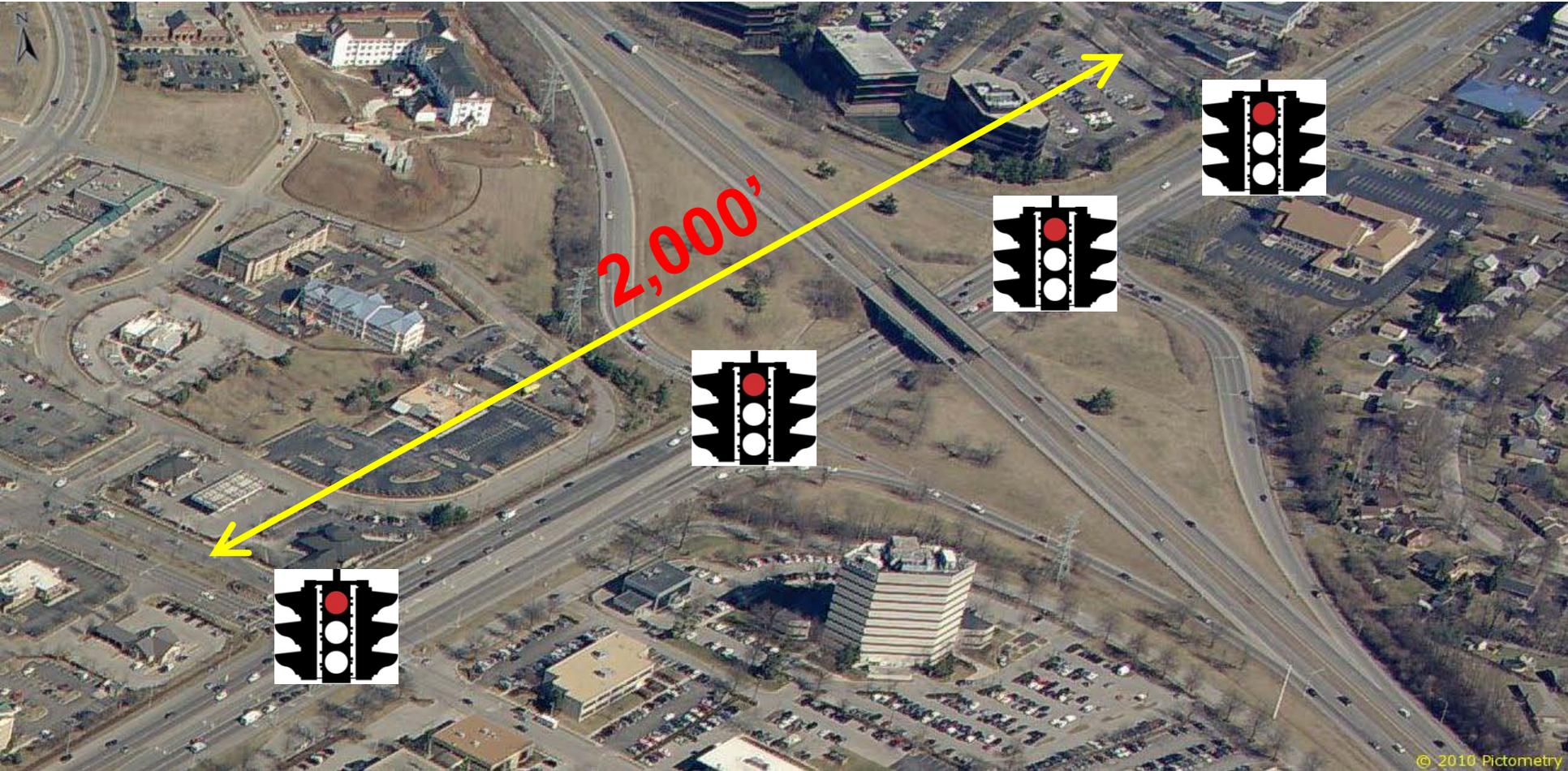


Project Location



Project Corridor

To
Lexington



2,000'



© 2010 Pictometry

To Man o'
War Blvd.



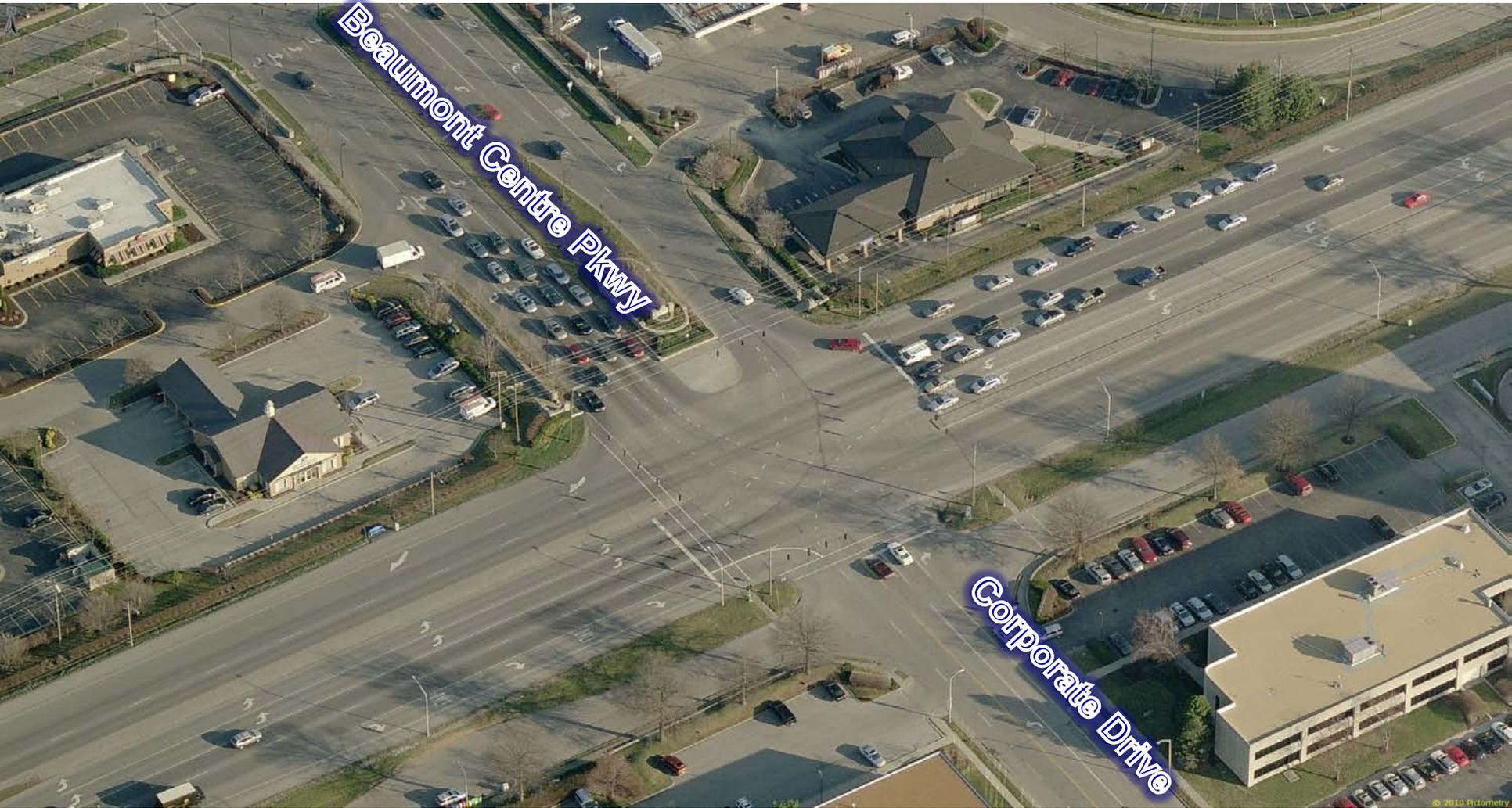
Project Summary

- Purpose of the project is to “increase capacity/reduce congestion” on Harrodsburg Road between Corporate Drive and Pasadena Drive
- Not intended to result in a permanent solution
- **With limited funding, what can we do to improve the situation?**

New Circle Road Bridge



West End

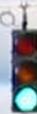


East End



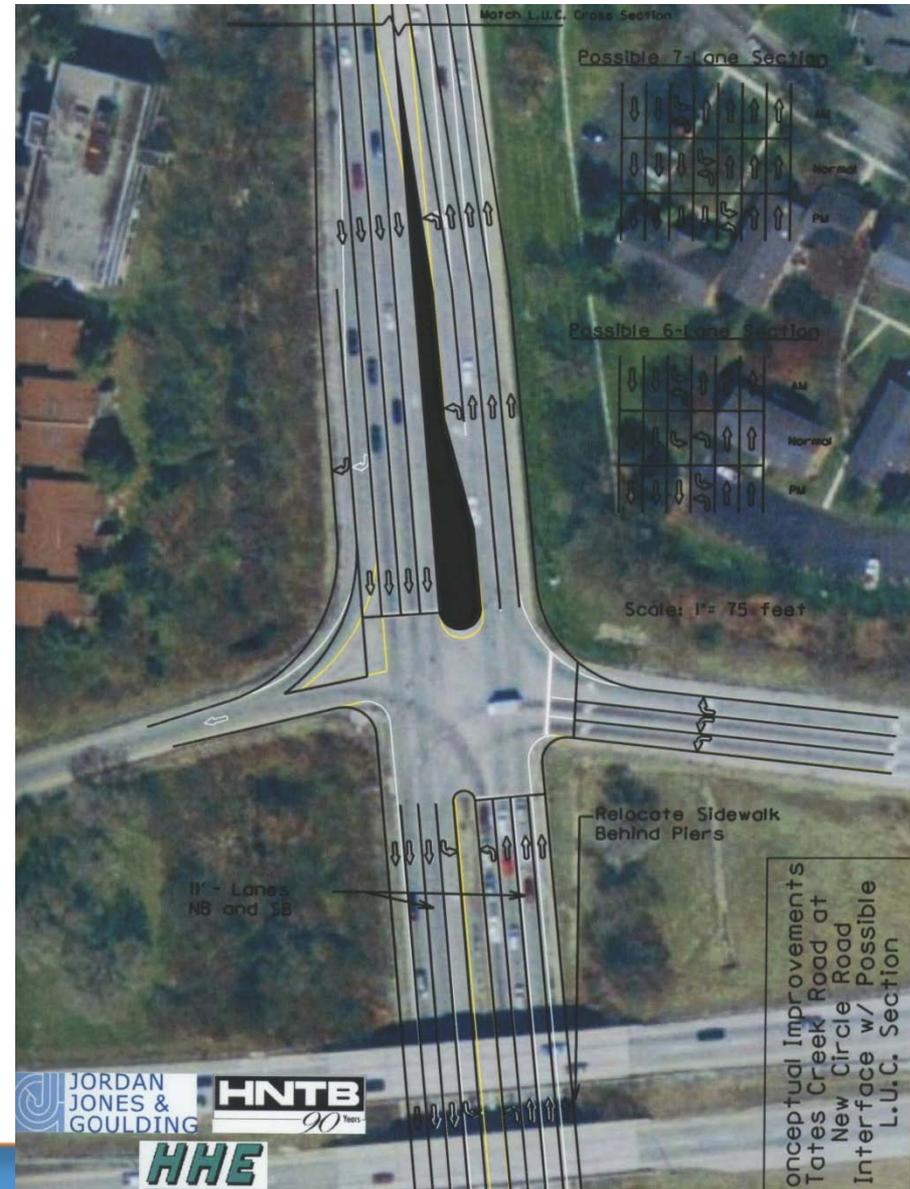


DO NOT
BLOCK
INTERSECTION



2004 Congestion Management Study

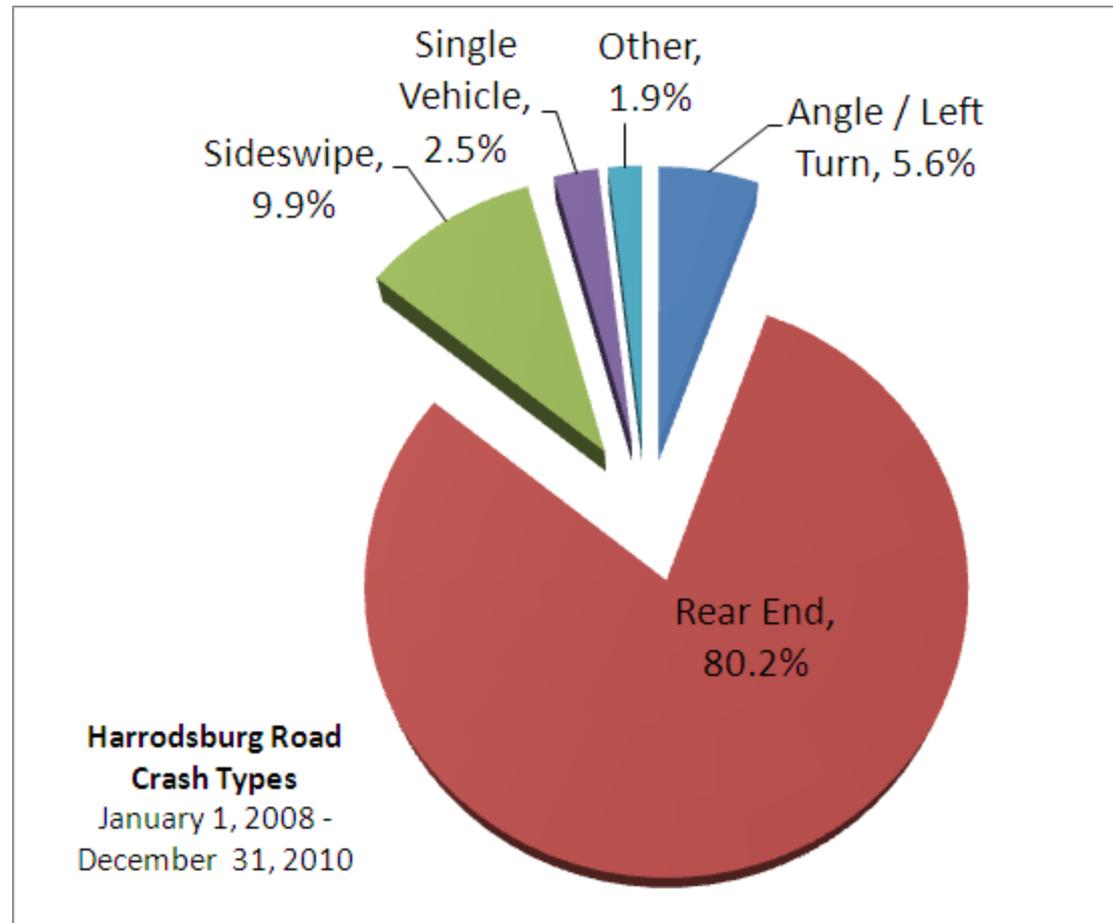
- Recommendation
 - One additional through lane in each direction under the New Circle Road bridge



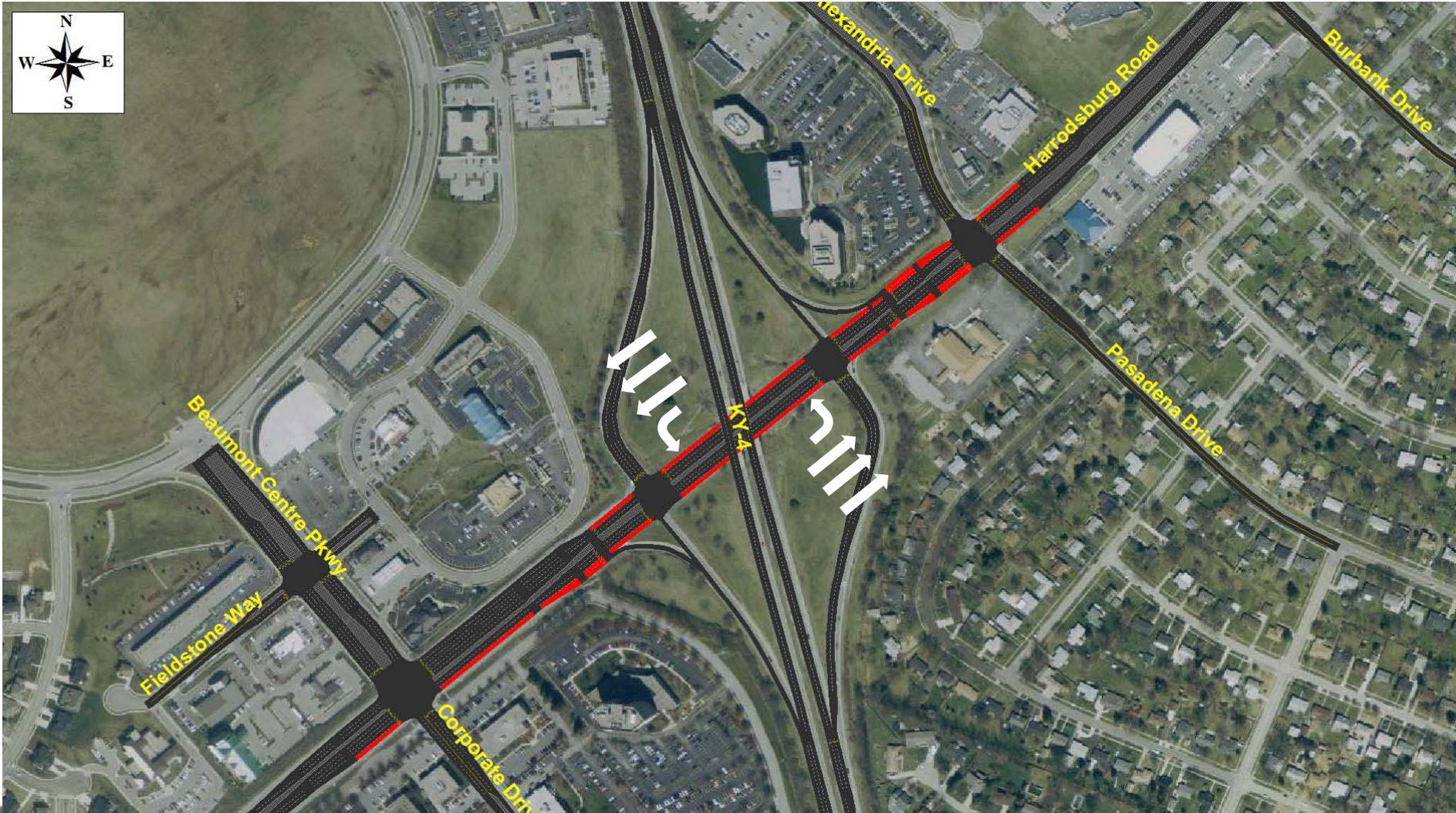
Crash History

January 1, 2008 – December 31, 2010

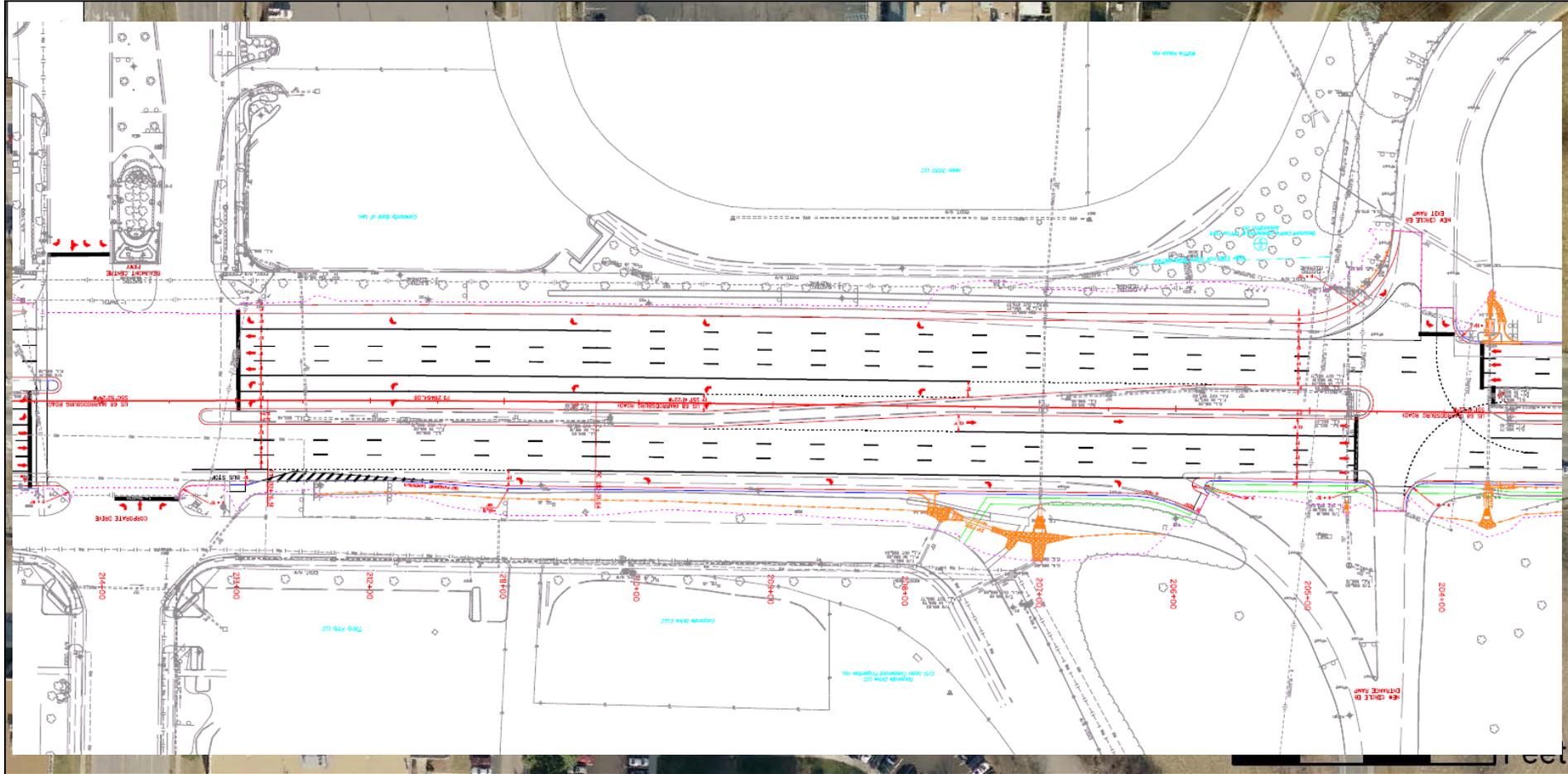
- 484 Reported crashes
 - 388 rear end crashes (80%)
 - 48 Sideswipe crashes (10%)
 - 90 injury crashes (19%)



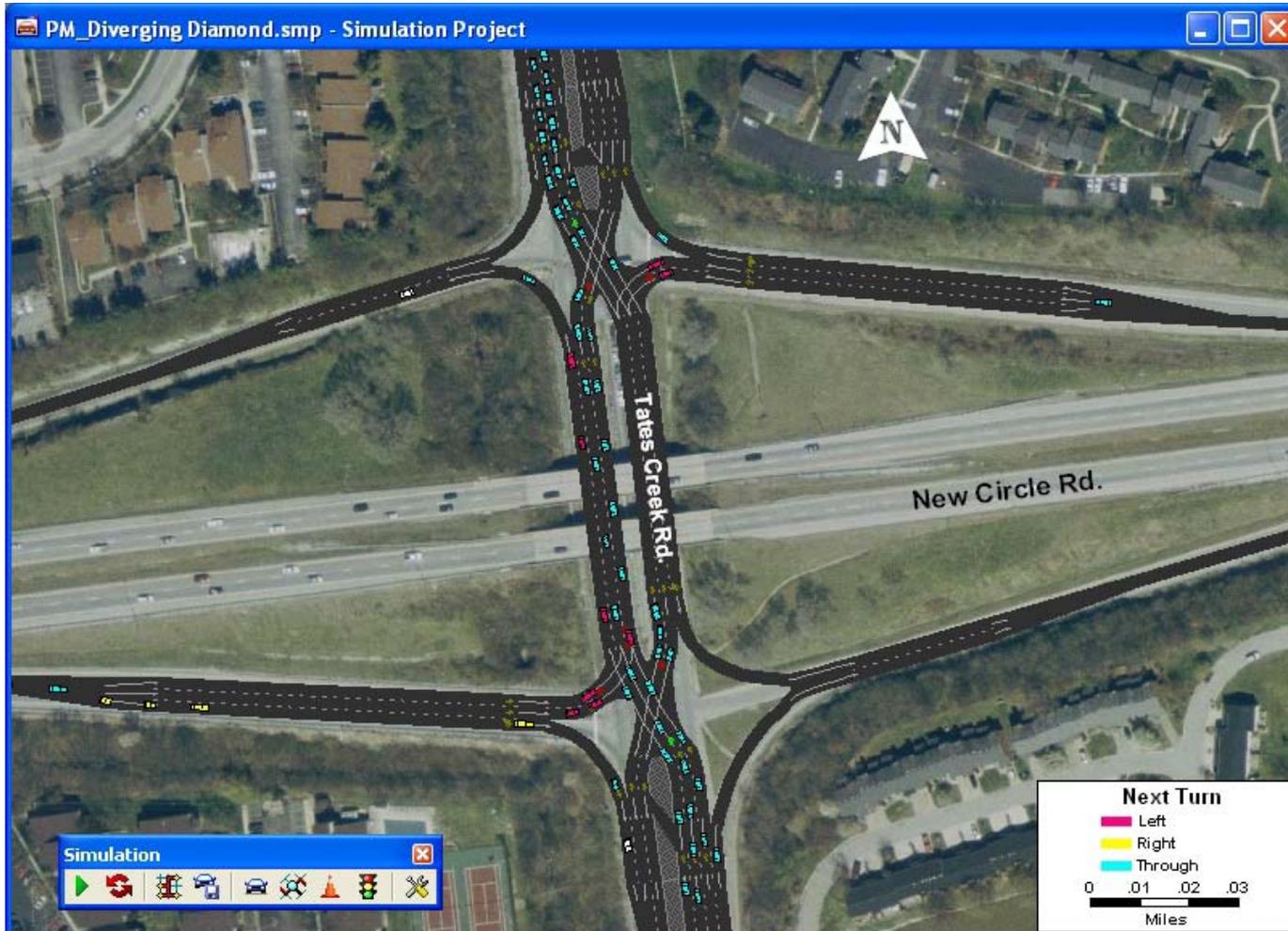
Three Through Lane Alternative



Weaving Condition



2006 CMS: Double Crossover Diamond Tates Creek Rd. at New Circle Rd.



- Increased capacity 15% - 25%
- Delay reduced by as much as 65%

I-44 at SR 13, Springfield, MO



- 2008 ADT on SR 13 was 28,500 vehicles per day

[Source: http://www.springfieldmo.gov/traffic/counts.html](http://www.springfieldmo.gov/traffic/counts.html)

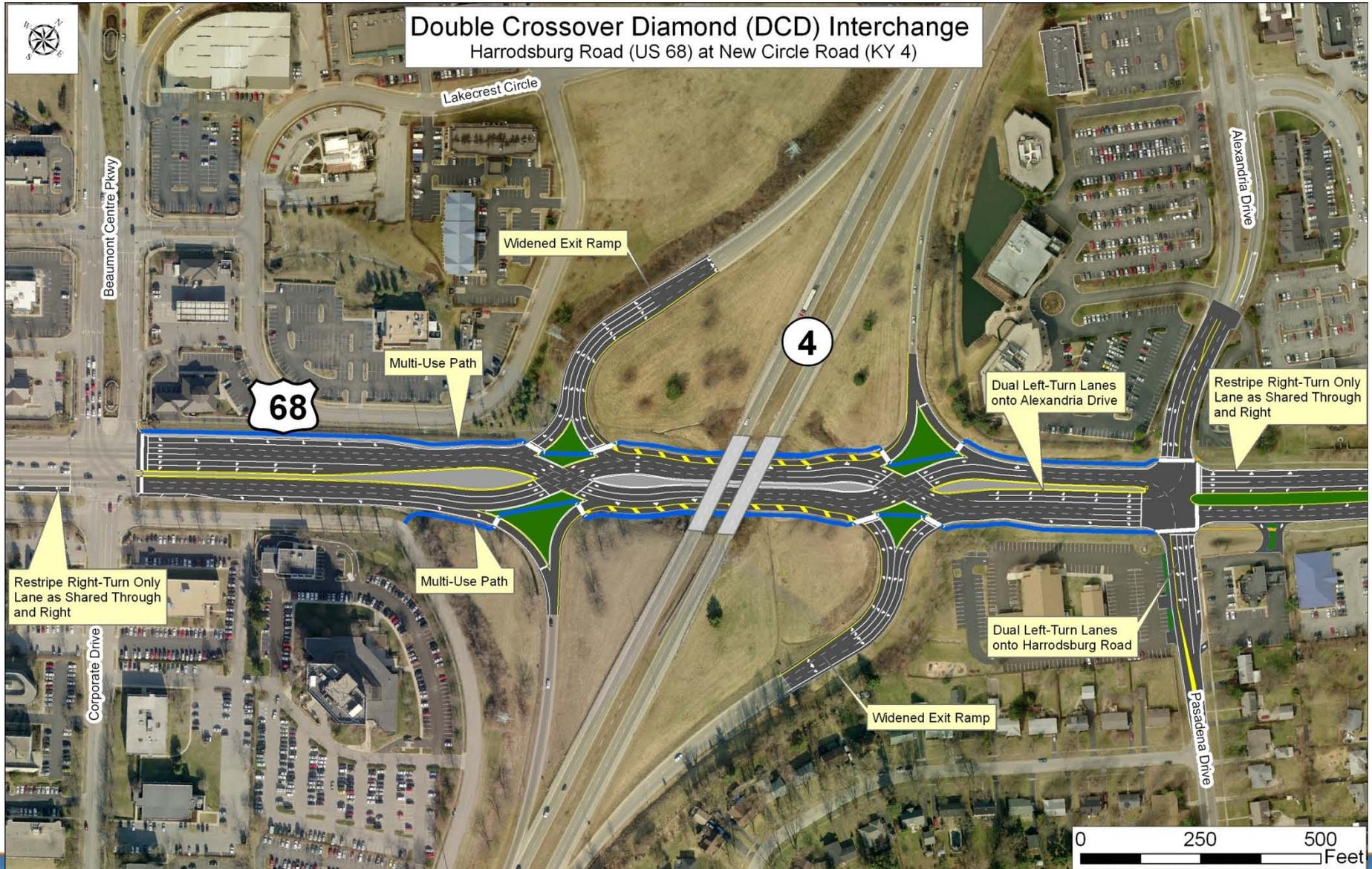
I-44 at SR 13, Springfield, MO

- Opened 6/21/09
- Cost: \$2.9M
- Pedestrian route located in median
- Crashes decreased by 60% from 2008
- 2 others have since opened in Missouri



Source: http://www.usatoday.com/news/nation/2010-01-27-diverging-diamond-interchange_N.htm

The Solution



DCD Signal Phasing

Phase 1

Inbound Harrodsburg Rd. and outbound ramps



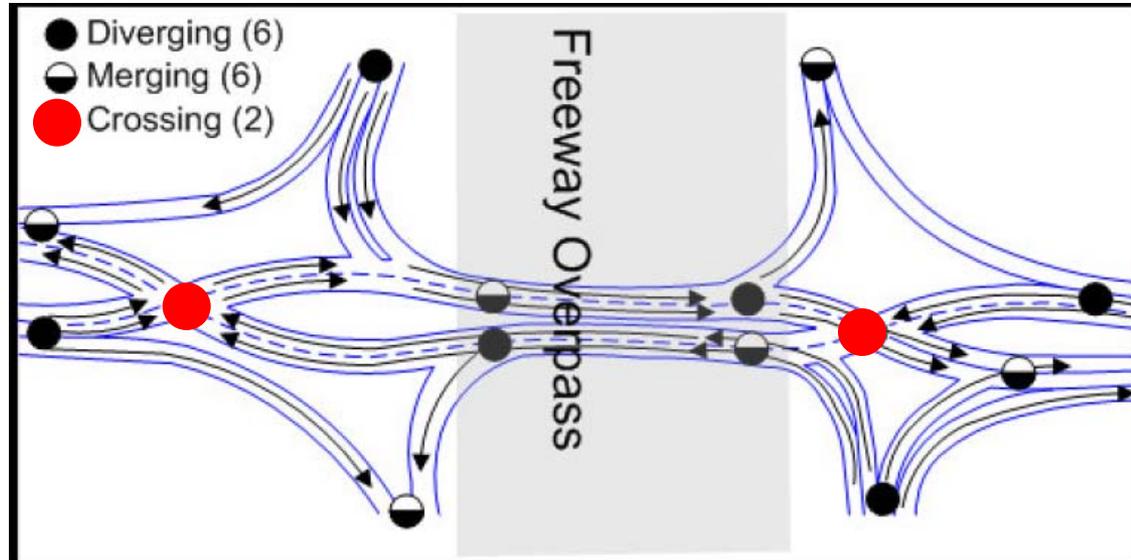
Phase 2

Outbound Harrodsburg Rd. and inbound ramps

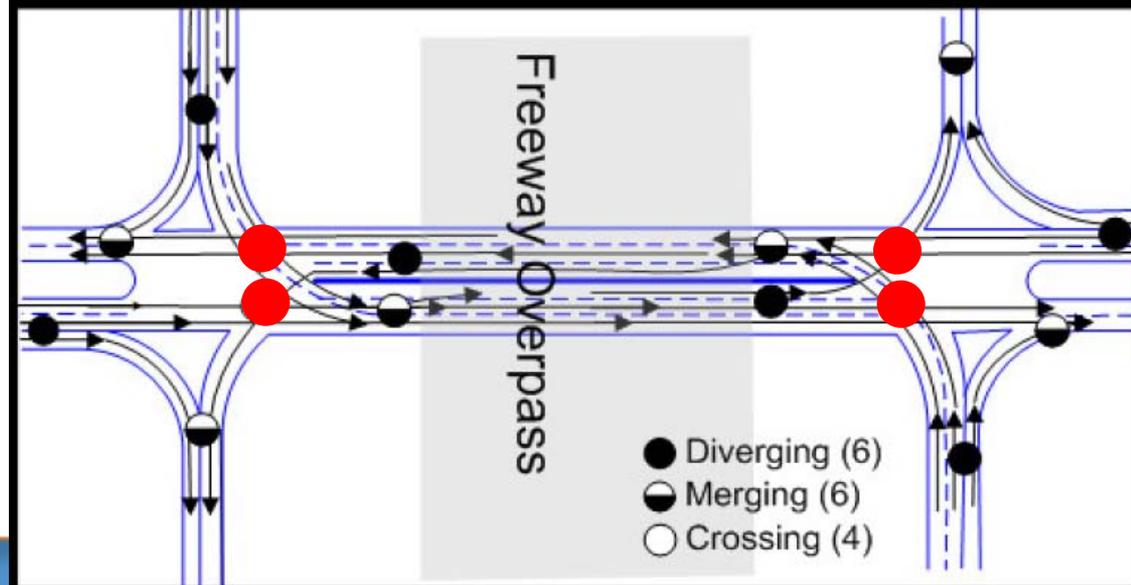


Potential Conflict Points

- DCD
 - 2 crossing conflict points



- Conventional
 - 4 crossing conflict points



Morning Peak Hour Simulation

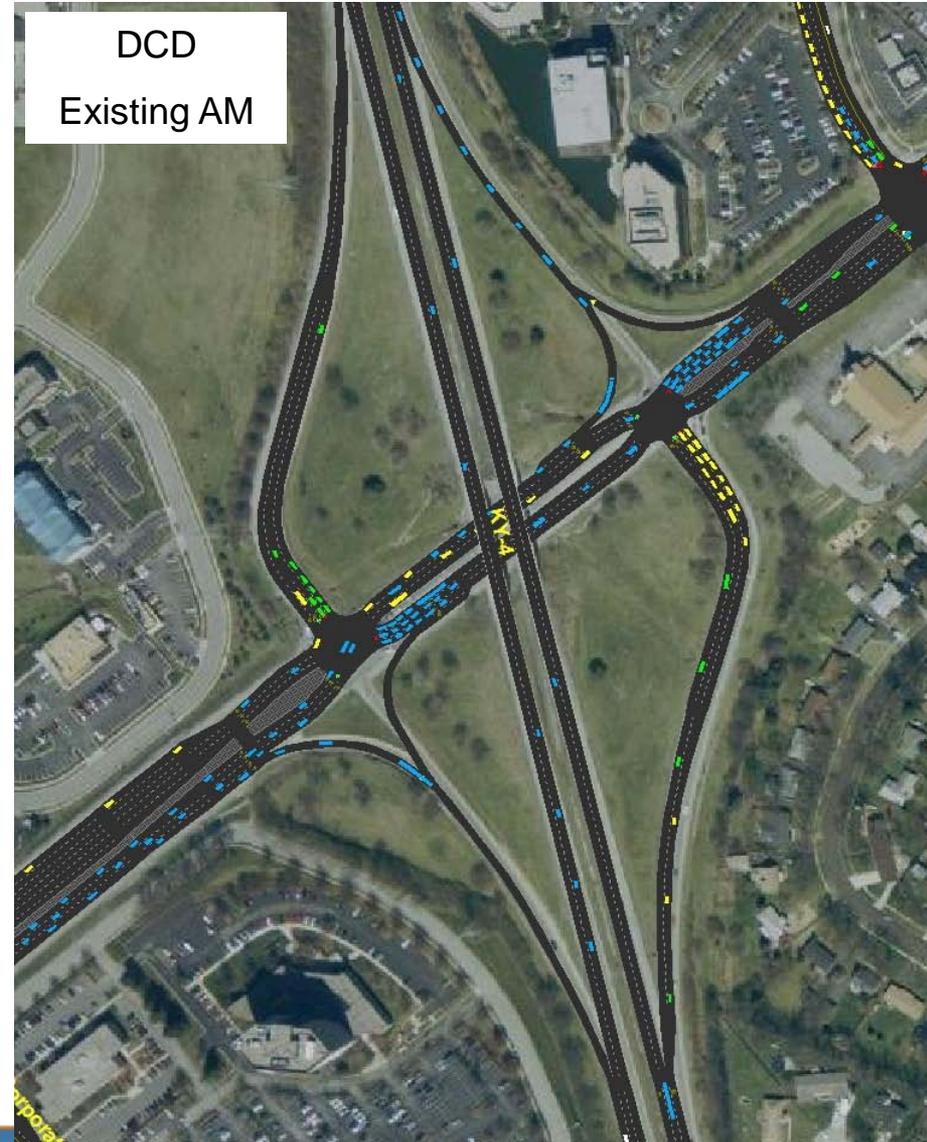
Existing
(2007)

Existing AM

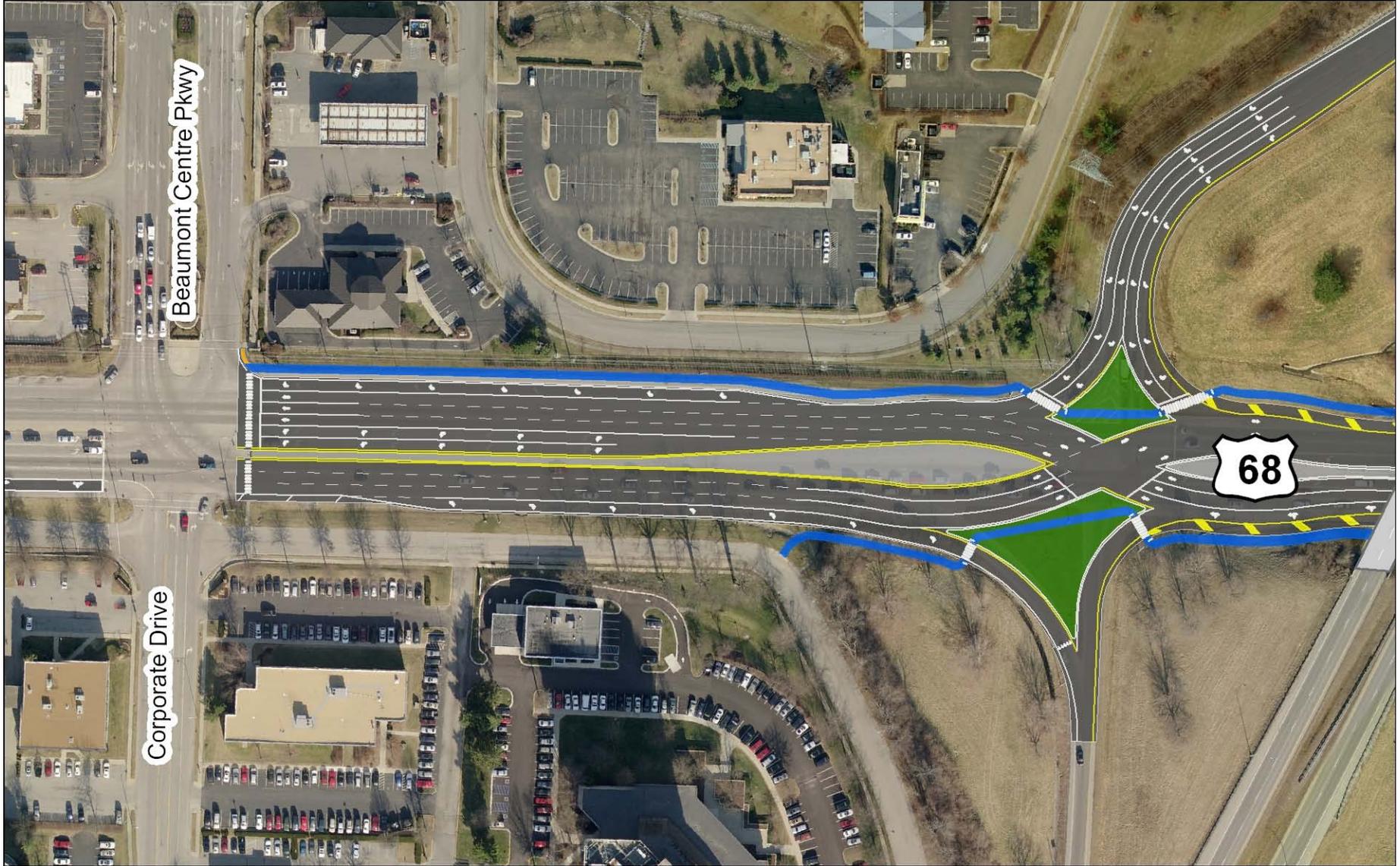


DCD

Existing AM



Beaumont Drive / Corporate Drive



Alexandria Drive / Pasadena Drive



DCD Alternative Advantages

- Higher capacity with existing 3 lanes
- Reduces potential conflict points and crash rates
- Reduces queues on New Circle Road exit ramps
- Maintains usable shoulder between the ramps

A Practical Solution

- The DCD represents a Practical Solution
 - DCD Interchange will accommodate future demand better than other alternatives
 - Cost is significantly less than constructing a new interchange
 - “Enhancements” provide a much better project

Lessons Learned

- Maintenance of Traffic
 - Phasing
 - Signage
- Supplemental Traffic Signals

Contract Notes on MOT

LANE CLOSURES SHALL NOT BE ALLOWED DURING THE HOURS OF 6:00 AM TO 7:00 PM MONDAY THROUGH FRIDAY...

TRAFFIC SHALL BE SHIFTED TO THE ULTIMATE CONFIGURATION PRIOR TO AUGUST 31, 2011. LIQUIDATED DAMAGES OF **\$5000.00/HOUR** WILL BE ASSESSED UNTIL THIS HAS OCCURRED.

Opening Morning



Outer Loop Exit Ramp



Monday Morning Rush Hour

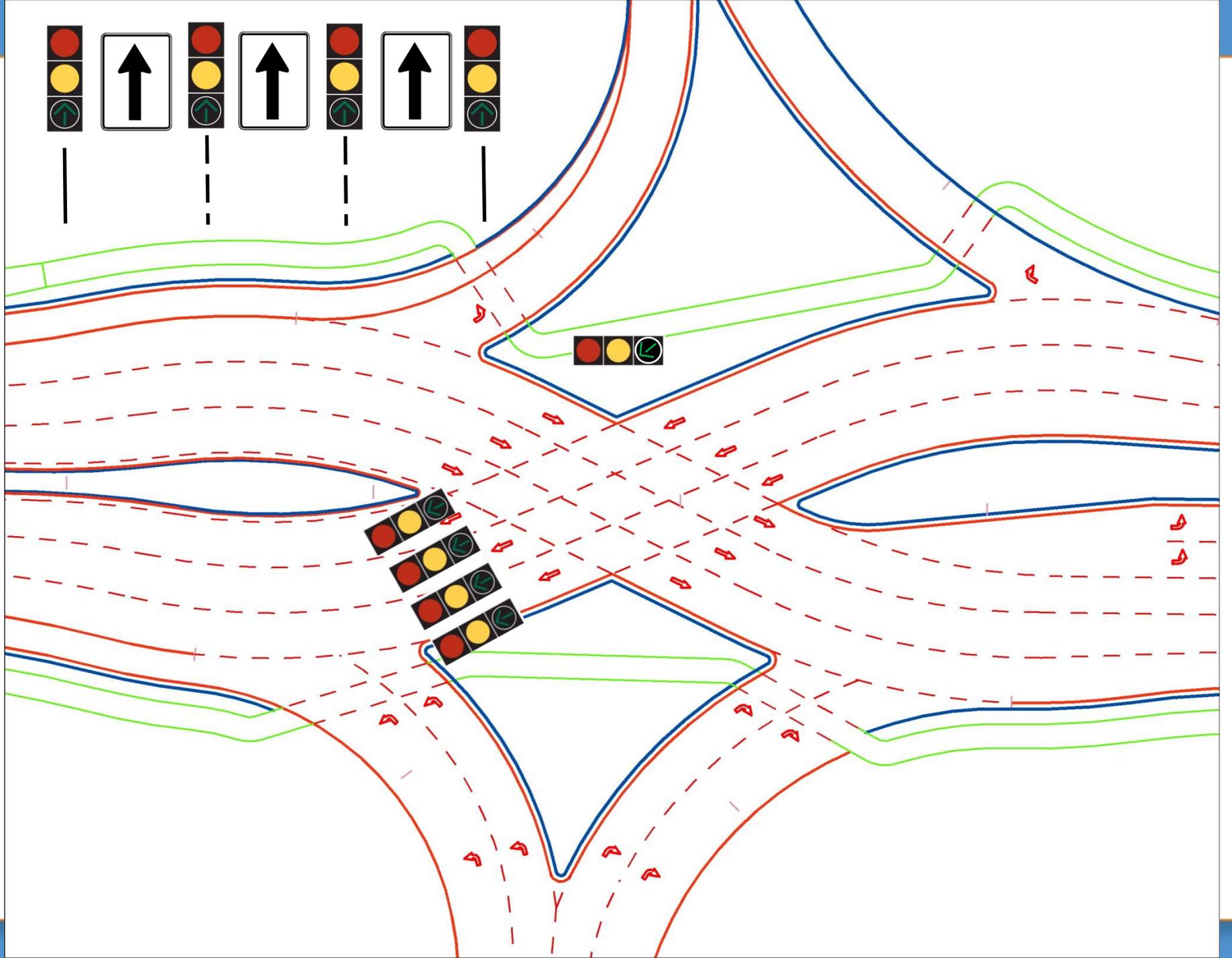


Inbound Harrodsburg Road



Outbound Harrodsburg Road





Supplemental Traffic Signal



Outer Loop Exit Ramp



Outer Loop Exit Ramp



Project Schedule

Public Meeting #1	March 29, 2011
Project Letting (Bid Opening)	May 20, 2011
Public Meeting #2	June 29, 2011
Traffic Pattern Shift	August 14, 2011
Construction Complete	November 15, 2011

Acknowledgements

- **Central Office Highway Design**

- Jeff Jasper
- Keith Caudill

- **KYTC District 7**

- James Ballinger
- Bob Nunley
- Steve Farmer
- Tony McGaha

- **Central Office Traffic**

- Jeff Wolfe
- Lynn Witmer
- Ted Swansegar

- **LFUCG Division of Traffic**

- Steve Cummins
- Jeff Neal
- Billy Treadway
- Joel Weber

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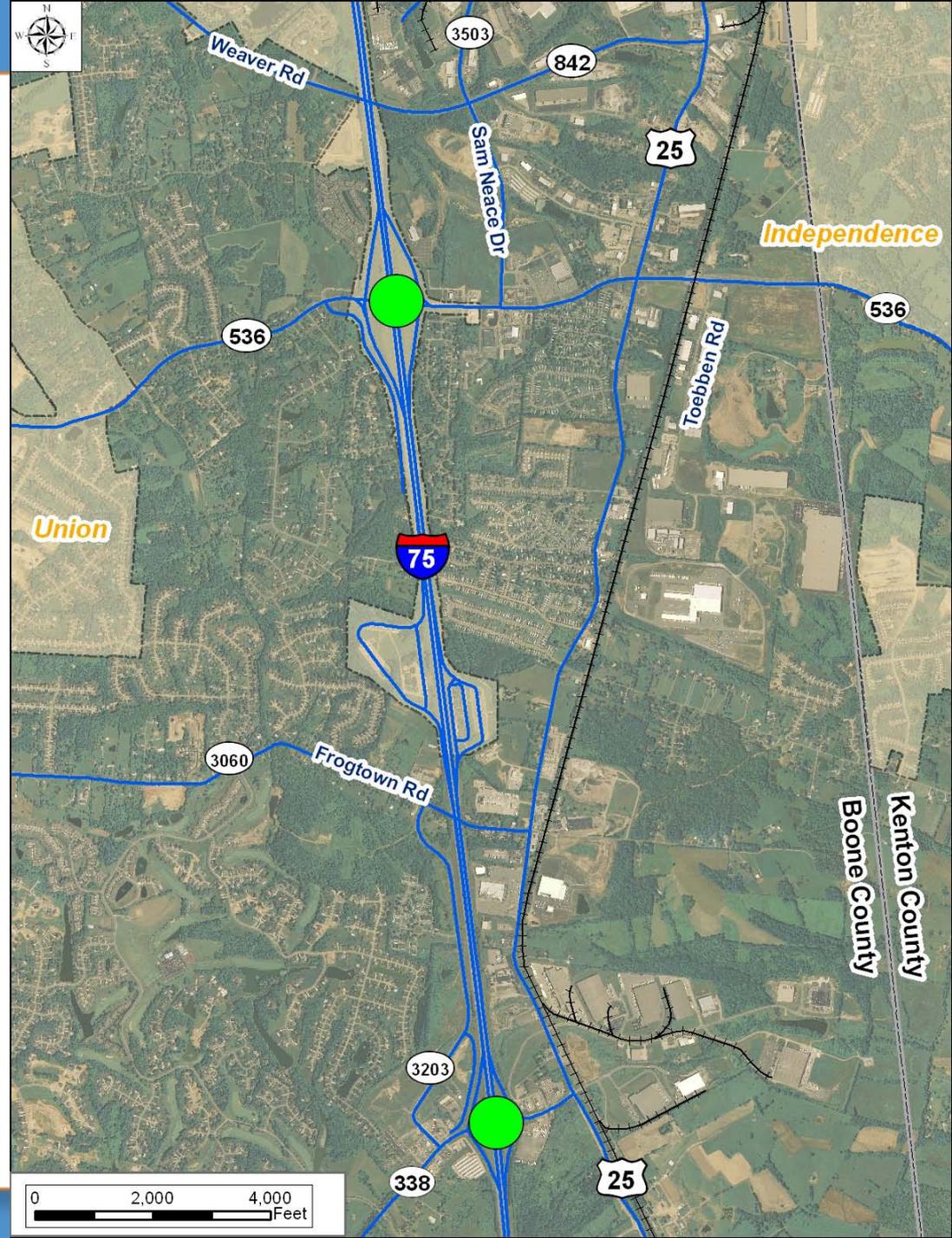
2006 Congestion Management Study

- Crash History
 - The segment between the New Circle Road ramps had the highest critical crash rate factor (CRF) in Lexington.



Other DCD's under Design in KY

- KYTC District 6 is designing two DCD's along I-75 in Boone County



I-270 at Dorsett Ave, St. Louis, MO



Opened 10/17/10







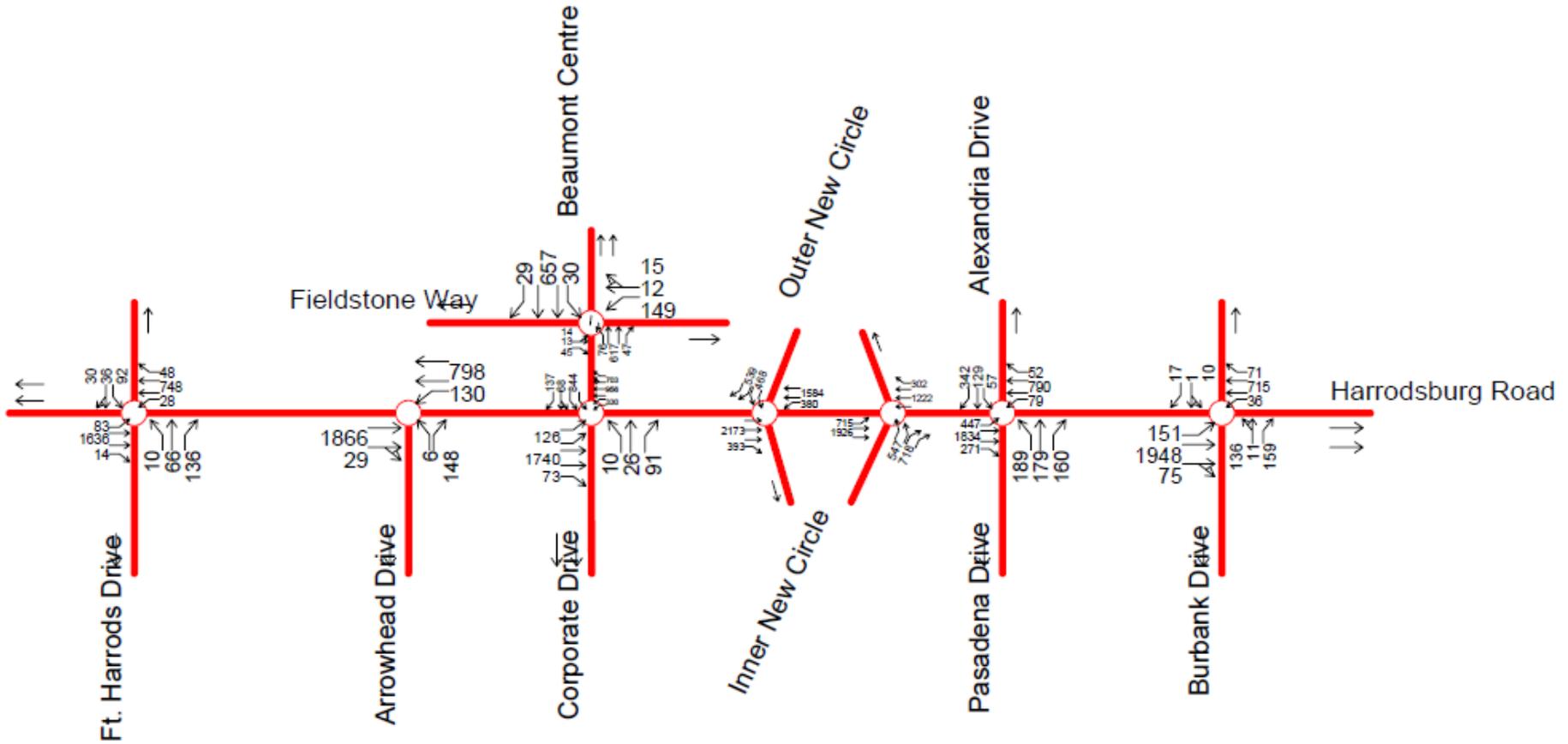


4 SOUTH
New Circle Rd

|||

NO
TURN
ON
RED

2007 AM Peak Hour Counts



2007 PM Peak Hour Counts

