

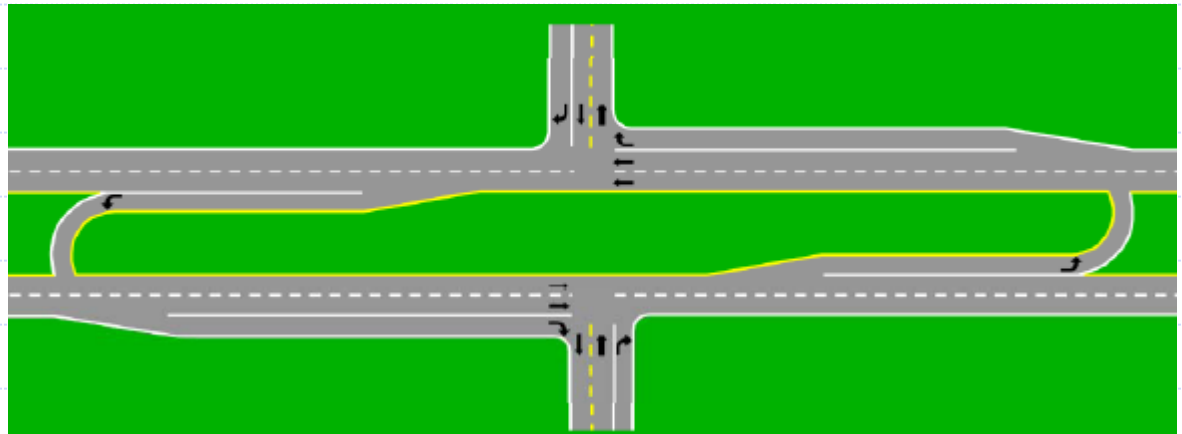
Innovative Intersections – St. Louis Metro Area

Presented by
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St. Louis



What is a Type IV X-Over?

- ◆ AKA “Michigan Left”, MDOT built 1st in the 60's and has installed over 700 since
- ◆ An at-grade intersection
- ◆ Minor lefts turns are converted to right-in/right-out
- ◆ Downstream u-turns are used to make left turn



Pros/Cons of Type IV X-Over

◆ Pros:

- Reduces potential of severe right angle crashes
- Easily retrofit existing Type I and II crossovers

◆ Cons:

- Unfamiliar design
- Creates adverse travel and weaving movements



Why Rt M and Old Lemay?

- ◆ 2 Fatal, 10 Injury, 9 PDO 2001-2005
- ◆ 28 persons injured, 5 killed
- ◆ Failure to Yield ROW – 13 out of 21
- ◆ Poor Sight Distance ~ 300 – 400 ft
- ◆ Rt M is a high-speed expressway, so signal was undesirable



Before Configuration

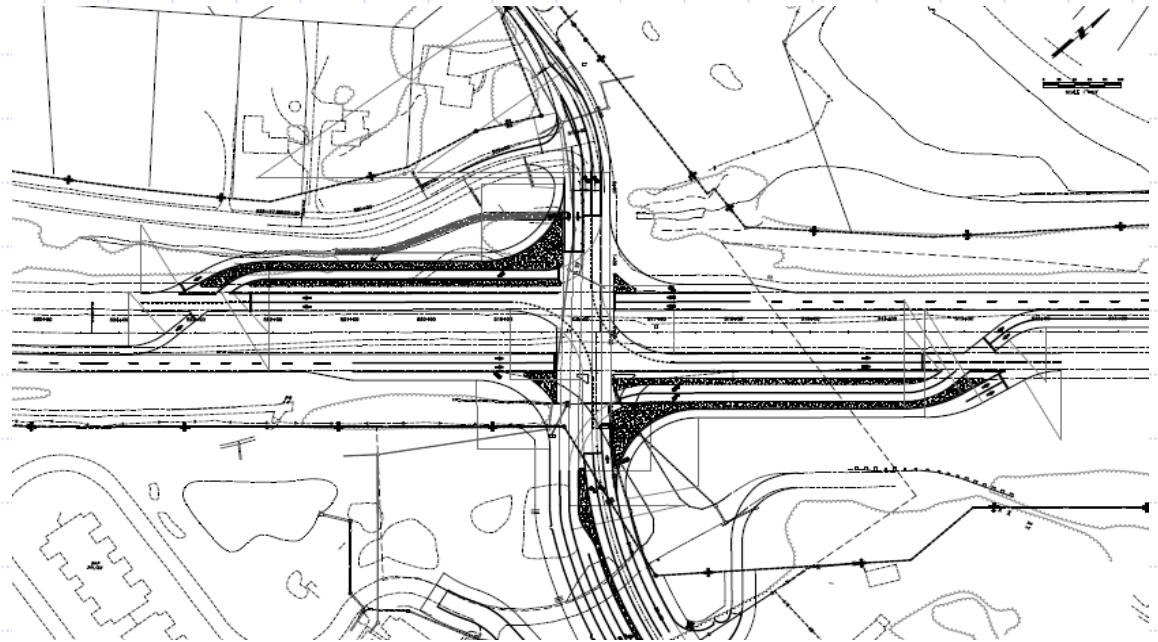


After Configuration



What is a CFI?

- ◆ An at-grade intersection
- ◆ Left-turns away from the main intersection
- ◆ Eliminates left-turn signal phase at main intersection



CFI History

- ◆ Over 40 CFIs in Mexico during the last decade
- ◆ CFI gaining momentum
- ◆ CFI in USA
 - Oaklyn, NJ
 - Shirley, NY 1996
 - Accokeek, MD 2000
 - Baton Rouge, LA March 2006
 - West Valley, UT Sept. 2007
 - Fenton, MO Nov. 2007



Benefits of CFI

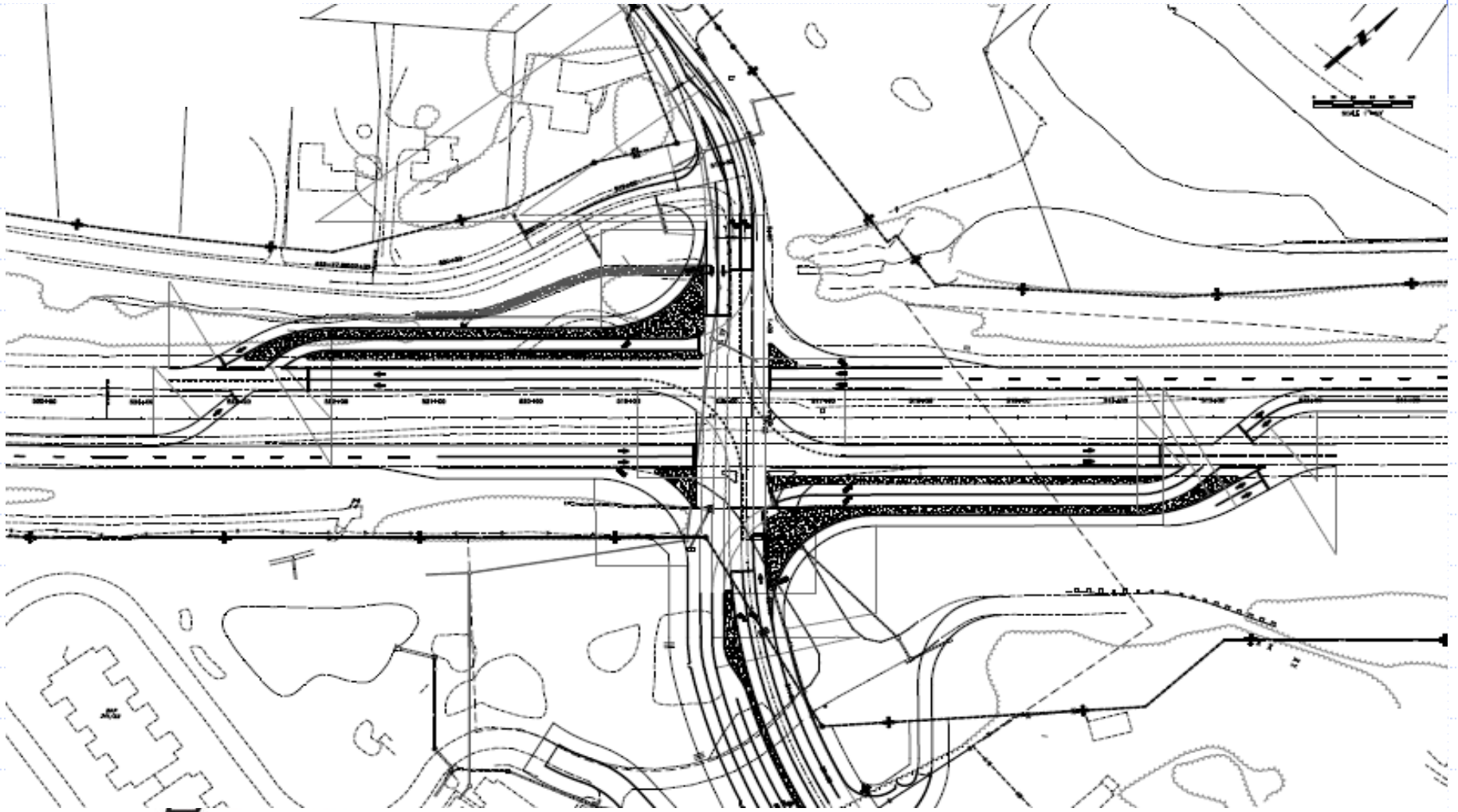
- ◆ At-grade design – Cheaper than interchange
- ◆ Provides comparable levels of flow to grade-separated interchanges
 - Consecutive movements
 - Less delay
- ◆ Long-term solution over conventional solutions



Why Route 30 and Summit?



How it Works



CFI Left Turns

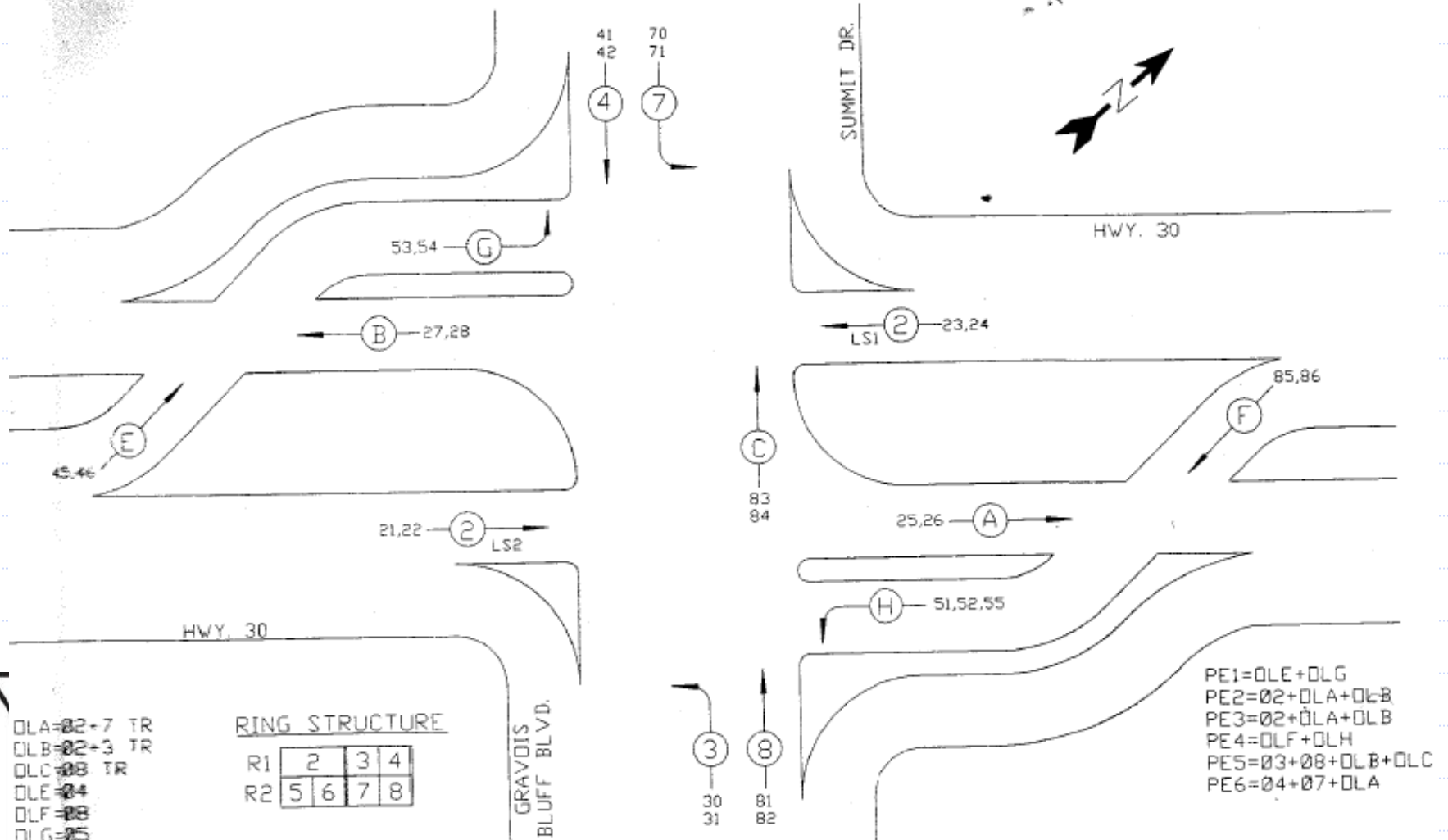


Final Configuration



Phasing

PHASE DESIGNATION DIAGRAM



DLA=82+7 TR
 DLB=82+3 TR
 DLC=88 TR
 DLE=84
 DLF=88
 DLG=85
 DLH=85

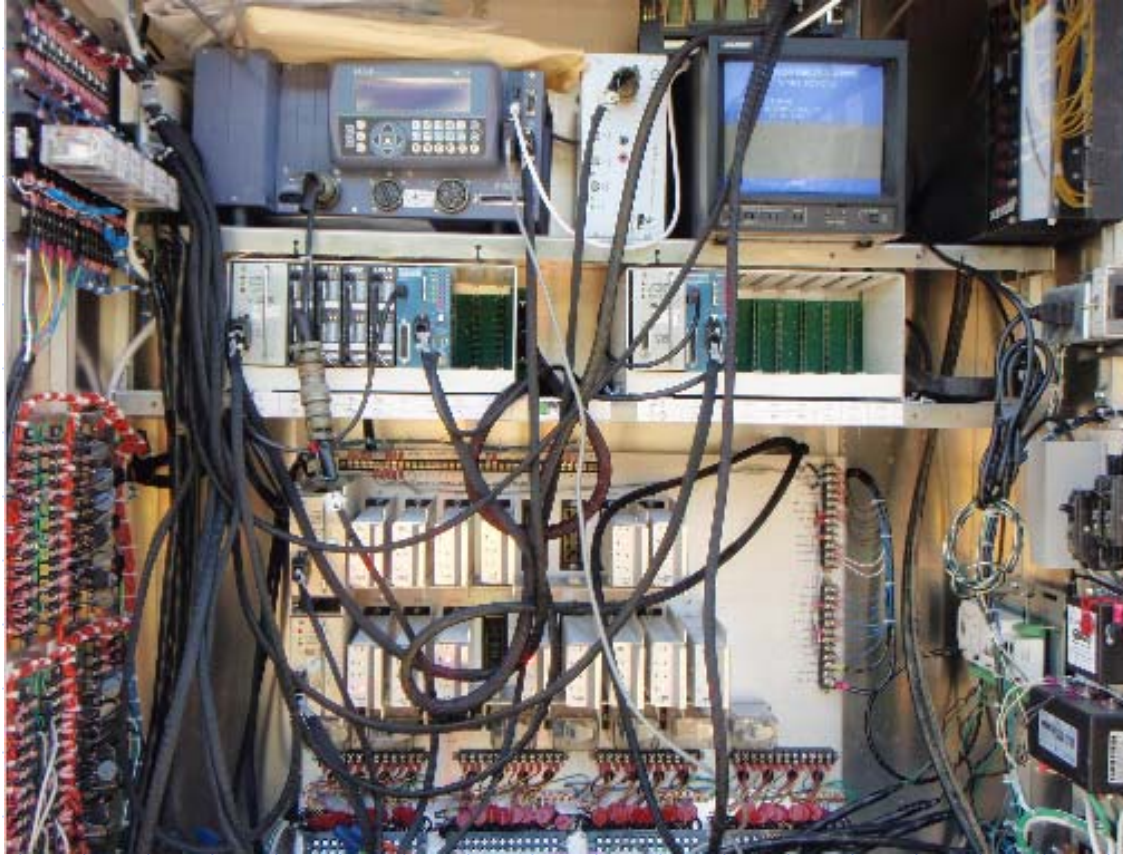
RING STRUCTURE

R1	2	3	4
R2	5	6	7

GRAVDIS
 BLUFF BLVD.

PE1=OLE+DLG
 PE2=02+DLA+DLB
 PE3=02+DLA+DLB
 PE4=DLF+DLH
 PE5=03+08+DLB+DLC
 PE6=04+07+DLA

Cabinet



- ◆ Nema TS2
- ◆ 16 position back panel
- ◆ Video Detection
- ◆ Fiber Interconnect
- ◆ Fire Preempt



Battery Backup



I-270 @ Dorsett

Diverging Diamond



Existing Dorsett Config



Why I-270 and Dorsett?

- ◆ Existing std diamond over capacity
- ◆ Heavy left turns onto I-270
- ◆ Design works with existing footprint
 - SPUI would not
- ◆ Local municipality willing to try something new



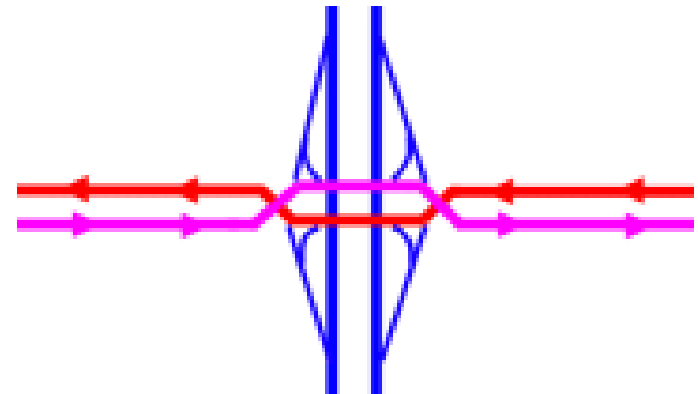
Pro

- ◆ Efficient and increased capacity Vs Std Diamond
- ◆ Reduced conflict points Vs Std D
- ◆ Narrower bridge requirement than SPUI



Con

- ◆ Unfamiliar design
- ◆ Not as ped friendly as other designs



Time line

- ◆ Construction starts this Summer
- ◆ This is one of four planned in Missouri
 - Others, KC, and two in Springfield
- ◆ Missouri first in USA



I-64 @ Spoede

- ◆ Modified folded diamond W/ duel roundabouts
- ◆ Built with I-64 project phase I
- ◆ Incorporates outer roads



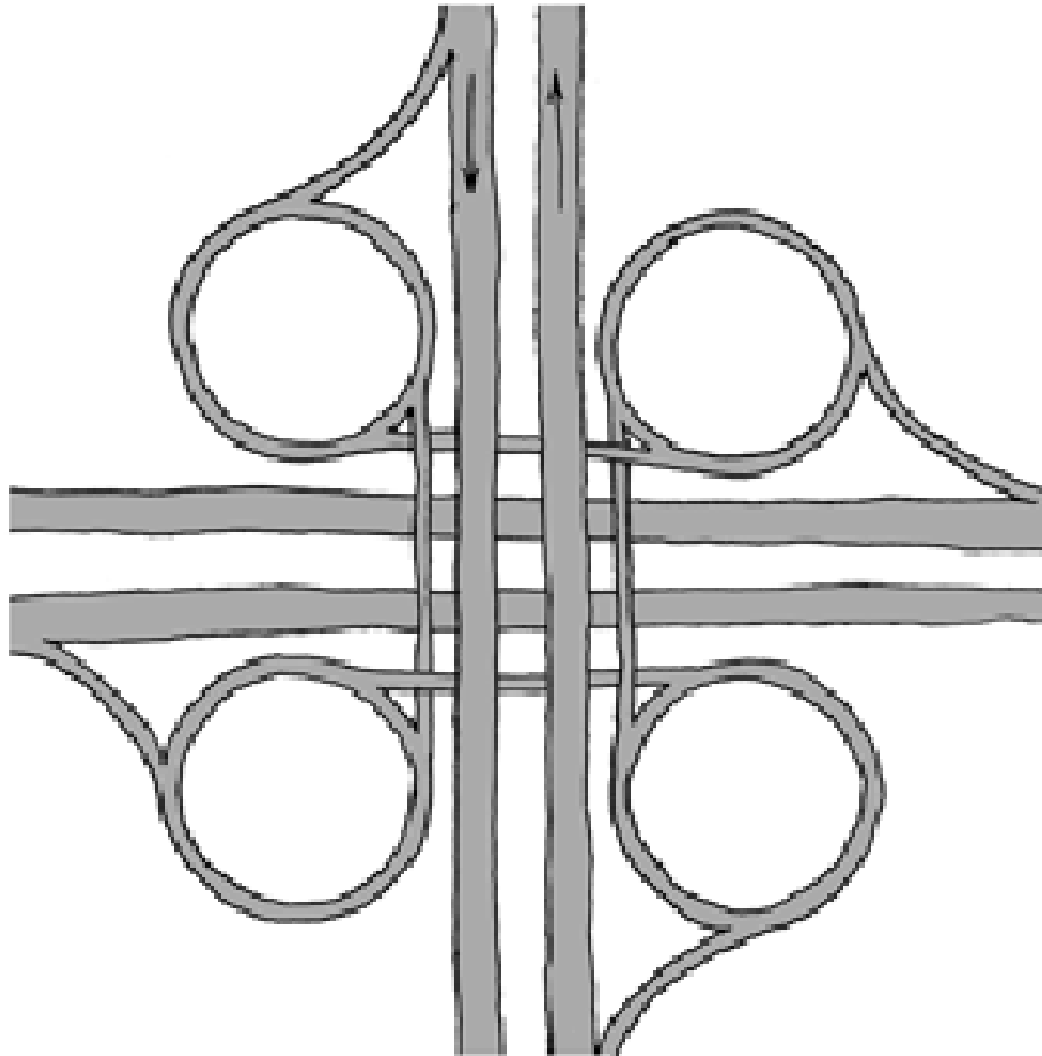
Before



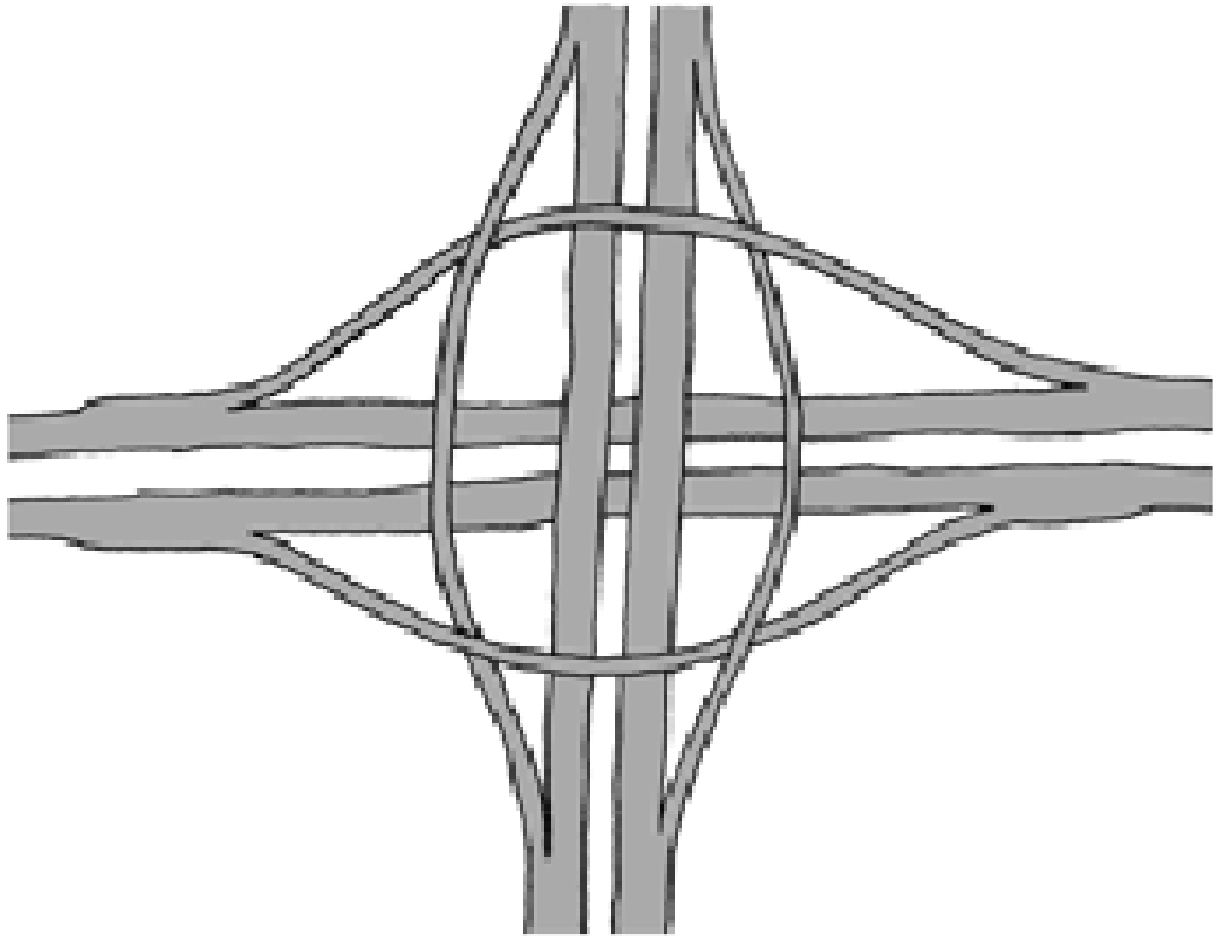
After



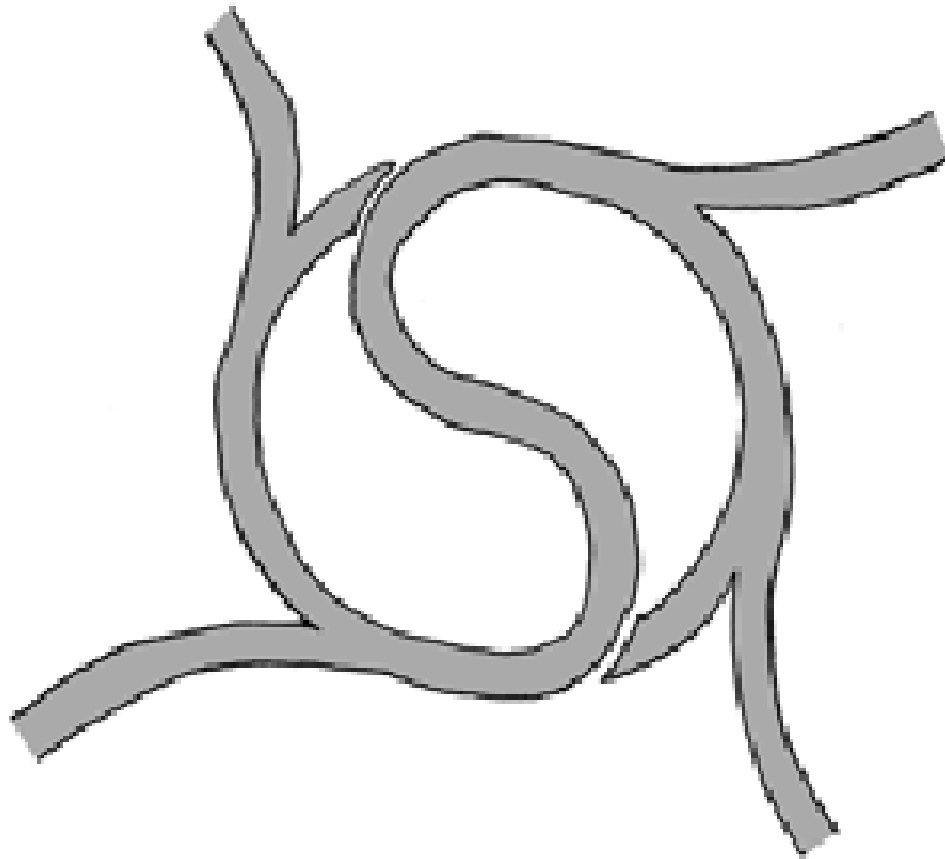
THE INESCAPABLE CLOVERLEAF:



THE ZERO-CHOICE INTERCHANGE:



THE ROTARY SUPERCOLLIDER:



Questions?

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