



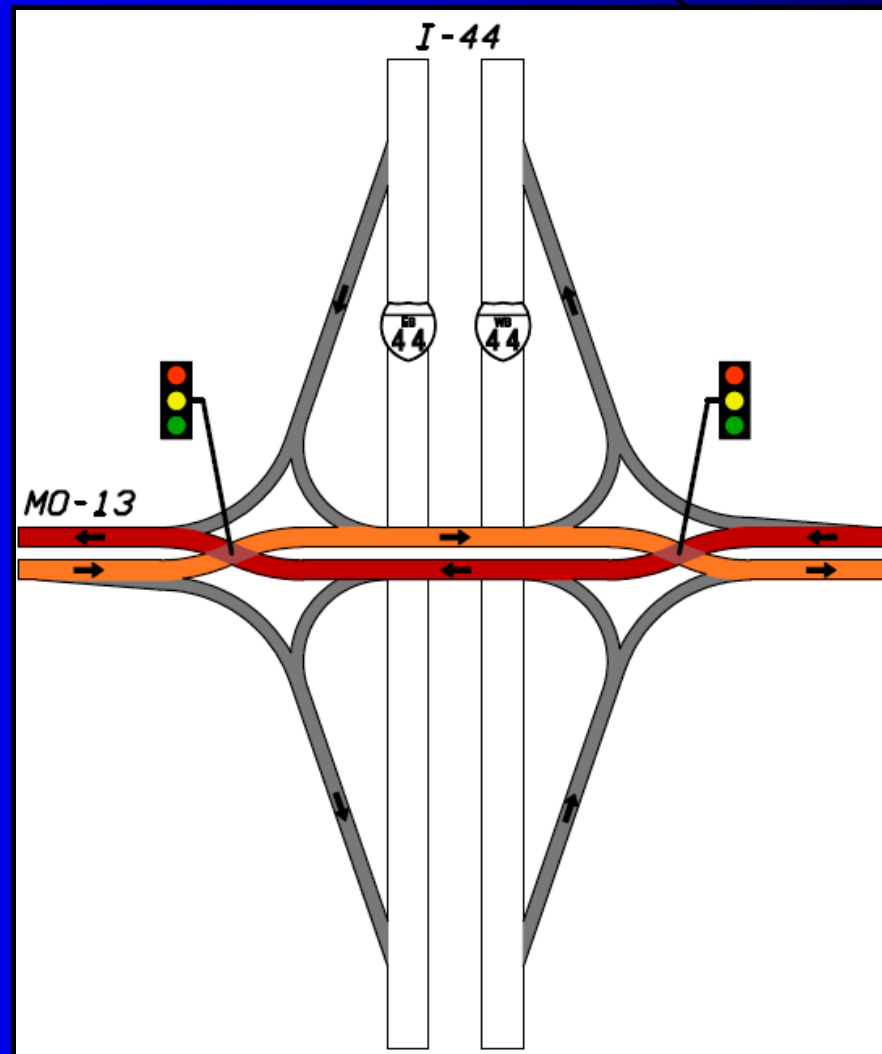
**Diverging Diamond Interchange
Route 13 & I-44
Springfield, Missouri**

**2009 MOVITE
Annual Meeting
September 21, 2009**

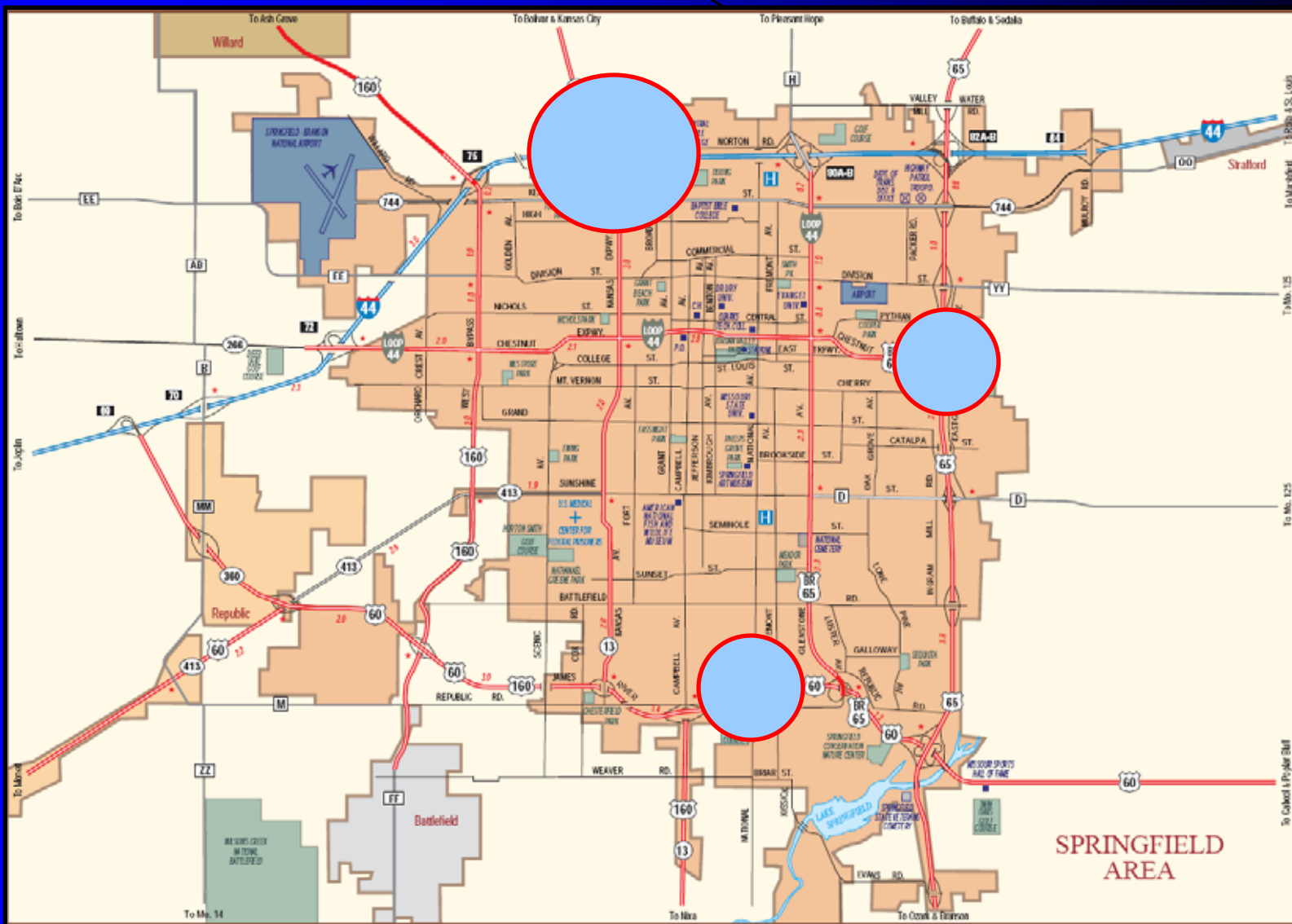
What is a Diverging Diamond Interchange (DDI)?

- Similar to a standard diamond interchange
- Signals at each end of interchange
- Traffic crosses to opposite sides at the signals
- Eliminates left-turn signal phasing

What is a Diverging Diamond Interchange (DDI)?



Location of Springfield DDIs



The Issues At Rte. 13 & I-44

- Congestion
- Left-turn traffic backing up and blocking thru traffic
- 73% of crashes are rear-end and left-turn right angle
- Limited funds
- Utilize practical design

Congestion At Interchange



Congestion At Interchange



The Practical Solution

- Diverging Diamond Interchange
 - FHWA is giving this a new name “Double Crossover Diamond” or DCD



3D Animation

Distracted Driver Interceptor (DDI)



How Did We Get Here?

- Considered three options
 - Widen the existing bridge with dual lefts
 - Replace bridge with SPUI over I-44
 - Convert existing interchange to a DDI

We Chose the DDI Because...

- ...it was **CHEAPER** to build and maintain
 - Utilizes most of existing interchange “footprint”
 - Uses existing bridge – less to maintain
 - No need for additional right-of-way

How Much Cheaper?

- Cost of DDI: \$3 Million
- Cost of SPUI: \$9 Million
- \$6 Million savings (67% cheaper)
- This translates to more projects!!

We Chose the DDI Because...

- ...it was **QUICKER** to build
 - DDI took approximately 6 months
 - SPUI would take 1.5+ years with staging
 - Works great for future improvements

We Chose the DDI Because...

- ...it is **SAFER** and handles traffic better
 - Eliminates left turn movements in front of oncoming traffic = less crossing conflicts
 - Reduces congestion – traffic moves better
 - Should reduce right angle & rear-end crashes
 - Provides safe pedestrian accommodations

Special Feature

- Walkway down the center of bridge to allow pedestrian access



Pedestrian Access



Before



After

Comparison

- Is it real or is it Memorex?



Comparison Continued

- Is it real or is it Memorex?



Project Challenges

- Utilizing existing bridge (68' Wide).
- No previous guidelines or standards.
- Convincing public it would work.
- No detour for SB traffic.
- Time to complete project.

Lessons Learned

- Revised overhead truss signs on Rte. 13



Before



After

Lessons Learned

- Added additional pavement marking



Before



After

Lessons Learned

- Revised overhead truss sign on WB off-ramp



Before

Lessons Learned

- Revised overhead truss sign on WB off-ramp



Existing Condition

Lessons Learned

- Revised overhead truss sign on WB off-ramp



After

Lessons Learned

- Type D Barrier for pedestrian walkway
- Eliminated glare screen



Lessons Learned

- Signalize right-turn movements



Before – Yield

[Video](#)



After - Signal

[Video](#)

Public Comments

A THORN: To MoDOT for creating the most screwed-up, confusing intersection at Kansas Expressway and I-44. I just traveled through there for the first time and everyone had their blinkers on and no one could figure out which way to go. What a stupid waste of taxpayer dollars ... where is your brain?

Judy Nichols , Springfield

Springfield News Leader – July 10, 2009

Public Comments

Judy, I go through this intersection twice a day and have yet to see any problems. It works flawlessly, if you have an IQ over 40.

I have used the new intersection at Kansas and I-44. There is a slight trick to it: Follow the signs.

Responses to Judy on blog

Springfield News Leader – July 10, 2009

Public Comments

Hypes to whoever designed the diverging diamond intersection at I-44 and Kansas Expressway. We're still confused, but no longer scared, and left-hand turns aren't that fluid on a NASCAR track.

Springfield Go Magazine – July 15, 2009

Public Comments

I was really surprised at how well the whole interchange works. When it was presented to the community I was very skeptical that it would work. I drive through there every morning and have yet to sit in backed up traffic.

Unknown Author

KSPR 33 News Blog – July 5, 2009

Project Schedule

- Construction began: January 16, 2009
- Traffic control on bridge: March 4, 2009
- Traffic moved to DDI: June 21, 2009
- Construction completed: July 7, 2009

Aerial Video

[Aerial video from June 22, 2009](#)

[Aerial video from July 8, 2009](#)

Questions or Comments?

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