

# Main Street & Sycamore Steet

Zionsville, Indiana

Roadway Network Analysis

11/3/2025

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# Current Operational Constraints



# Scope of Work

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- Estimate year 2025 and year 2035 traffic volumes based on traffic volume counts from the Town of Zionsville Road Impact Fee and a growth rate of 1.5% per year at the following study intersections:
  - Sycamore Street & 1<sup>st</sup> Street
  - Sycamore Street & Main Street
- Balance and redistribute the traffic volumes for each scenario studied.
- Prepare a capacity analysis, level of service analysis, and queue length analysis for each of the scenarios studied.
- Prepare conclusions and recommendations based on the results of the study.



# Alternatives Studied

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- **Scenario 1: No Build – Year 2025 Traffic Volumes**
- **Scenario 2: No Build – Year 2035 Traffic Volumes**
- **Scenario 3: Coordinated Signal System – Year 2035 Traffic Volumes**
  - Added traffic signal at the intersection of Sycamore Street & 1<sup>st</sup> Street
- **Scenario 4: Moved Signal/Realignment – Year 2035 Traffic Volumes**
  - Move the existing signal to the intersection of Sycamore Street & 1<sup>st</sup> Street
  - Realign Main Street south of Sycamore Street to align with 1<sup>st</sup> Street
- **Scenario 5: “Peanut” Roundabout Two-Way West – Year 2035 Traffic Volumes**
  - Reconstruct the intersections as a “peanut” roundabout
  - Realign Main Street south of Sycamore Street to align with 1<sup>st</sup> Street
- **Scenario 6: “Peanut” Roundabout Two-Way East – Year 2035 Traffic Volumes**
  - Reconstruct the intersections as a “peanut” roundabout
- **Scenario 7: “Peanut” Roundabout One-Way – Year 2035 Traffic Volumes**
  - Reconstruct the intersections as a “peanut” roundabout
  - One-way operation between Sycamore Street and Eagle Creek



# Scenario 1: No Build - 2025

Area Map



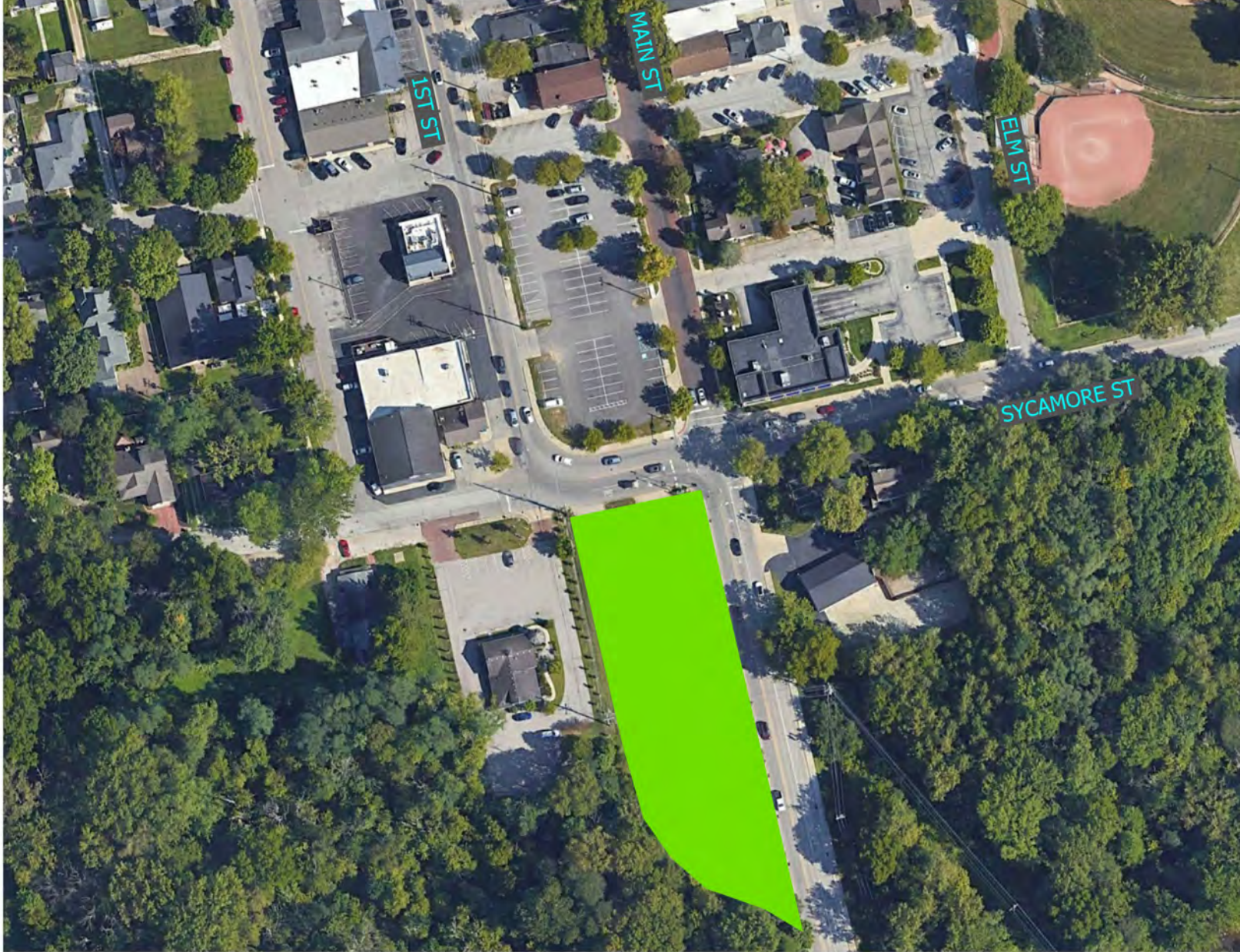
# Scenario 2: No Build - 2035

Area Map



# Scenario 3: Coordinated Signal System

## Area Map



# Scenario 4: Moved Signal/Realignment

Area Map



# Scenario 5: "Peanut" RAB Two-Way West

Area Map



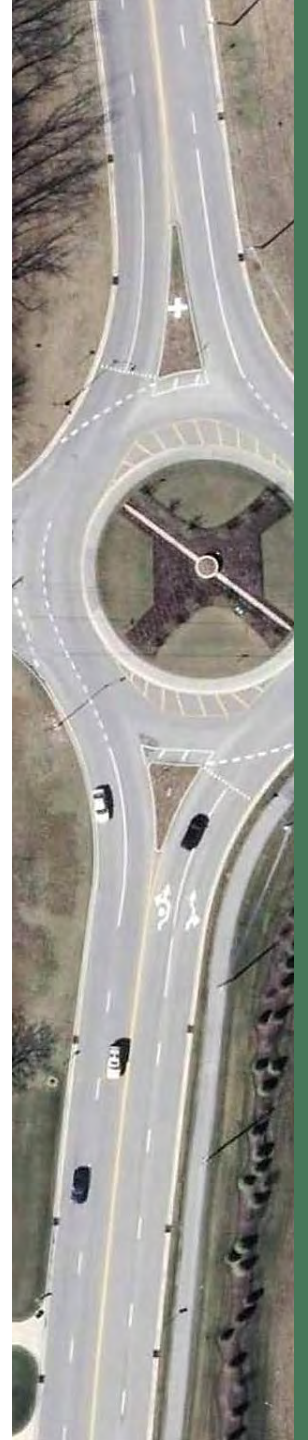
# Scenario 6: "Peanut" RAB Two-Way East

## Area Map



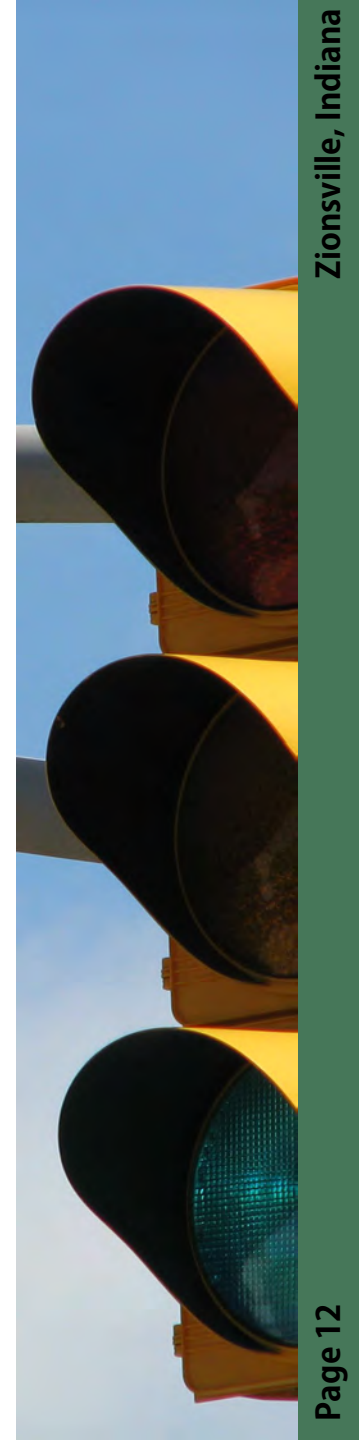
# Scenario 7: "Peanut" RAB One-Way

## Area Map



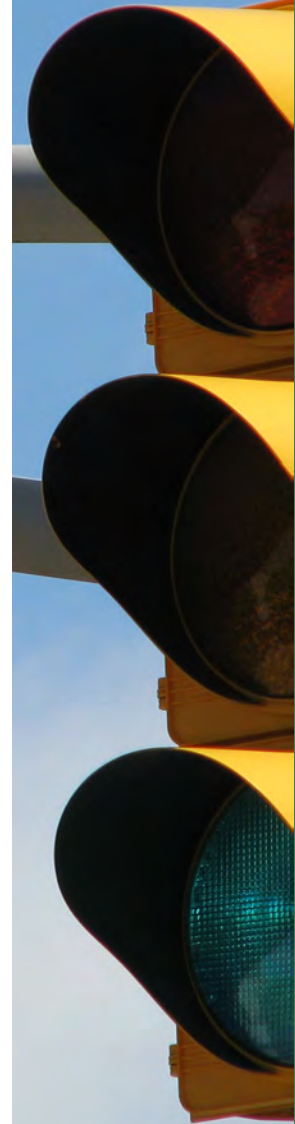
# Scenario 1: No Build - 2025

## Level of Service Summary



# Scenario 2: No Build - 2035

## Level of Service Summary



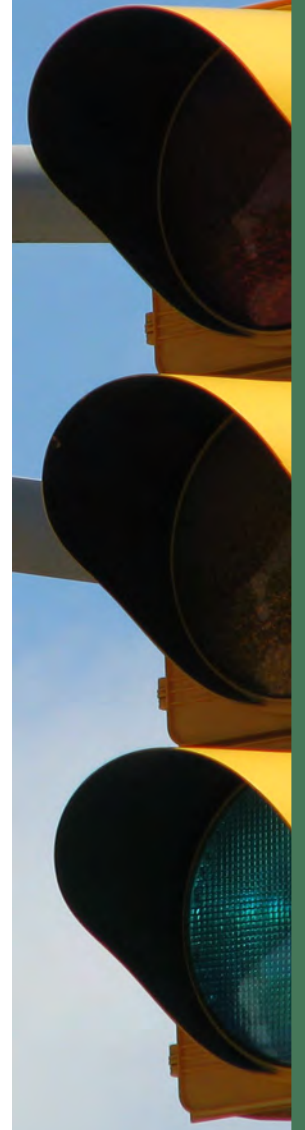
# Scenario 3: Coordinated Signal System

## Level of Service Summary



# Scenario 4: Moved Signal/Realignment

## Level of Service Summary



# Scenario 5: "Peanut" RAB Two-Way West

Level of Service Summary



# Scenario 6: "Peanut" RAB Two-Way East

Level of Service Summary



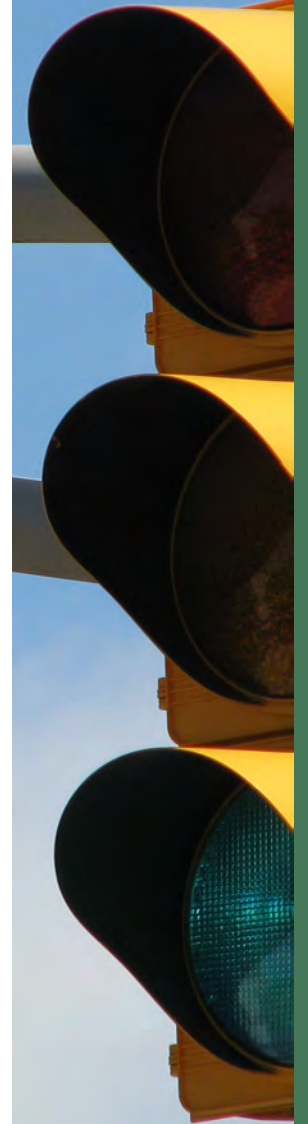
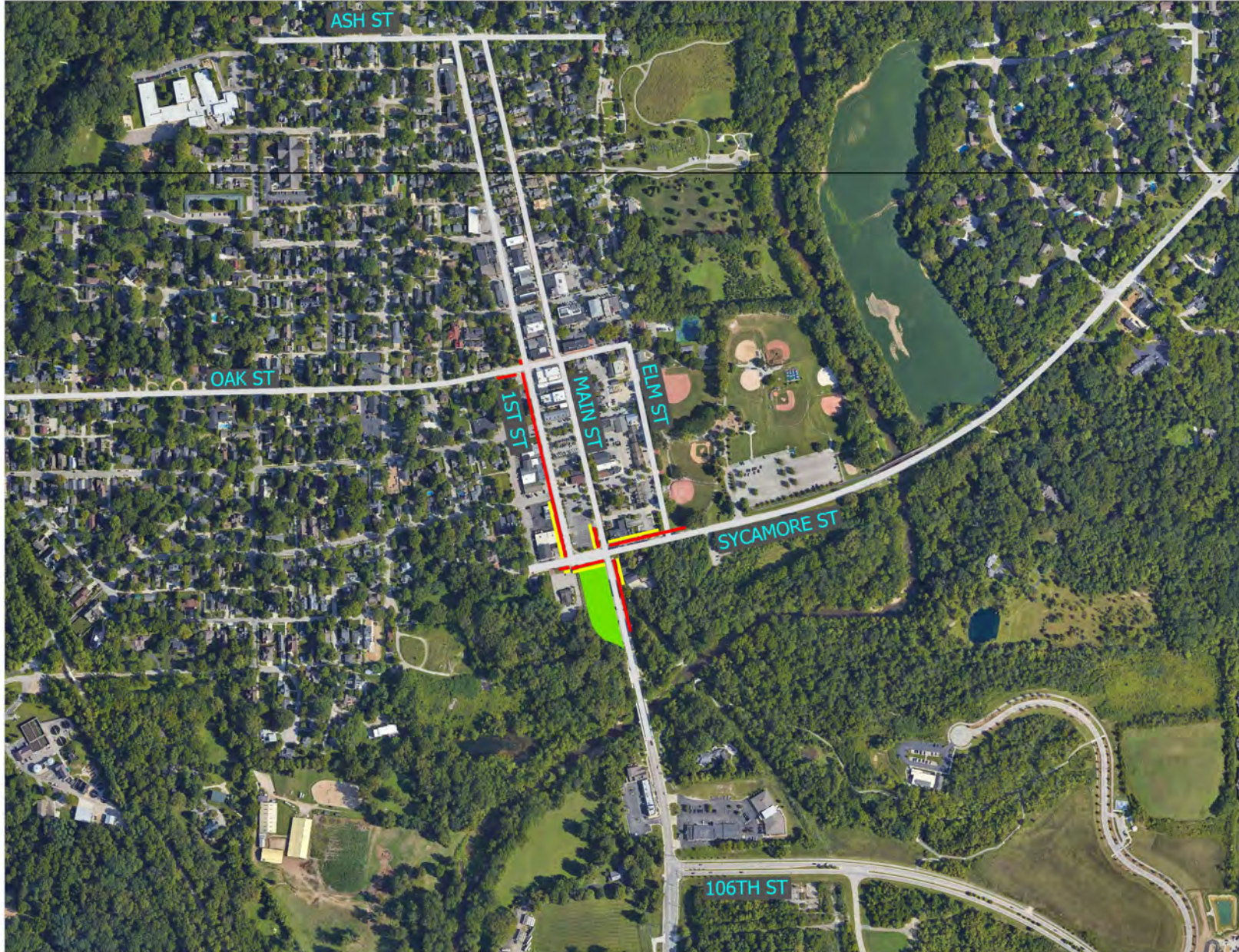
# Scenario 7: "Peanut" RAB One-Way

Level of Service Summary



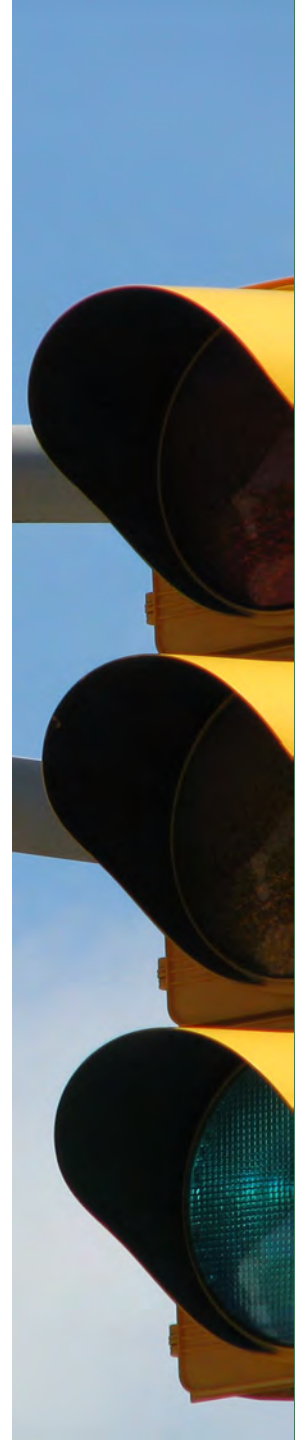
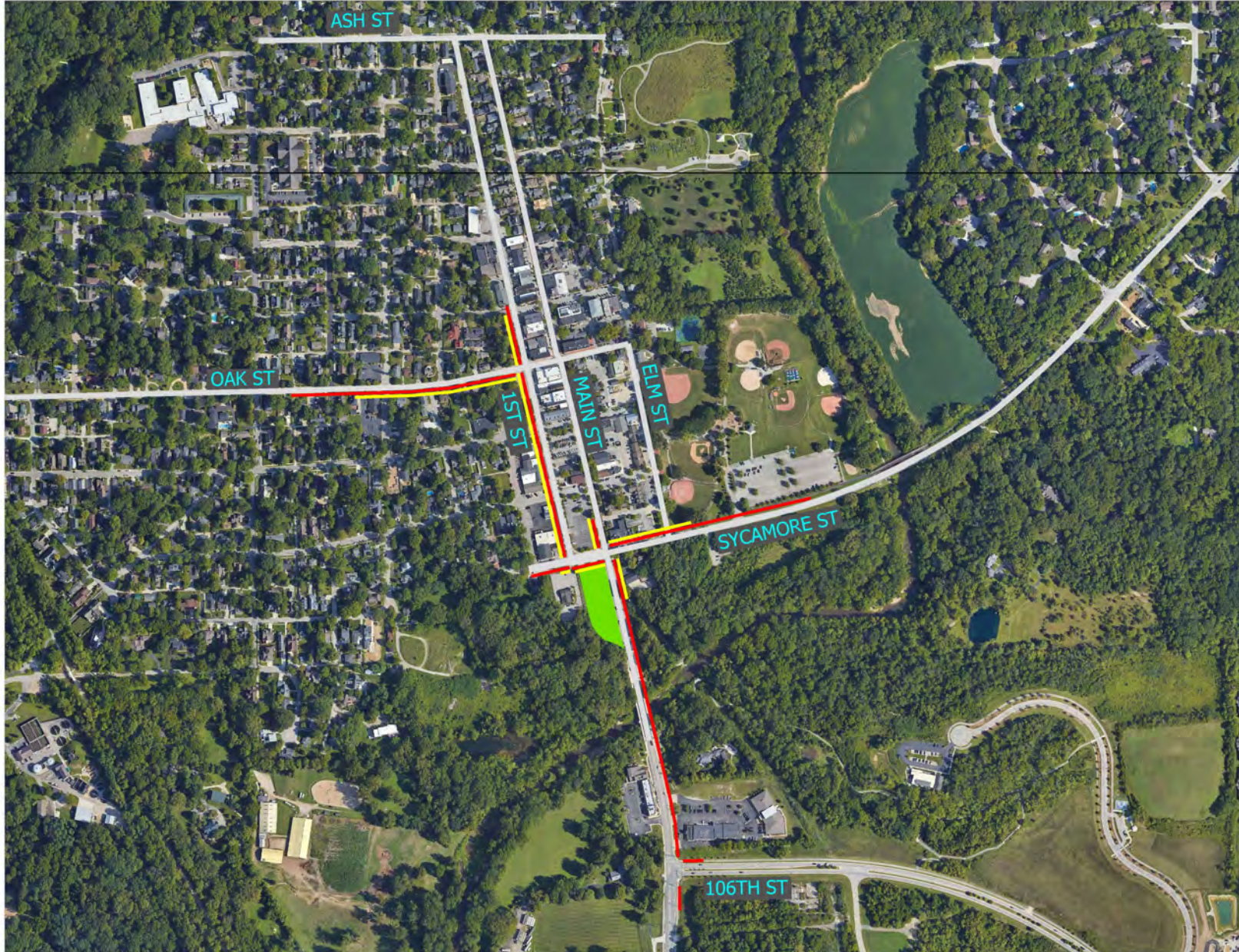
# Scenario 1: No Build - 2025

## 95<sup>th</sup> Percentile Queue Length Summary



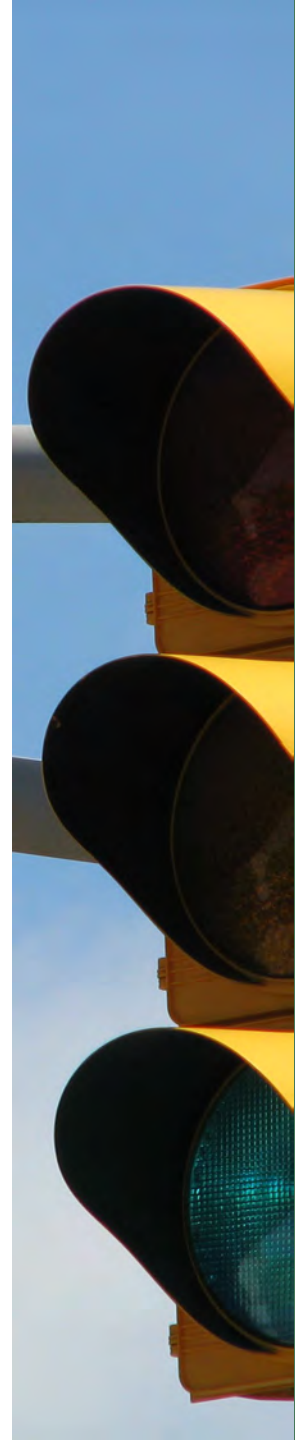
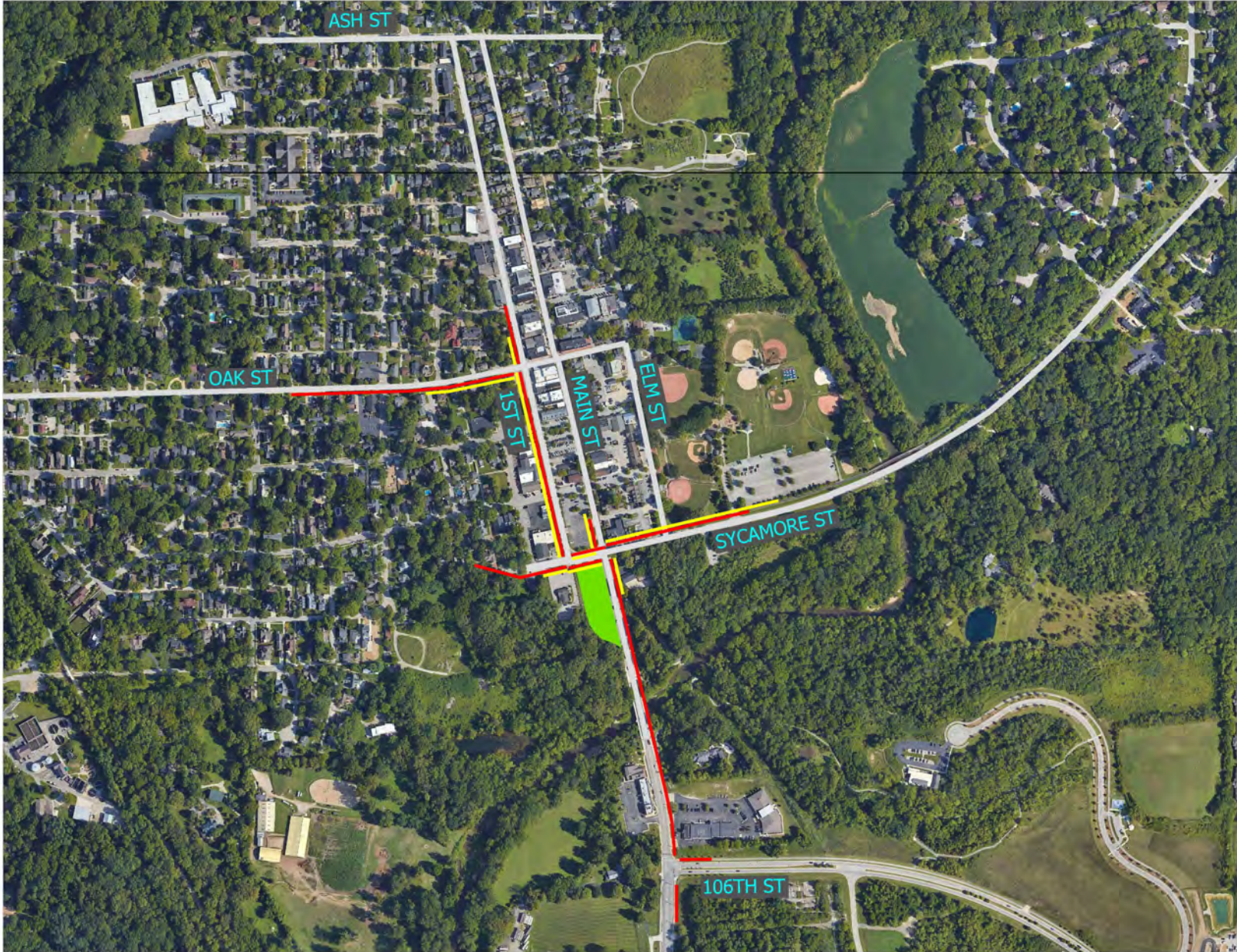
# Scenario 2: No Build - 2035

## 95<sup>th</sup> Percentile Queue Length Summary



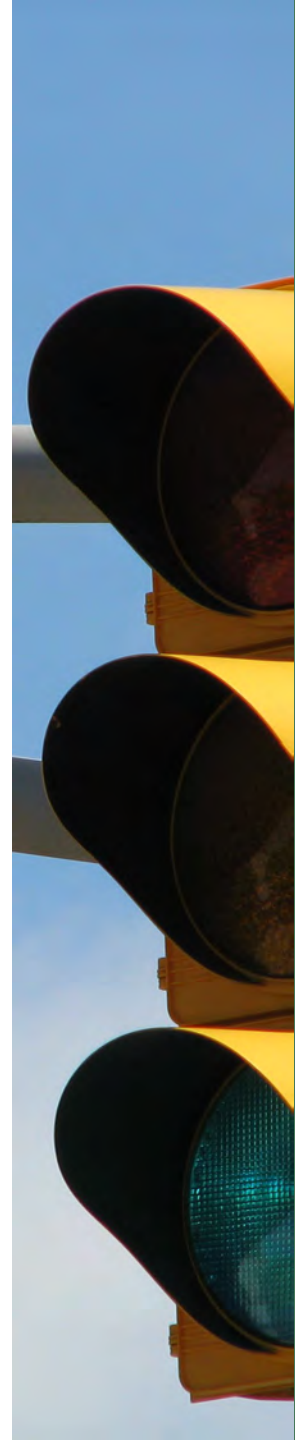
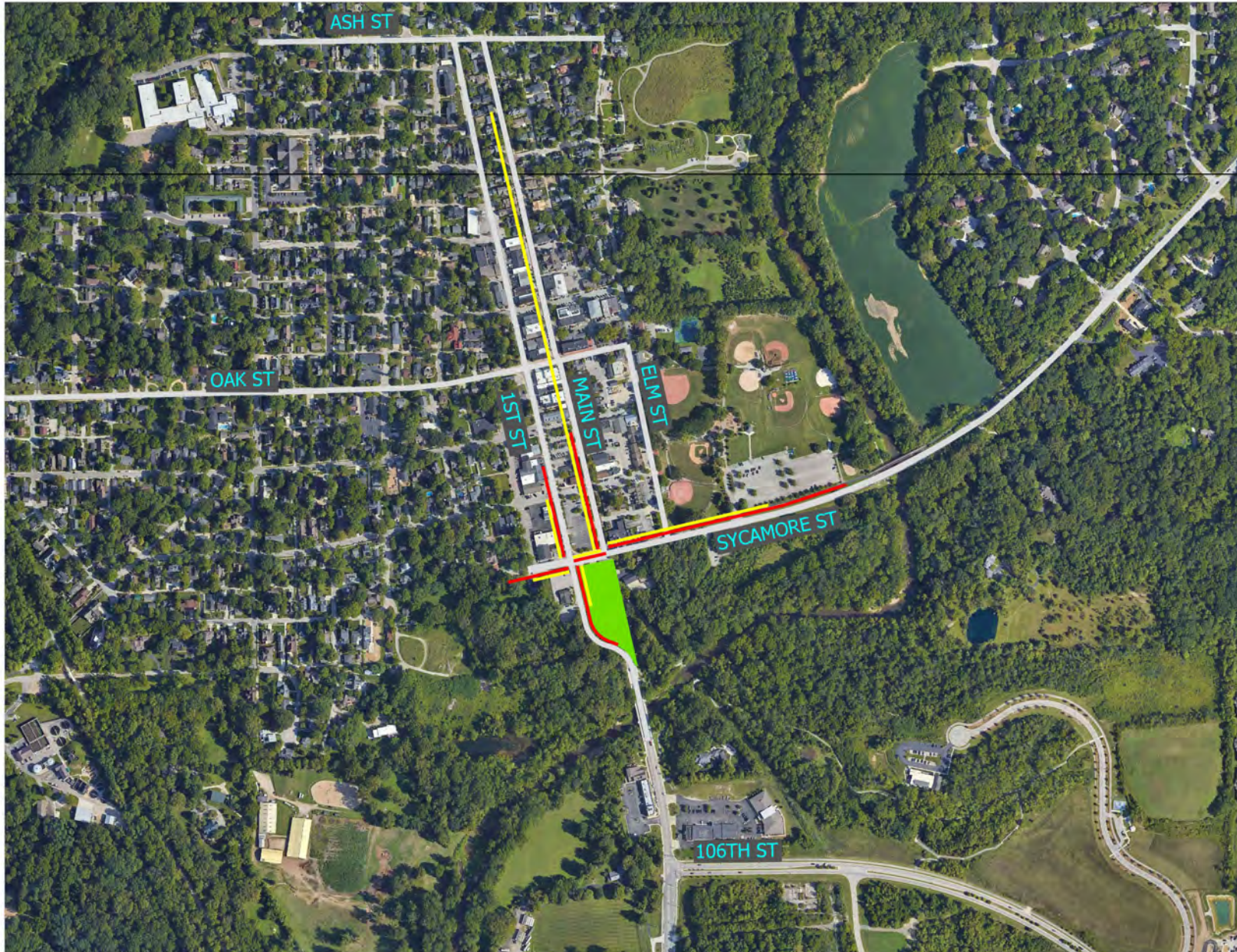
# Scenario 3: Coordinated Signal System

## 95<sup>th</sup> Percentile Queue Length Summary



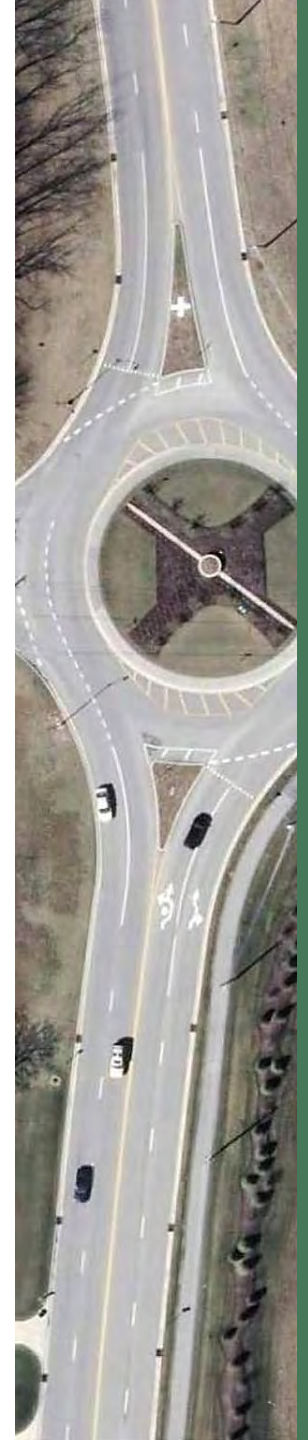
# Scenario 4: Moved Signal/Realignment

## 95<sup>th</sup> Percentile Queue Length Summary



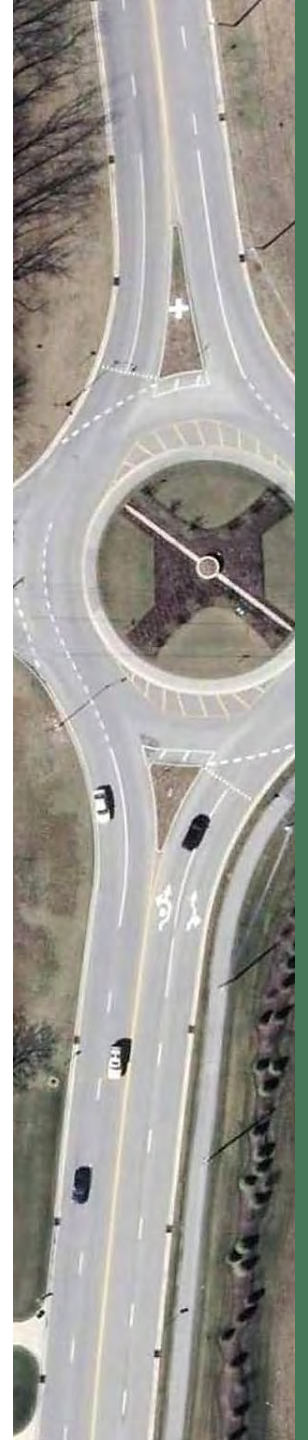
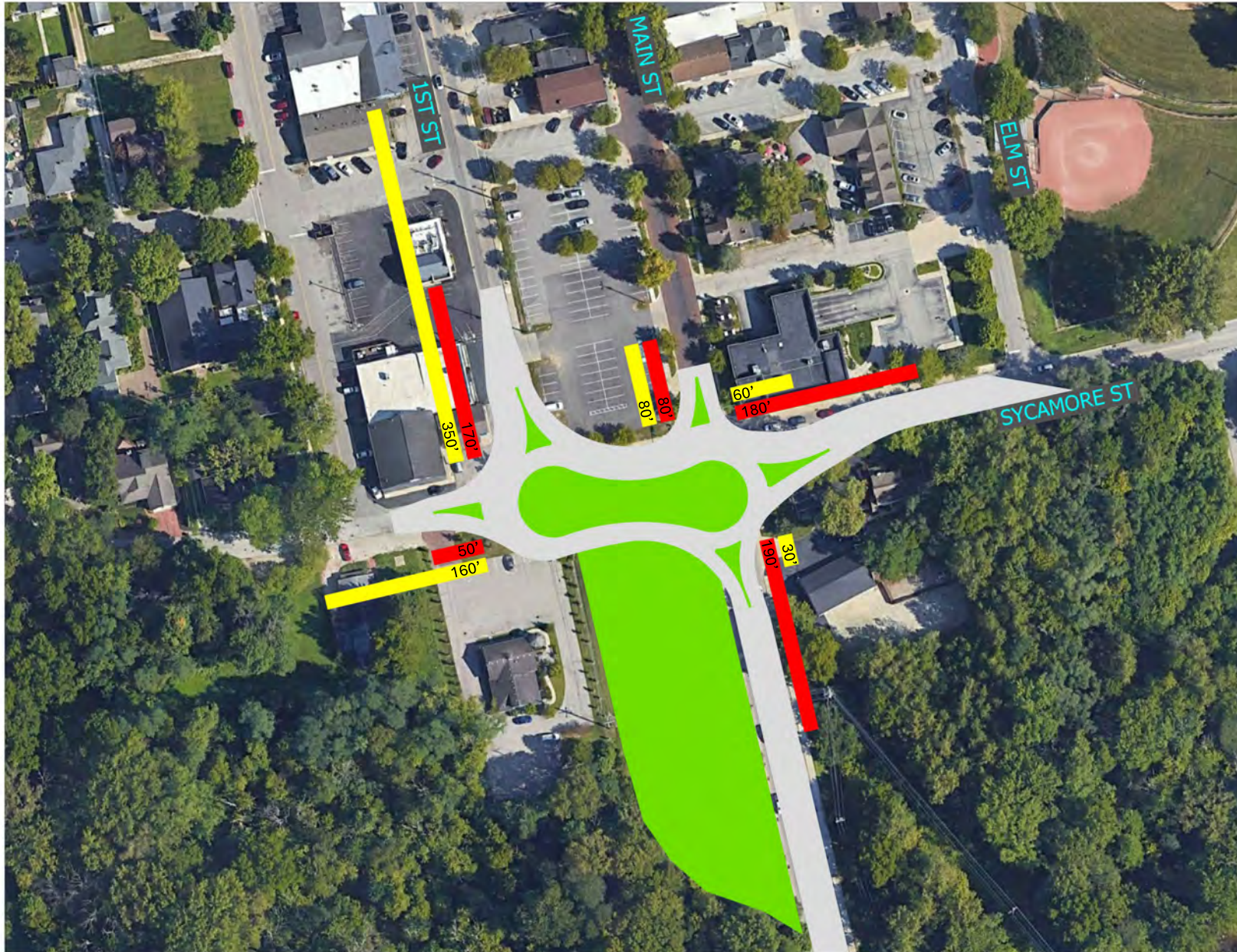
# Scenario 5: "Peanut" RAB Two-Way West

## 95<sup>th</sup> Percentile Queue Length Summary



# Scenario 6: "Peanut" RAB Two-Way East

## 95<sup>th</sup> Percentile Queue Length Summary



# Scenario 7: "Peanut" RAB One-Way

## 95<sup>th</sup> Percentile Queue Length Summary



# Contact Information

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