A Unique Circular Solution to a Complex Triangle
2019 Road School Presentation
March 6, 2019

Presenters:
The Project
History of Project Area

• US 31 – constructed in 1940s

• Smith Valley “By-Pass” – constructed in 1970s

• Signal at Smith Valley & Madison – late 1970s

• Signal at Smith Valley & Meridian – mid 1990s

• US 31 widened 4 lanes to 6 lanes – early 1990s
The Players
• City of Greenwood (LPA Project)
• INDOT (US 31 Corridor)
• CrossRoad Engineers – Design & Inspection
• Dave O’Mara Contractors – Construction Prime
The Analysis
• Engineers Report and Traffic modeling
• Major Initiatives
  • Improve Safety
  • Reduce Congestion
• Index of Crash Frequency
  • Smith Valley & Madison – 5.93
  • Smith Valley & Meridian – 5.50
• Existing Traffic Volume (all peaks in PM rush hour)
  • Smith Valley Rd – 24,500 vpd / 1,980 vph
  • Madison Ave – 19,100 vpd / 1,550 vph
  • Meridian St – 5,800 vpd / 550 vph
  • US 31 – 30,400 vpd / 3,400 vph
The Options
1. Signal at Madison and Double EB lefts at US 31
2. Signal at Madison and Jughandle at US 31
3. Roundabout at Madison, jughandle at US 31, stop control at Meridian with no NB or SB crossing movements
4. Roundabout at Madison, jughandle at US 31, signal at Meridian with full access
5. Roundabout at Madison, jughandle at US 31, signal at Meridian with no NB or SB crossing movements

* Also integrate future Red line IndyGo route into project
The Selection
<table>
<thead>
<tr>
<th>Alternative</th>
<th>Delay Reduction (hrs/day)</th>
<th>Cost per hr of delay over 20 year life</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Signal at Madison and Double EB lefts at US 31</td>
<td>-26%</td>
<td>$3.29</td>
</tr>
<tr>
<td>2. Signal at Madison and Jughandle at US 31</td>
<td>-31%</td>
<td>$3.24</td>
</tr>
<tr>
<td>3. Roundabout at Madison, jughandle at US 31, stop control at Meridian with no NB or SB crossing movements</td>
<td>-43%</td>
<td>$2.16</td>
</tr>
<tr>
<td>4. Roundabout at Madison, jughandle at US 31, signal at Meridian with full access</td>
<td>-40%</td>
<td>$2.50</td>
</tr>
<tr>
<td>5. Roundabout at Madison, jughandle at US 31, signal at Meridian with no NB or SB crossing movements</td>
<td>-42%</td>
<td>$2.39</td>
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</tbody>
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The Support
• Road portion bid ~ $2,600,000

• Federal funding ~ 1,680,000
• INDOT contributed ~ $500,000
• City of Greenwood ~ $420,000
The Education
• Funding approved thru MPO July 2015
• Project booth at Freedom Fest 2015 & 2016
• Redevelopment Commission Presentation June 2016
• Public meeting held December 2016 at City Hall
• Design completed in October 2017
• Public meeting held January 2018 at Greenwood H.S.
• Greenwood Village South presentation April 2018
• Utilized video model in presentations to show traffic patterns
• Closure impacted M.O.T. for Madison Ave project to north which required education with businesses along Madison Ave.
• City prepared 4 color coded “How To” exhibits to publish on City Website and social media prior to opening day
• City Engineer gave bus tours to Greenwood Village South residents after opening
Good news, motorists! Greenwood expects first phase construction for the new roundabout at Madison Ave. and Smith Valley Rd. to be completed this week.

To assist motorists with the new traffic patterns, city officials developed a series of graphics depicting traffic approaches from all four directions.

For more information and ongoing updates, visit: https://www.greenwood.in.gov/topic/blocks.php?topicId=213... See More
The Construction
• City selected closure option for time saving and safety
• Held M.O.T. meeting with schools, police, and fire
• Coordination with Indy DPW for large truck detour to County Line Rd
• Advanced warning signs on I-65 for truck traffic
• Contacted Google Maps
• Construction in phases
  • Phase 1 – 90 days starting June 1st
  • Phase 2 – 30 days following Phase 1
  • Complete landscaping in fall 2018
Looking west during water and storm sewer work
Looking north at Mercator M.O.T.
Looking down at roundabout area
Setting RAB Limestone wall sections
Setting Overhead Sign
The Opening
Eastbound SMV message board
Westbound SMV Overhead Sign
The Opening - October 9, 2018
Police: Timely training saved life

Day after certification, county deputy used overdose drug to help woman

Dr. Steve Contos, who was on the same route as the1 terrorists, said that he was relieved when he heard the officer had used Narcan to save the woman.

 Cage and Carol Stow had been on a date when they saw the woman fall to the ground. They immediately called 911 and administered Narcan.

“It was a relief to know that someone was going to help,” Cage said. “The officer was very professional and handled the situation calmly.”

The woman was later taken to the hospital and is expected to recover.

ISTEP problems persist in Franklin

Testing pushed back, but will it be on paper or computers?

In East Armstrong...
Census: Johnson County aging
Estimates also show younger population becoming more diverse

Mark W. Myers, Mayor
Roundabout construction closes two major Greenwood arteries
Confused by roundabouts?

Greenwood planning information session on traffic development

The city decided to install a roundabout at Main Street and Avanti Road after a traffic study found more than 30,000 vehicles pass through the intersection every day between 6 and 9 a.m. and 4 and 7 p.m. After several rounds of construction, the roundabout is set to be completed Aug. 1.

Residents are encouraged to attend a meeting at 4 p.m. Wednesday at the city building, 300 S. Madison Ave., to learn about it. Crossroad Engineers will give a presentation providing information and answer the public's questions regarding the new roundabout.

ON THE RECORD

Police/traffic

Franklin

Battery 4200 block of Syrene Court. Police responded at 2:32 p.m. Saturday to a report of a verbal altercation between two people. The report was unfounded, and no charges were filed.

One-stock-on-three-america time.

Police responded at 4:20 p.m. Sunday to a report of two people deglidding occupying separate properties.

Traffic

650 block of Kentucky Street. Police responded at 11:35 p.m. Sunday to a report of theft.

200 block of Cedarbrook Drive. Police responded at 3:30 p.m. Monday to a report of theft.

County Road 2020. Troy E. Stark, 67, Franklin, reported pain in a walk.

Property-damage accident 12:00 p.m. Sunday — 145 and State Road 14

Jail bookings

The following people recently were arrested and booked into the Green County Jail.

Chris Austin, Stoughton, 20, 200 block of Maloney Avenue. Arrested on a charge of possession, consumption of alcohol by a minor; release on $1,000 bond.

Sharon Pettit, 22, 548 Cedar St., Osgood, arrested on a charge of disorderly conduct before $5,000 bond. Condemned Cred, 24, 483 East Ave., Apt. 6, Columbus, arrested on a charge of possession of marijuana, released on $50 bond.

Dominic Shaw, 28, 288 Central Ave., Columbus, arrested on charges of domestic battery, criminal mischief and possession of paraphernalia, held on $5,000 bond.

Jacob Ryan Burton, 24, 1204 Prairie Ave., Columbus, arrested on a charge of burglary.

Peyton A. Winstead, 21, 4200 N. Shubert Ave., Apt. 4, Indianapolis, arrested on a warrant for failure to appear in court; held on $1,000 bond.

Gunnar Anthony Cole Show, 18, 168 S. Washington St., Green- wood, arrested on a warrant for possession of marijuana, held without bond.

The following people recently were arrested on charges of det- rining while intoxicated and booked into jail.

Christopher Ryan Ferguson, 24, 5730 Darius Drive, Greenwood, arrested on $1,000 bond.

Osmeen F. Jani, 31, 10807 Shaker Court, arrested on failure to appear in court; held in jail.

BRIEFS

LOCAL

Senior services to host dining in the dark event

Next month, Johnson County Senior Services will host an event to raise money for local seniors while offering attention to older people with disabilities. It is expected that serving older adults will host dining in the dark, a three-course meal, served in complete darkness. The event will start at 6 p.m. at the Indiana Masonic House.

Cost is $40 per individual or $60 reserved table for eight. Diners can get in touch with all of their senses as they serve the meal and taste of the dining experience.

The event is designed to highlight what individuals who are visually impaired experience. The event is also raise awareness of the number of older adults who have disabilities.

Senior Services Senior Services goal is to raise $4,200, which would allow an additional vehicle that provides free door-to-door transportation for a year.

Indy Honor Flight seeks veterans for D.C. trips

Indy Honor Flight is recruiting passengers for the group's next trip to Washington, D.C., trip.

Indy Honor Flight is a vet- eran-focused volunteer organization formed to take World War II veterans to see their memorial in Washington, D.C. There are approximately 1,000 veterans from the World War II generation in Indiana who have yet to visit the monument. Many of these veterans hand to reach as far away as Alaska and Puerto Rico, making it impossible for them to travel to the memorial on their own.

Greenwood's Roundabout

Workers pour concrete as construction continues on the roundabout at the Avanti Road and Main Street intersection Monday in Greenwood.

Mark W. Myers, Mayor greenwood.in.gov
Local News

Madison, Smith Valley roundabout to open this week

By: James Vaughn - 9/20/19 7:04 PM
GREENWOOD, Ind. (WTHR) – The roundabout project that created a four month long closure at a major intersection in Greenwood is officially reopened Tuesday night – and ahead of schedule!

The City of Greenwood posted on Facebook Tuesday writing that contractors used extra crews to complete traffic signal work ahead of schedule.

With this roundabout comes some major changes for drivers in the area, including no left turns at U.S. 31 eastbound or westbound.

Other changes include a “jug-handle loop” for drivers connecting to U.S. 31 eastbound. Drivers connecting westbound will use the new roundabout.

RELATED: Greenwood to complete first phase of roundabout this week

The opening of the roundabout is just the completion of phase one in the project.
Local News

Greenwood roundabout opens with big changes for drivers

By: Elizabeth Choi

Published: Oct 15, 2018 06:44 PM EDT
Updated: Oct 15, 2018 06:54 PM EDT
Greenwood's new roundabout one-ups Carmel by adding a 'jug handle'

Vic Ryckaert, Indianapolis Star  Published 3:08 p.m. ET Oct. 9, 2018 | Updated 3:56 p.m. ET Oct. 9, 2018

There is a lot of confusion about how to use roundabouts.
TOP TEN RESPONSES TO THE ‘JUGHANDLE ROUNDABOUT’ IN GREENWOOD

January 10, 2019 Stephanie Dolan

By Torry Stiles

10. The designer: “I tossed that in there as a joke. Never thought they’d think I meant it.”

9. Anonymous Greenwood council member: “I thought we were voting on another round of drinks. Oh, my God. Are you recording this?”

8. Greenwood Street Commissioner: “As God is my witness, I thought turkeys could fly.”

7. The Greenwood Police: “We made our ticket quota the first week.”

6. The kids: “Oooooo … Daddy said the ‘F’ word.”

5. My talking GPS: “You’re on your own here, boss.”

4. Carmel, Indiana: “We told you Greenwood would screw it up.”

3. Me: “I should’ve just stayed on 31.”

2. My wife: “I told you to stay on 31.”

1. The design team: “We can neither confirm nor deny that alcohol may have been involved.”
The Results
• Similar volumes as previous (all intersections within 3% same)
• Roundabout – level of service A from HCM6 / LOS C from Sidra
• Total project area delay significantly improved
• Significant reduction in congestion

Crash comparison
  • 2015 – 15 accidents (3 with ambulance to hospital)
  • 2016 – 16 accidents (4 with ambulance to hospital)
  • 2017 – 10 accidents (3 with ambulance to hospital)
  • 2018 (before RAB) – 2 accidents (1 with ambulance to hospital)
  • 2018 (after RAB) – 17 accidents
    • All at RAB with most failure to yield (11 – 65%)
  • 2019 – 6 accidents
    • All at RAB with most failure to yield (4 – 67%)
• Improved sight distance for left turns onto Mercator
• Illegal left turns diminishing
The Lessons Learned
• Cut thru traffic at shopping plaza
  • Added signage and barricades
  • Police presence and tickets

• Eastbound signage for jug-handle

• Eastbound signage and lane striping for No Left Turn

• Added pedestrian connectivity

• Pork chop island – mountable curb
The Future
• Add No Left Turn striping

• Improved signage for jug-handle

• Add 24/7 LED flashers onto the yield signs for EB traffic entering roundabout

• Monitor stacking and adjust Meridian signal as necessary

• Monitor overall project area traffic and work with INDOT as necessary for signal timing adjustments to US 31 signals
Questions?