

Dodd & Icenic/Heritage Meeting

July 18, 2018

Dakota County and City of Lakeville



Reason for Meeting

- * Safety concerns at Dodd & Icenic / Heritage
- * Discuss issues, considerations and potential solutions
- * County / City collaboration

Presentation Outline

- * Highway safety in Dakota County
- * Traffic engineering considerations
- * Traffic control tradeoffs
- * Review of Dodd & Icenic / Heritage
- * Next steps

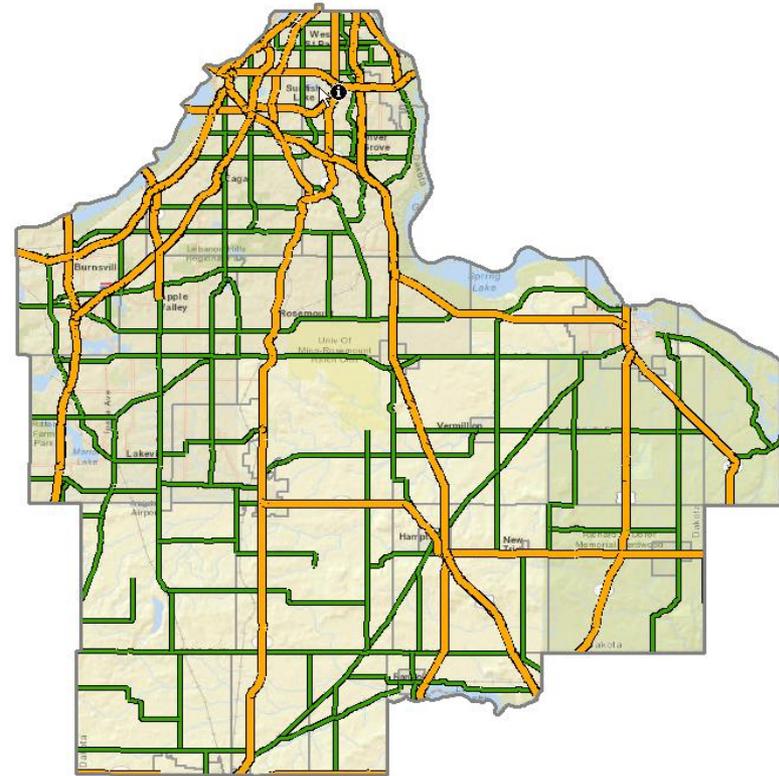
County Highway System

* 424 Miles of Road

- Rural, urban, and suburban
- Trail facilities
- Just under 1500 intersections

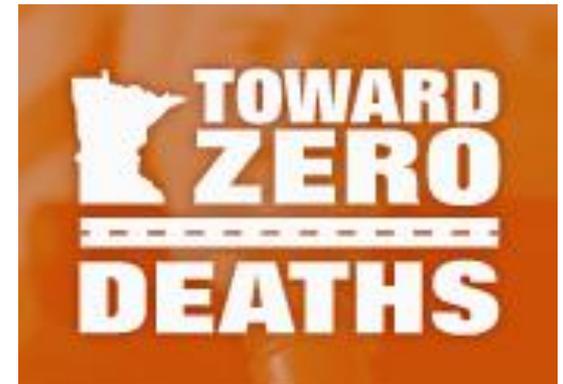
* Intersection Traffic Control

- Side street stop - 1300
- All way stop - 36
- Traffic signal - 135
- Roundabout - 8



Highway Safety is our Top Priority

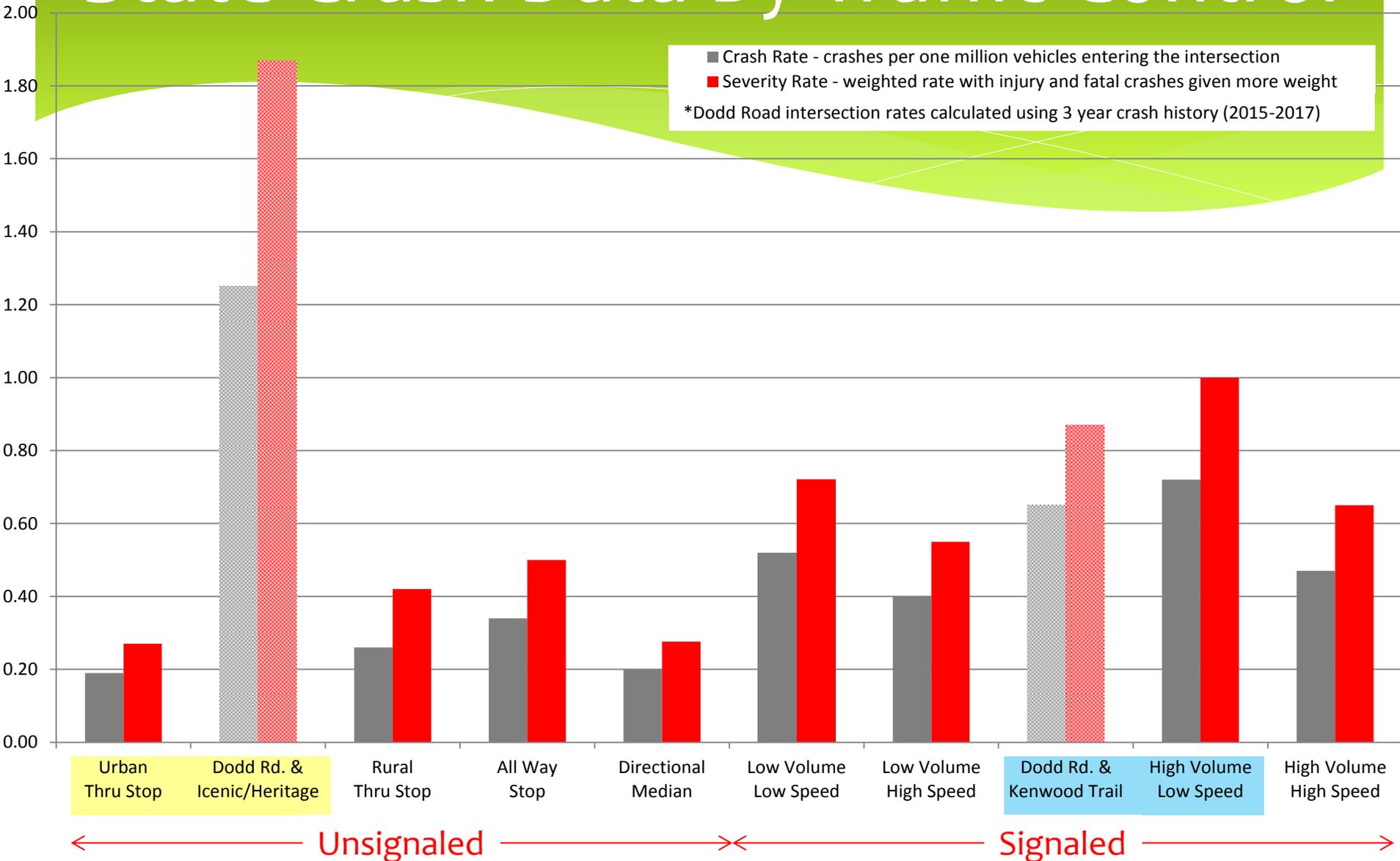
- * Transportation Plan Overarching Principle
- * County Highway Safety Plan
- * Toward Zero Death Initiative (4 “E” approach)
 - Education
 - Emergency Medical & Trauma Services
 - Enforcement
 - Engineering
 - + Everyone
- * County Board Strategic Measure



Traffic Engineering

- * Traffic engineering is risk management
 - All traffic control has crash risk
 - Driver error is a factor in engineering decision making
- * Consider traffic control trade-offs to minimize risk
 - Assess traffic conditions
 - Traffic control change does not necessarily improve safety

State Crash Data By Traffic Control



Traffic Control Tradeoffs

Side Stop

Used for

- * Unbalanced approach traffic
- * Maintain through road mobility
- * Lowest average crash and severity rates

Drawbacks

- * Side streets rely on gaps
- * Side street delay
- * Crash risk increases with traffic volumes



All Way Stop

Used for

- * Moderate traffic volumes
- * Balanced approach traffic
- * Lower speeds

Drawbacks

- * Inefficient and cause delay
- * Increased crash risk compared to side stop

Traffic Control Tradeoffs

Traffic Signal

Used for

- * Consistently high volumes of traffic
- * Collector or arterial routes

Drawbacks

- * Additional decision making
- * Increased risk of crashes compared to other traffic control
- * Can create delay
- * Rarely improve safety



Roundabouts

Used for

- * Moderate to high traffic volumes
- * Improving traffic flow
- * Significant reduction in crash severity

Drawbacks

- * Higher cost
- * Increased crash rates
- * Not suitable for principal arterials

Traffic Control Tradeoffs

Directional Median Opening

Used For

- * Areas where crossing /left turns on the minor street is difficult (reduces conflicts from 32 to 10)
- * Reducing crashes
- * Provides for safe mainline rights, lefts and U-turns
- * Common approach for multi-lane roadway commercial access near major intersections

Drawbacks

- * Changes traffic patterns for traffic leaving area businesses
- * Can add distance to trips and possibly time (depends on time of day)



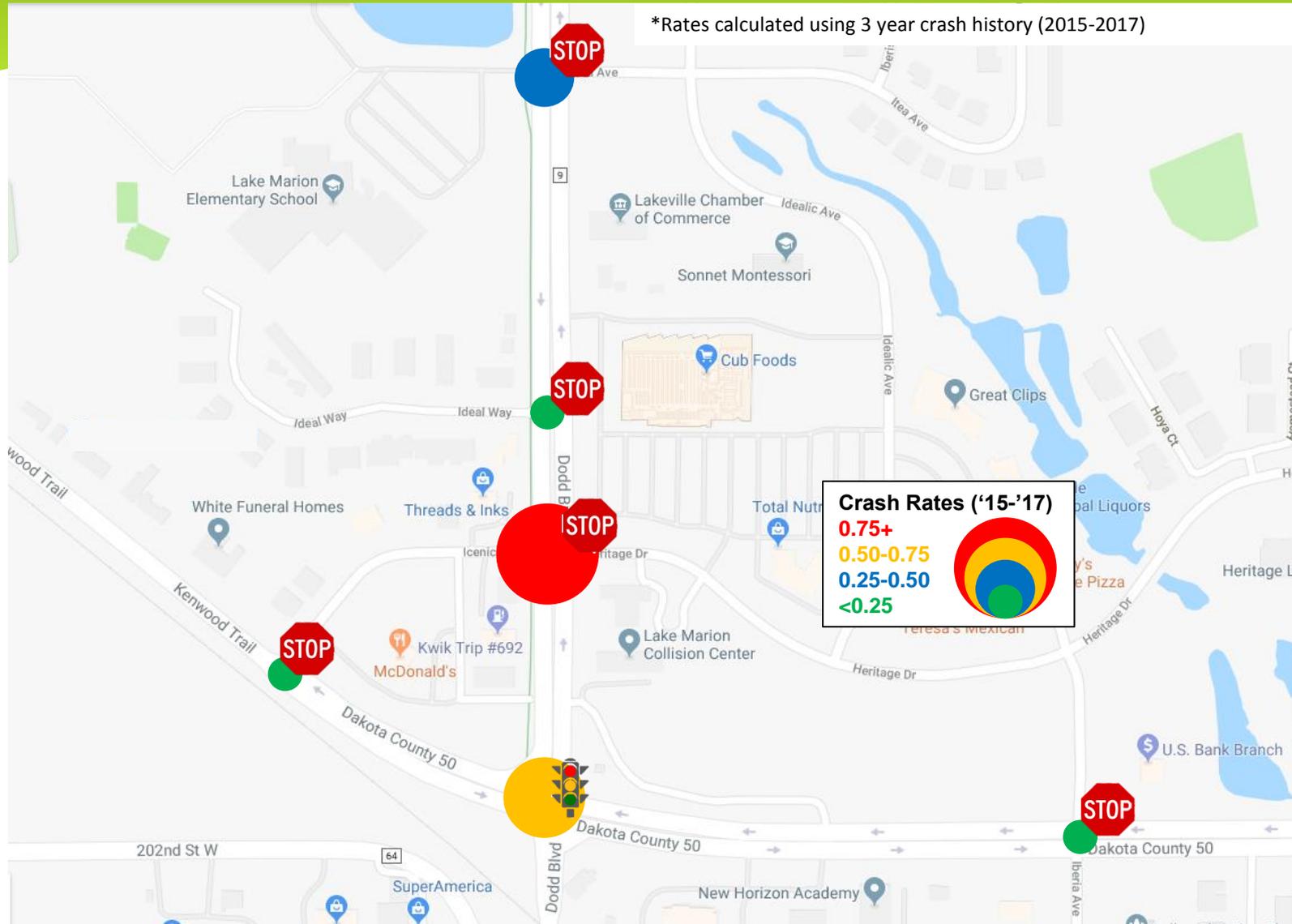
Traffic Engineering Review

Dodd & Icenic/Heritage

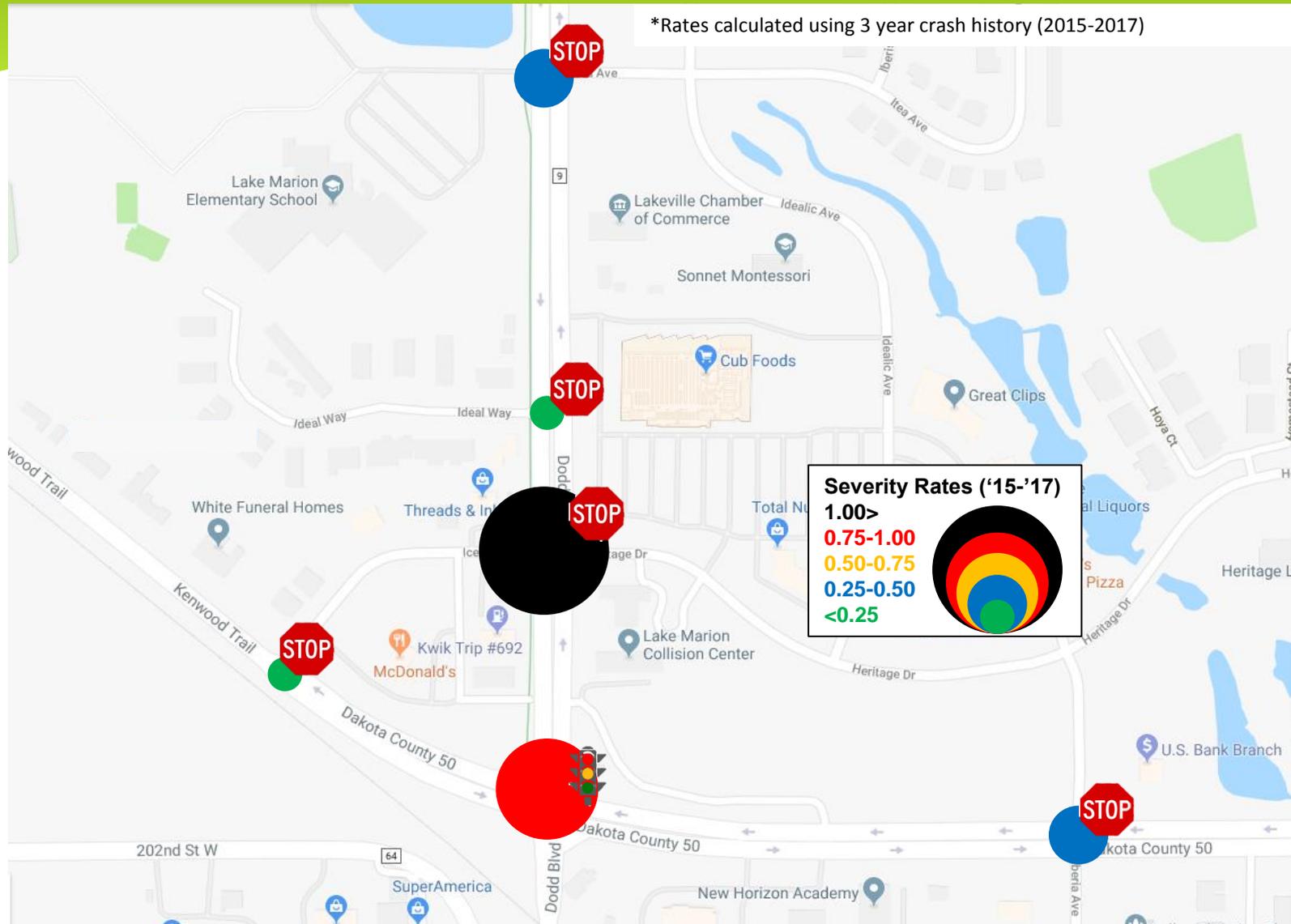
Engineering Study Process

- * Field Review
- * Crash/Safety Review
 - Typically 3+ years of data to establish trends
- * Traffic Volume Review
 - Evaluate various traffic control based on standard criteria
 - Typically look at 8 hour needs
- * System-wide Traffic Control Comparison

Crash Rates – Area Intersections

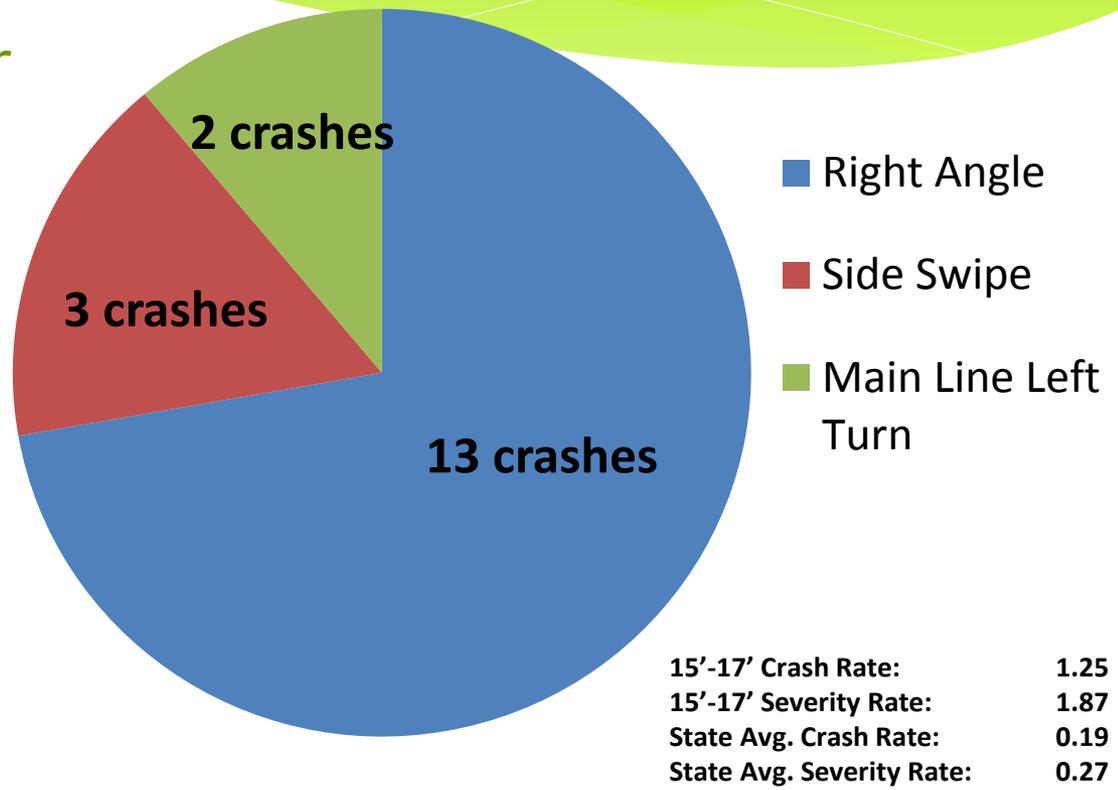


Severity Rates – Area Intersections



Dodd & Icenic/Heritage 2015-2018 Crash Data

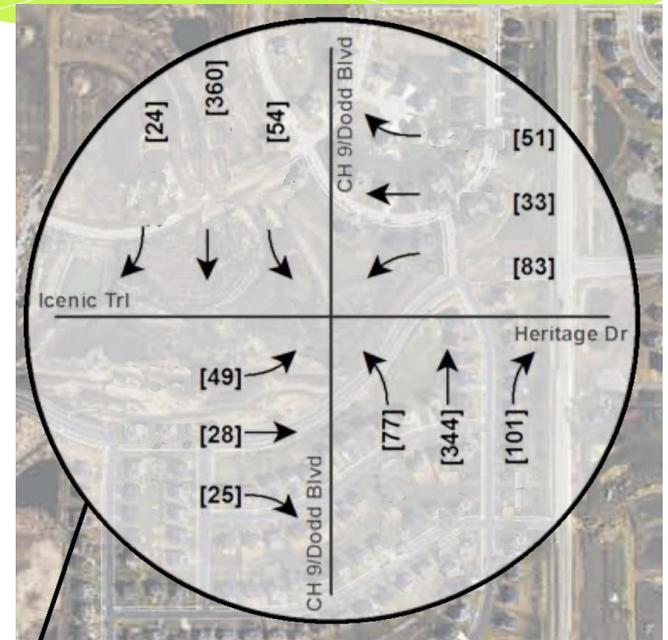
- * Crash rate 6 times higher than the state average
- * Ranks 8 out of 262 on Dakota County's Intersection Crash List
- * Addressing right angle crashes will improve intersection safety



Safety issue at this intersection needs to be addressed.

Dodd & Icenic /Heritage Traffic Volume Review

- * During the afternoon peak hour, over 1200 vehicles travel through this intersection.
- * Crossing or turn movements (both approaches) account for or approximately 8 % of the entering volume.



As traffic increases, it will become more challenging to find gaps in traffic to cross or turn onto the roadway.

Dodd & Icenic/Heritage Traffic Signal Considerations



- * Volumes on Icenic/Heritage are not at a level where a signal is justified
- * Maintains all movements to businesses at intersection
- * Close proximity (550 ft) to Dodd/Kenwood signal would increase the risk of crashes at Icenic/Heritage and at Kenwood signal

A signal at Dodd & Icenic/Heritage is not appropriate considering the close proximity of the Kenwood intersection and distribution of traffic.

Dodd & Icenic/Heritage Roundabout Considerations



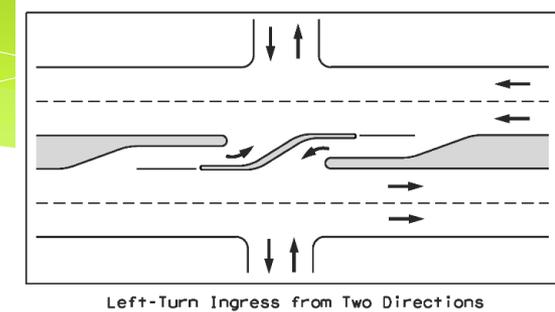
- * Traffic volumes are not balanced
- * Maintains all movements to businesses at intersection
- * Potential for interaction with existing signal (peak hour back-ups)
- * Reduces severe crashes / increases property damage crashes
- * Greater property impacts/costs and overall construction costs

A roundabout at Dodd & Icenic/Heritage is not appropriate considering traffic on Dodd and the Icenic/Heritage approaches.

Intersection	Traffic Control	Mainline AADT	Side Road AADT	Entering Volume	Volume Distribution (%)
Dodd (CSAH 9) & Highview Ave	Roundabout (2&1)	13,700	4,500/4,750	18,325	75/25
202 nd St (CSAH 50) & Holyoke Ave	Future Roundabout (2&1)	12,800/7,000	7,900/5,800	16,750	59/41
Dodd (CSAH 9) & 185 th St (CSAH 60)	Recent Signal	9,600/13,700	9,000	16,150	72/28
Dodd (CSAH 9) & Flagstaff Ave	Future Single-lane Roundabout	11,900/8,000	6,700/5,900	16,250	61/39
Dodd (CSAH 9) & Icenic/Heritage	Side stop	12,000	1,200	13,500	90/10
Dodd (CSAH 9) & 194 th St	Side Stop	9,600	2,100	11,700	82/18

Dodd & Icenic/Heritage Directional Access

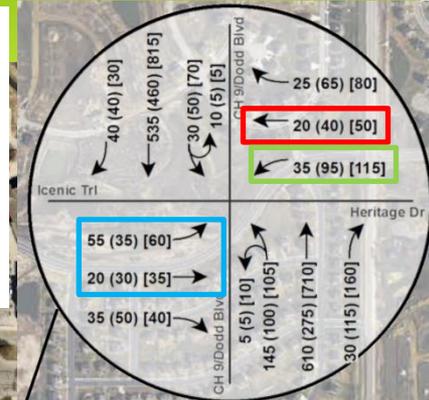
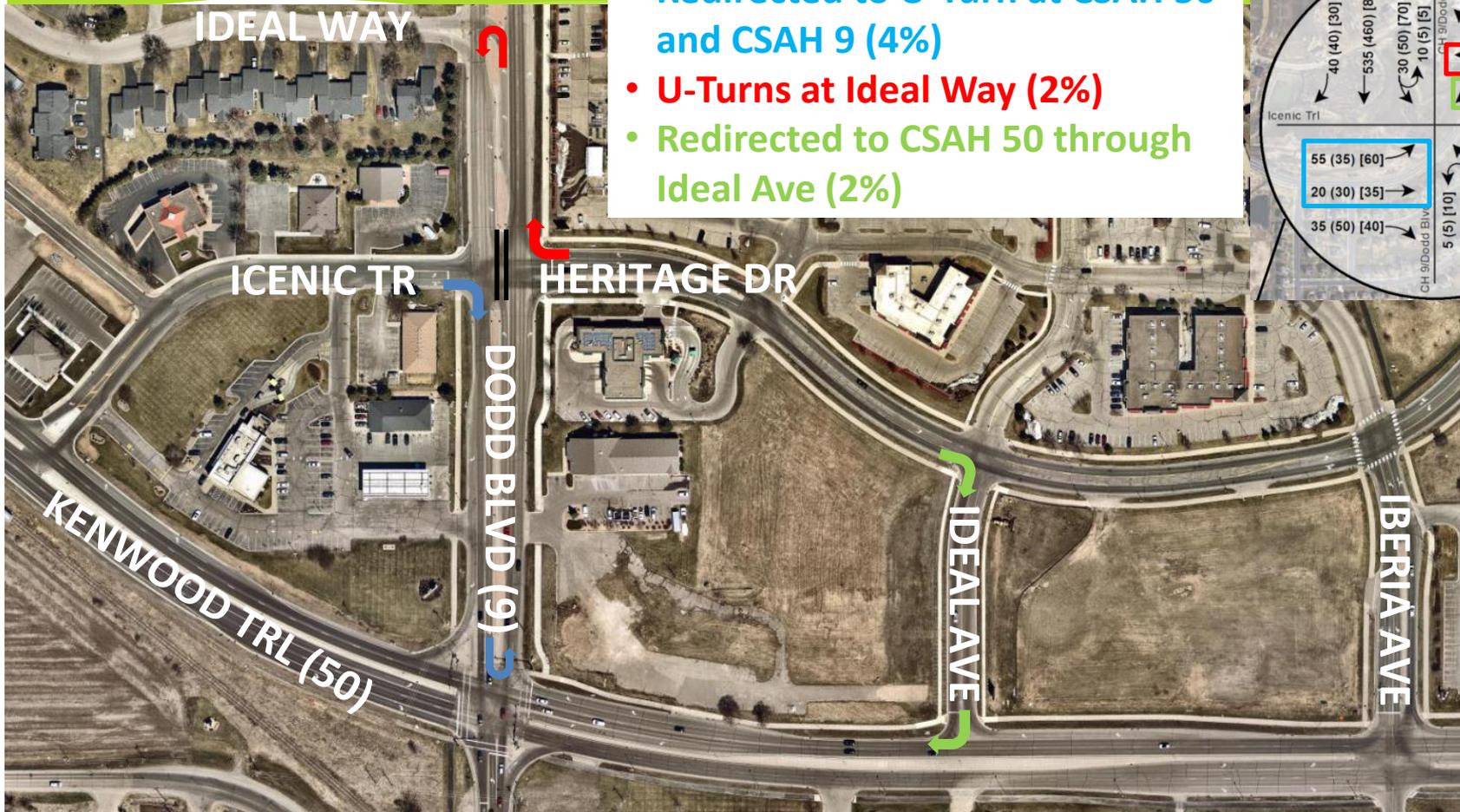
- * No change to entering traffic
- * Existing patterns for business traffic changes
- * Directional Access Intersection will address safety issues with left turn and crossing traffic from the side road
- * Typical approach throughout county
- * Diverted trips safely accommodated at nearby intersections



Directional median is reasonable approach to addressing safety while maintaining access and mobility (businesses & highway)

Redistribution of Turning Movements

- Redirected to U-Turn at CSAH 50 and CSAH 9 (4%)
- U-Turns at Ideal Way (2%)
- Redirected to CSAH 50 through Ideal Ave (2%)



Area intersections can safely accommodate rerouted traffic.

Next Steps

- * County and City to discuss meeting feedback and next steps to address safety issue
- * Potential submittal for safety funding
- * Include project in Dakota County's 2019-2023 Capital Improvement Program (Construction 2020)



Discussion