# FIRST AVENUE


Lane Reconfiguration
from Mall Dr to US 6

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# Project Team

- City of Iowa City
  - Jason Havel, P.E. – City Engineer
  - Scott Sovers, P.E. – Project Manager
  - Darian Nagle-Gamm, AICP – Transportation Planner
- Snyder & Associates, Inc.
  - Brenna Fall, P.E. – Project Manager
  - Justin Jackson, P.E. – Traffic Engineer
  - Mark Perington, P.E., PTOE – Traffic Engineer

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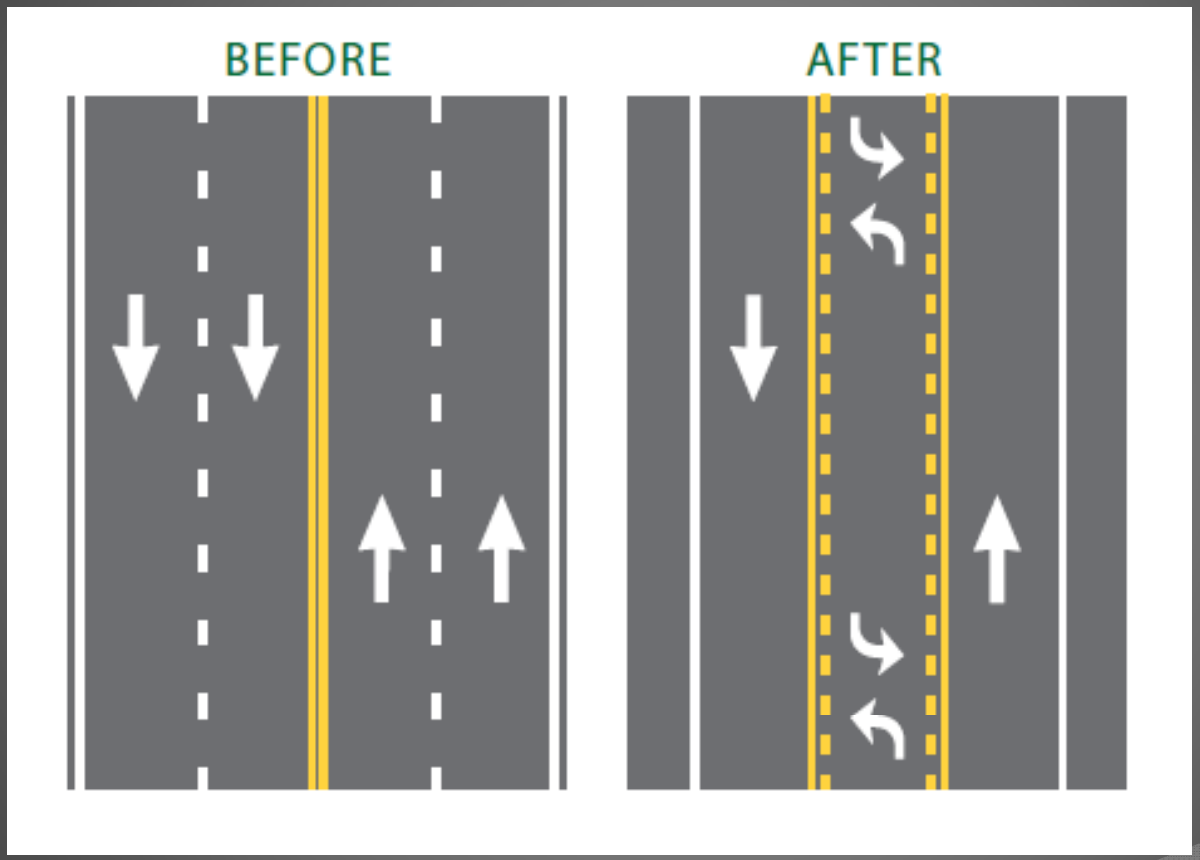
# Lane Reconfiguration




Source: FHWA Road Diet Information Guide

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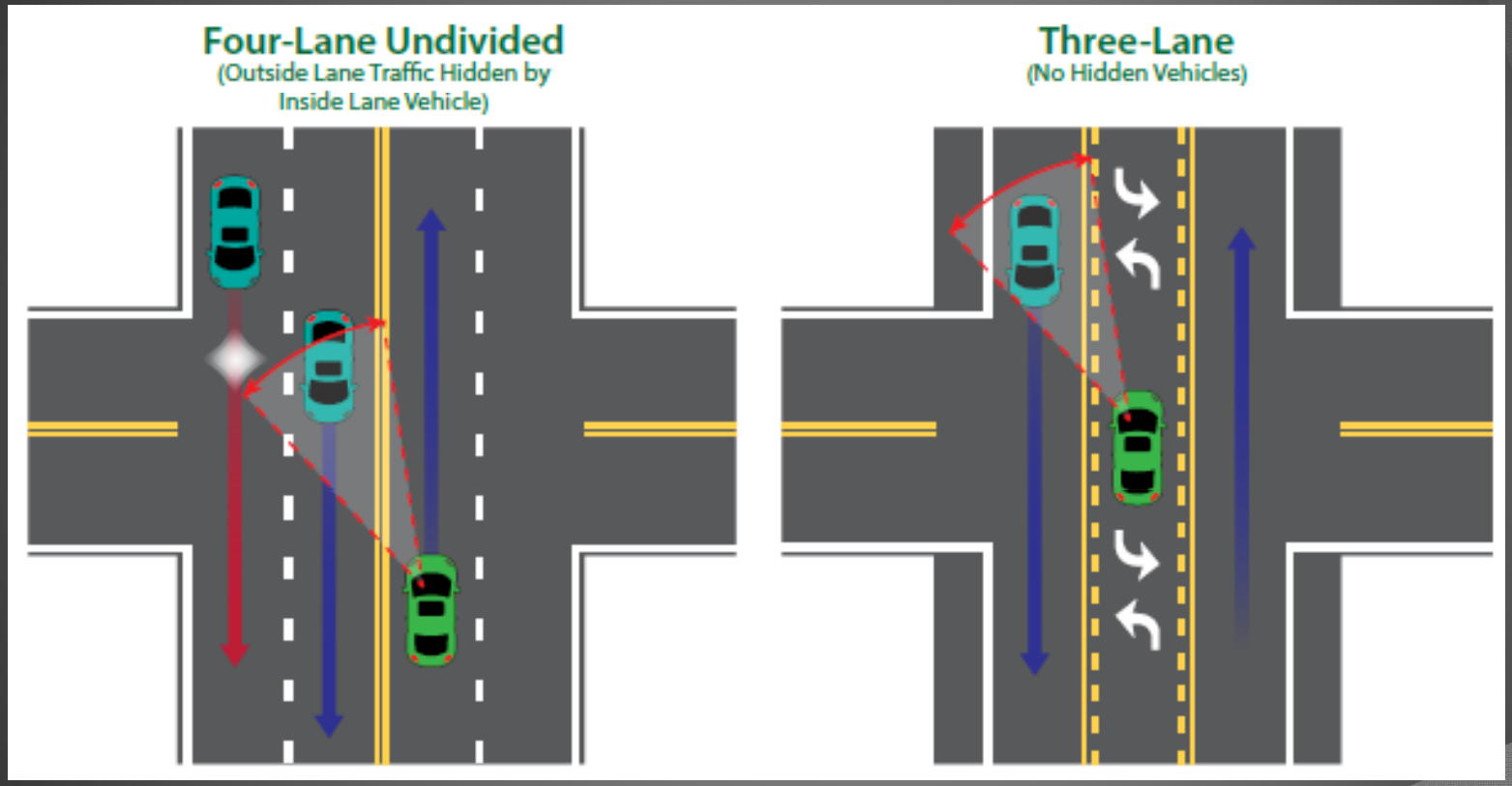
# Increased Sight Distance

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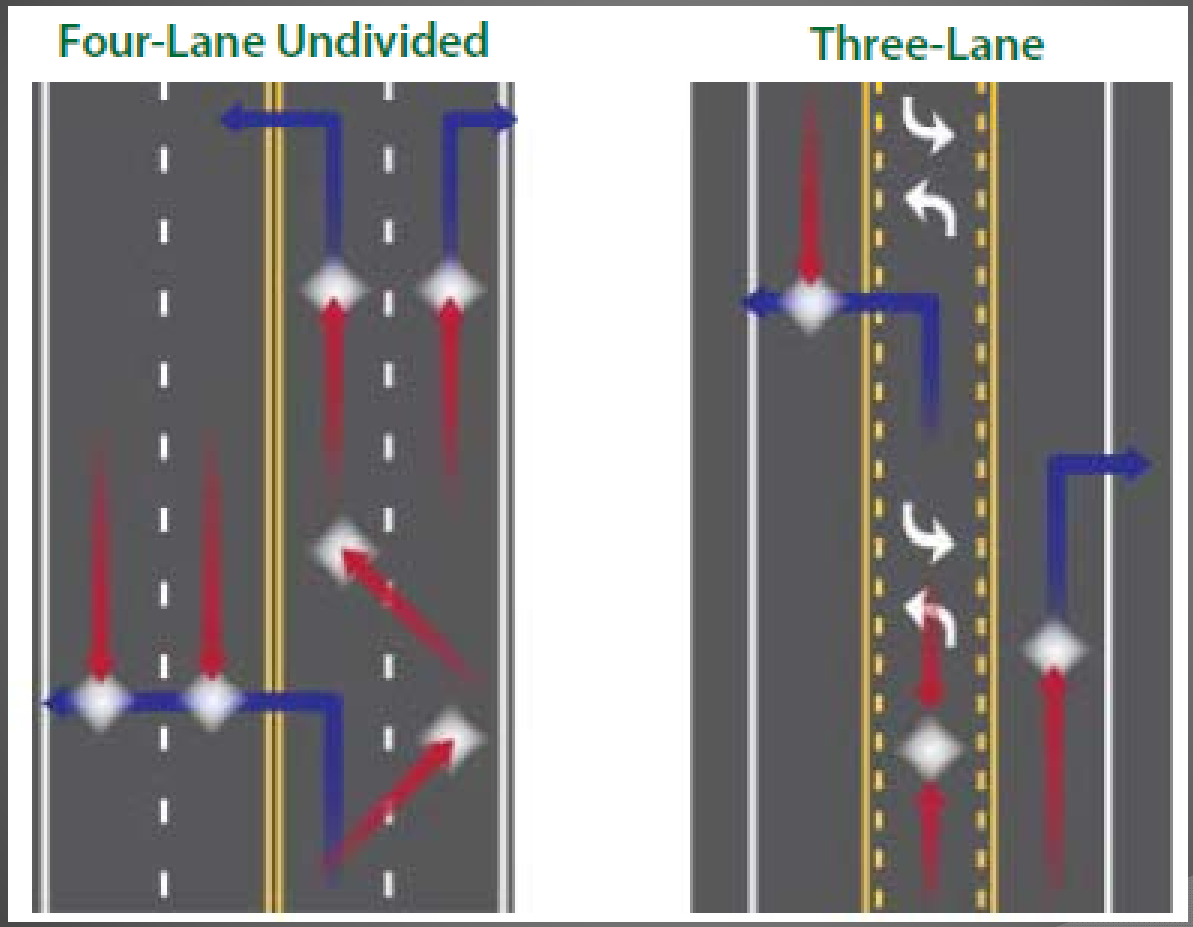
# Reduced Conflict Points

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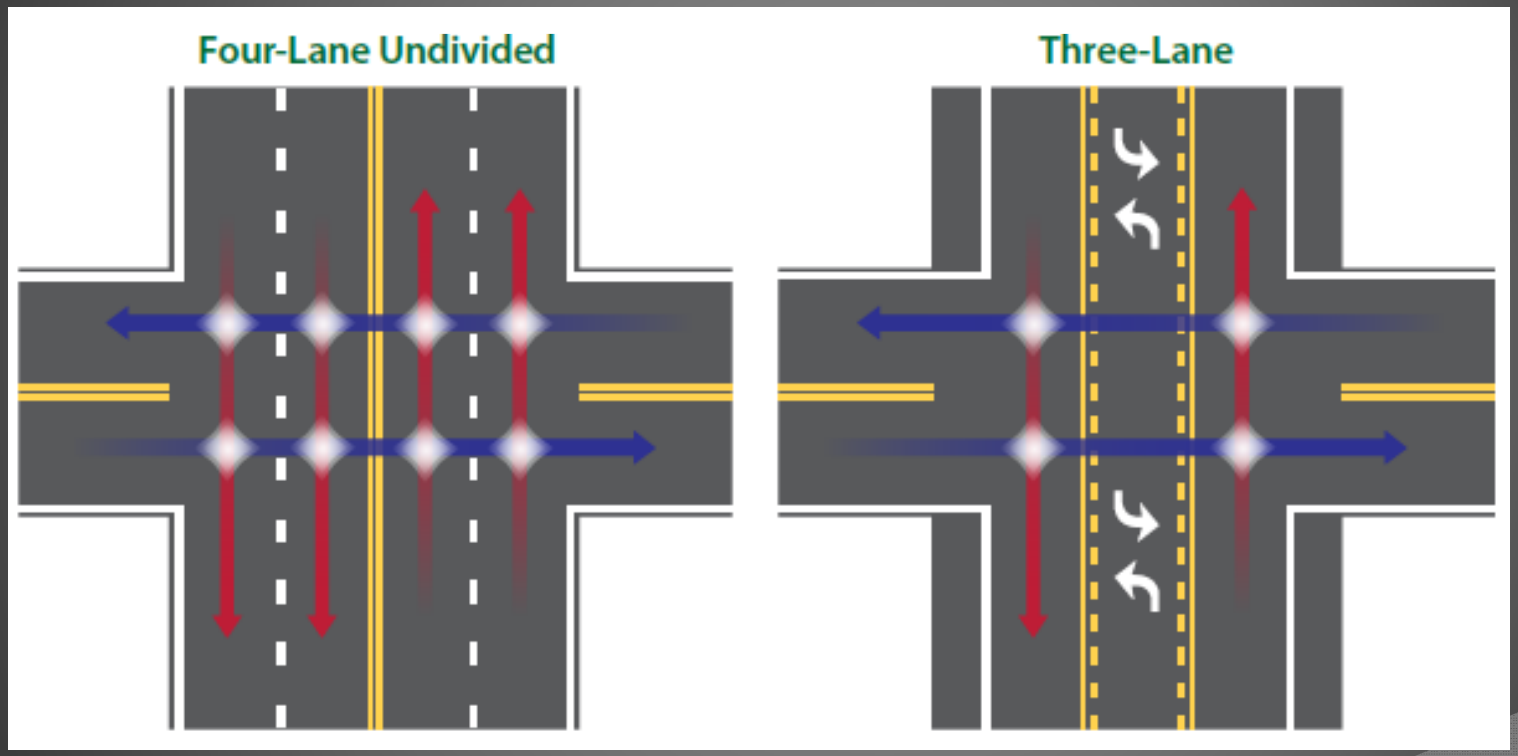
# Reduced Conflict Points

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# Annual Average Daily Traffic

| Roadway Segment | 2002 | 2006 | 2010 | 2014 | MPOJC Model 2010 | MPOJC Model 2040 |
|---|---|---|---|---|---|---|
| Mall Dr to Lower Muscatine Rd | 12,800 | - | 13,000 | - | 13,000 | 14,300 |
| Lower Muscatine Rd to US Hwy 6 | 11,100 | 10,900 | 11,000 | 9,500 | 11,000 | 12,800 |

- DOT did not count at this location during count year

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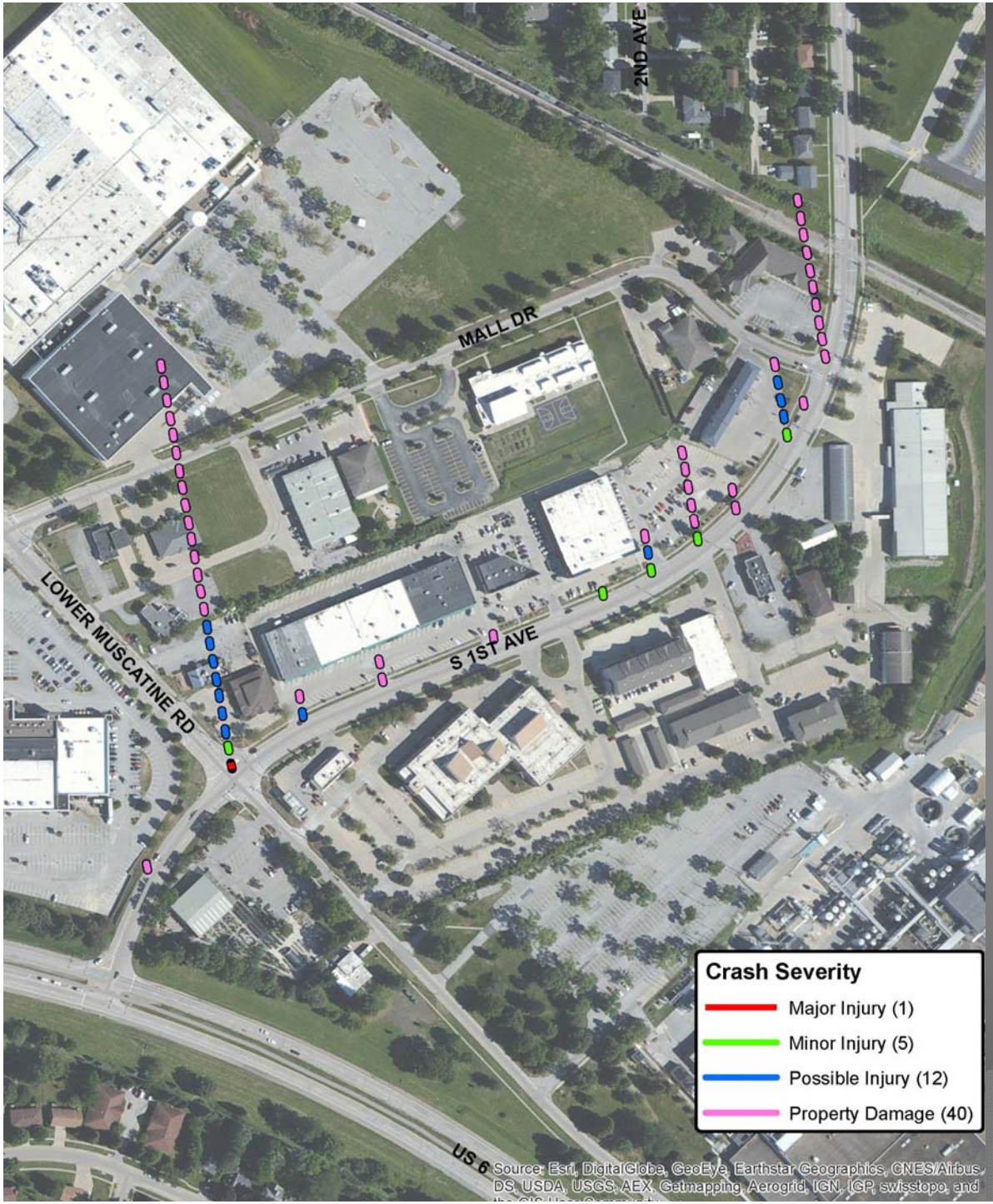


# Crash History

## 2011-2015

Mall Dr to Lower Muscatine Rd

- 58 Crashes
- Injuries
  - 1 Major
  - 5 Minor
  - 14 Possible/Unknown
- $242,400 Reported in Property Damage
- 10 FTYROW Left Turn
- 7 FTYROW Driveway

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# Crash Reduction

**Following too close**

**Failing to yield the right of way**

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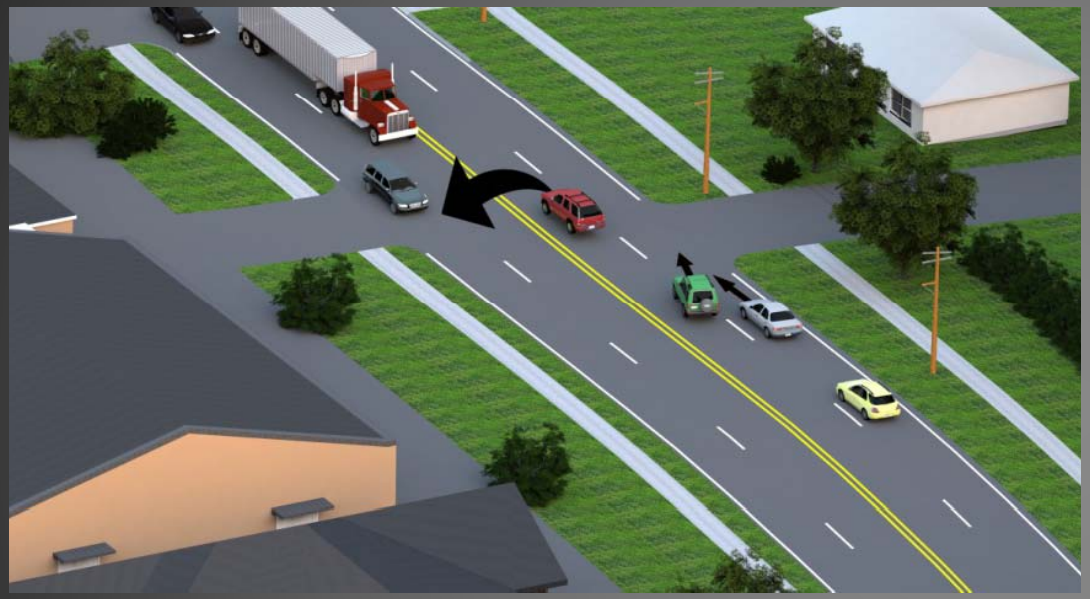
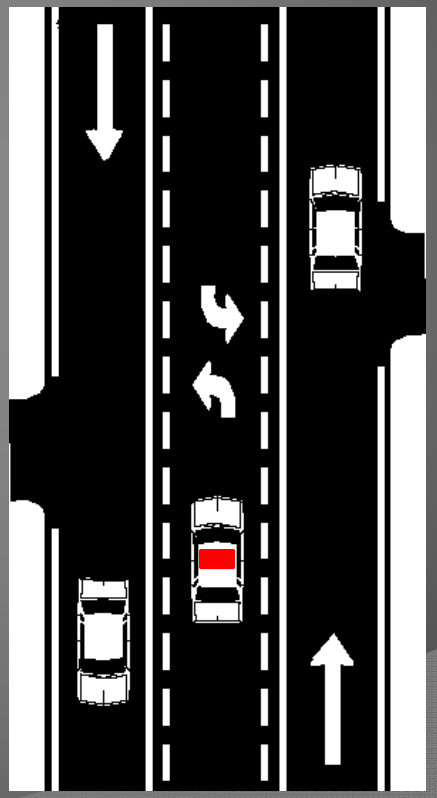
# Crash Reduction…



Sideswipe



Emergency Vehicle Access

…and other benefits

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# Funding

- Traffic Safety Improvement Program (TSIP)
- Comes from Iowa Road Use Tax Fund
- Applied for in 2014 in conjunction with First Ave Grade Separation Project and granted full request of $500,000
- 25% Reduction in Crashes Expected

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# Travel Time Study

**Existing Condition**

- 4 Lanes (2 each direction)
- Travel Time = 83 sec*

Travel Time Increase of approximately 15 seconds

**Proposed Condition**

- 3 Lanes (1 each direction w/ continuous TWLTL)
- Protected/Permissive left turn phasing
- Updated signal coordination plan
- Travel Time = 96 sec*

* Traffic Model Analysis Derived

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# Level of Service (LOS)

Definition: Quality measure describing operational traffic conditions, in terms of speed, travel time, freedom to maneuver, traffic interruptions, comfort, and convenience.

**Six Levels used to evaluate a corridor**

- LOS A to LOS F
  - LOS A = Best Operating Conditions (free-flow)
  - LOS F = Worst Operating Conditions (congested)
- LOS C and LOS D
  - Considered acceptable operating service for design and planning

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# LOS – AM Peak Hour

| Intersection | Current Traffic 4-Lane | Current Traffic 3-Lane | Future Traffic 4-Lane | Future Traffic 3-Lane |
|---|---|---|---|---|
| Mall Drive | A / 4.8 s | B / 10.5 s | A / 4.8 s | B / 10.7 s |
| Lower Muscatine Rd | B / 13.2 s | C / 25.5 s | B / 14.2 s | C / 27.8 s |
| US Hwy 6 | B / 11.5 s | C / 31.5 s | B / 12.6 s | D / 31.6 s |

- Average LOS based on calculated delay at all legs of the intersection.
- Intersection delay reported in average seconds per vehicle.

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# LOS – PM Peak Hour

| Intersection | Current Traffic 4-Lane | Current Traffic 3-Lane | Future Traffic 4-Lane | Future Traffic 3-Lane |
|---|---|---|---|---|
| Mall Dr | A / 7.5 s | B / 17.4 s | B / 10.6 s | B / 19 s |
| Lower Muscatine Rd | B / 14.4 s | C / 25.8 s | C / 20 s | C / 26.8 s |
| US Hwy 6 | B / 10.3 s | C / 32.4 s | C / 28.6 s | C / 28.5 s |

- Average LOS based on calculated delay at all legs of the intersection.
- Intersection delay reported in average seconds per vehicle.

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# Project Specifics

- Lane reconfiguration proposed from Mall Dr to Lower Muscatine Rd
  - 11’ wide Through Lanes
  - 12’ wide Continuous Two-Way-Left-Turn Lane
  - Dedicated Bike Lanes
- Traffic Signal Improvements
  - Coordinated signal timing
  - Protected/permissive left-turn phasing

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# THANK YOU FOR COMING

Please provide us with your comments.
Comment forms are available at the registration table or you may email the project team at bfall@snyder-associates.com.

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