

OTO Congestion
Management Process
Phase III:
Congestion Monitoring
and Strategy Evaluation
2024

OTO Board of Directors
Meeting

September 19, 2024



OZARKS TRANSPORTATION
ORGANIZATION

A METROPOLITAN PLANNING ORGANIZATION



Revised CMP Network June 2024

The CMP is the Ozarks
Transportation Organization
Congestion Management Process

Daily VMT & Population 2019 - 2023

Year	VMT	OTO Population	VMT per Capita
2023	5,923,899	353,503	16.76
2022	5,705,465	351,277	16.24
2021	5,482,804	346,710	15.81
2020	5,025,591	343,141	14.65
2019	5,592,422	334,485	16.72
2018	5,460,495	332,321	16.43
2017	5,502,936	329,330	16.71

- VMT increase of 331,477 miles travelled daily, **5.9%** since 2019
- OTO area population increased 19,003 people, **5.7%** since 2019

Congestion Metrics Monitoring

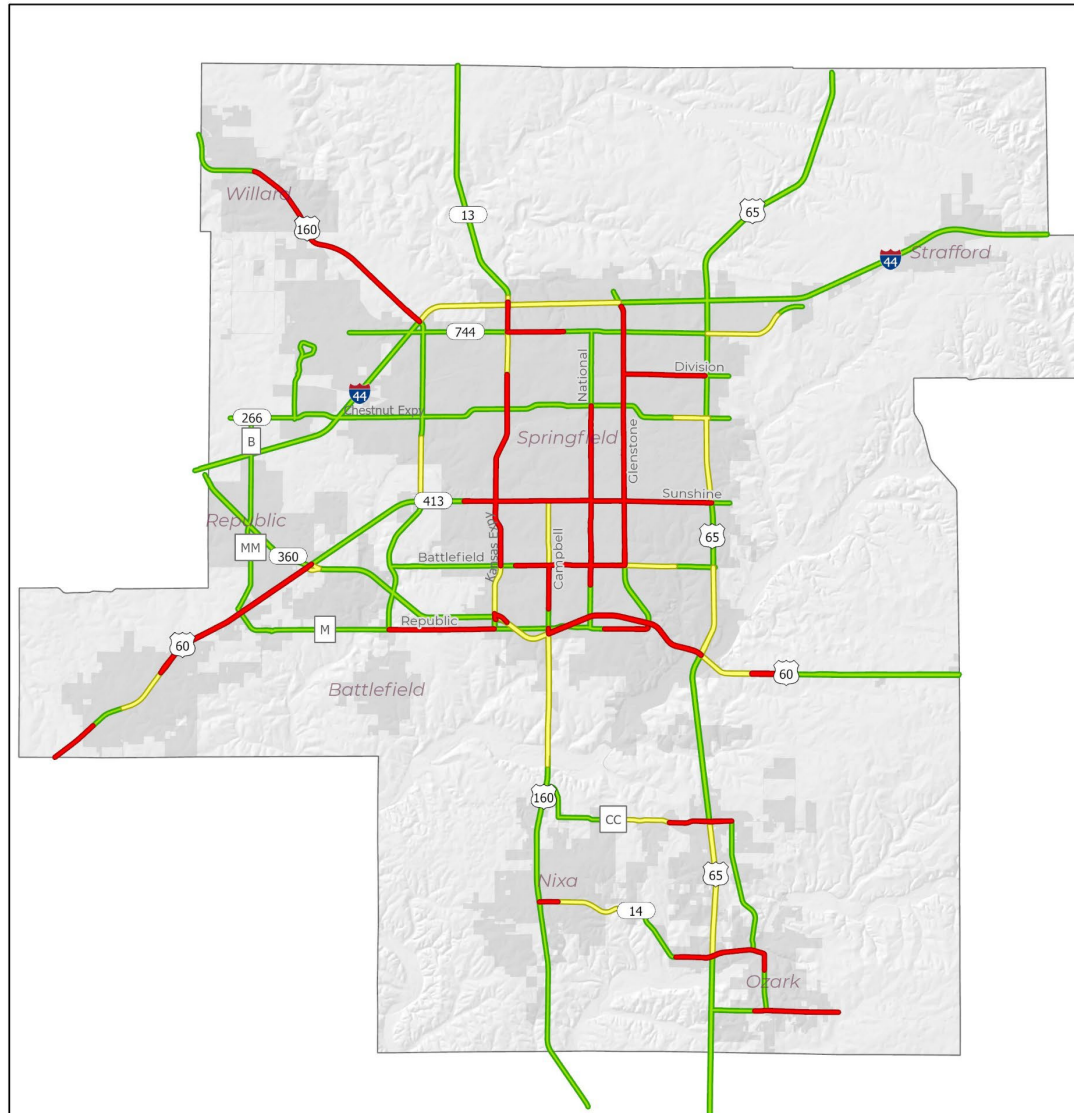
Volume-to-Capacity Ratio

Crash Frequency

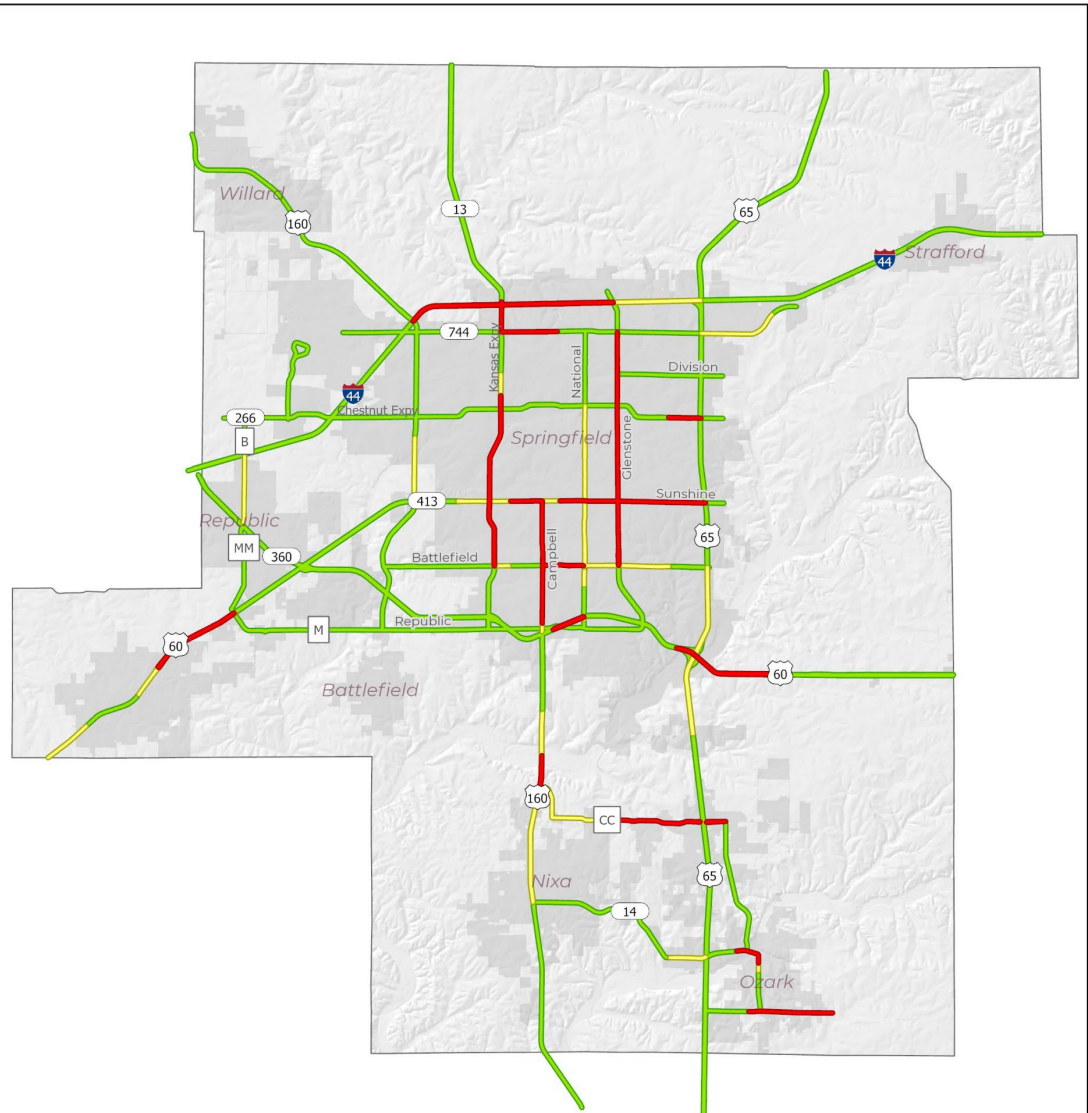
Peak Travel Delay

Intersection Level of Service

2019 Roadway Volume-to-Capacity Ratios



2024 Roadway Volume-to-Capacity Ratios



Volume-to-Capacity Ratio

- > 0.87 - Above Capacity
- 0.78 - 0.86 - Approaching Capacity
- 0.00 - 0.77 - Below Capacity

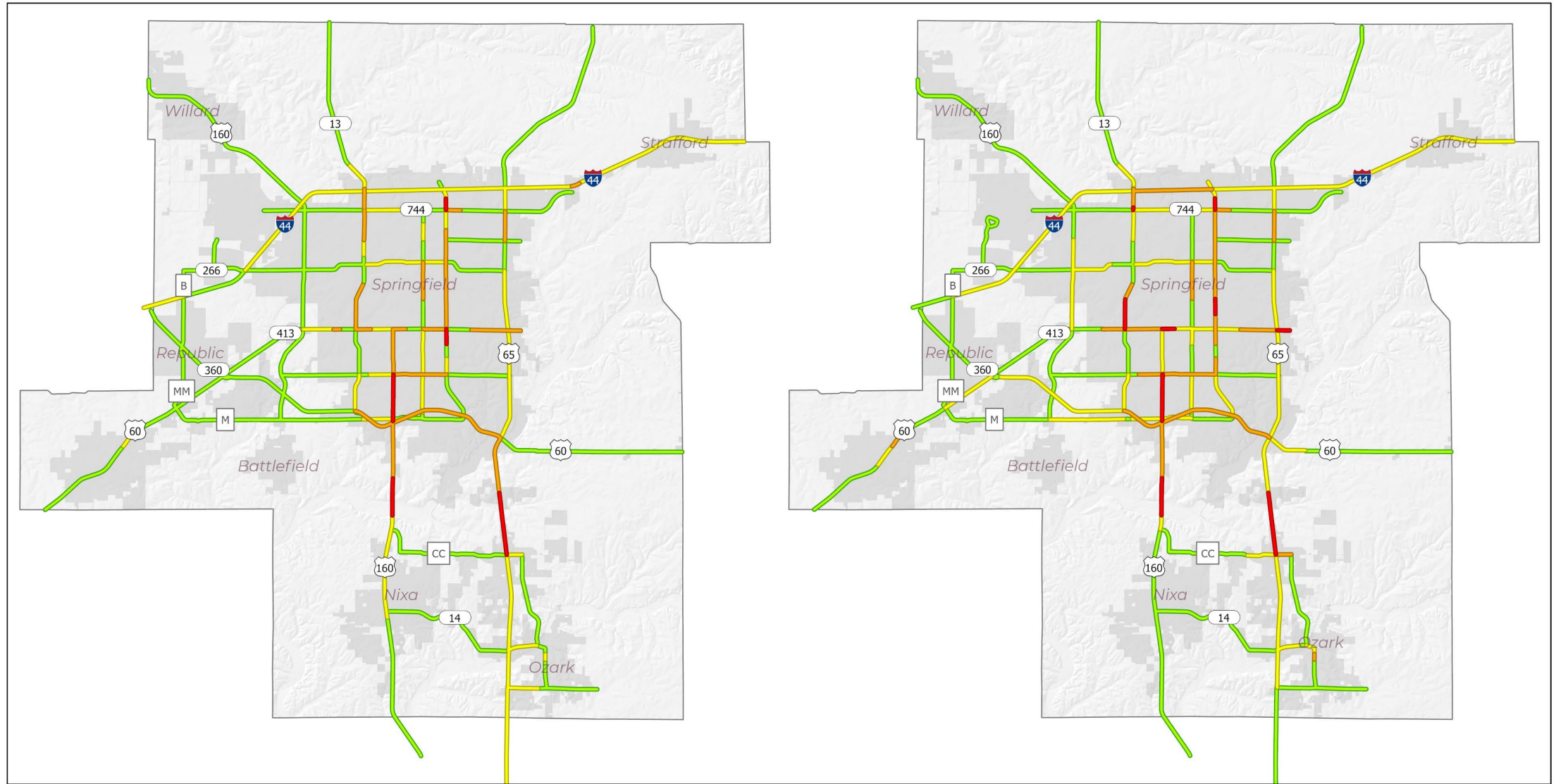


Sources: MoDOT 2023 Roadway AADT & The OTO 2050 & 2045 Travel Demand Model Capacities.



Crashes per Mile 2019

Crashes per Mile 2024

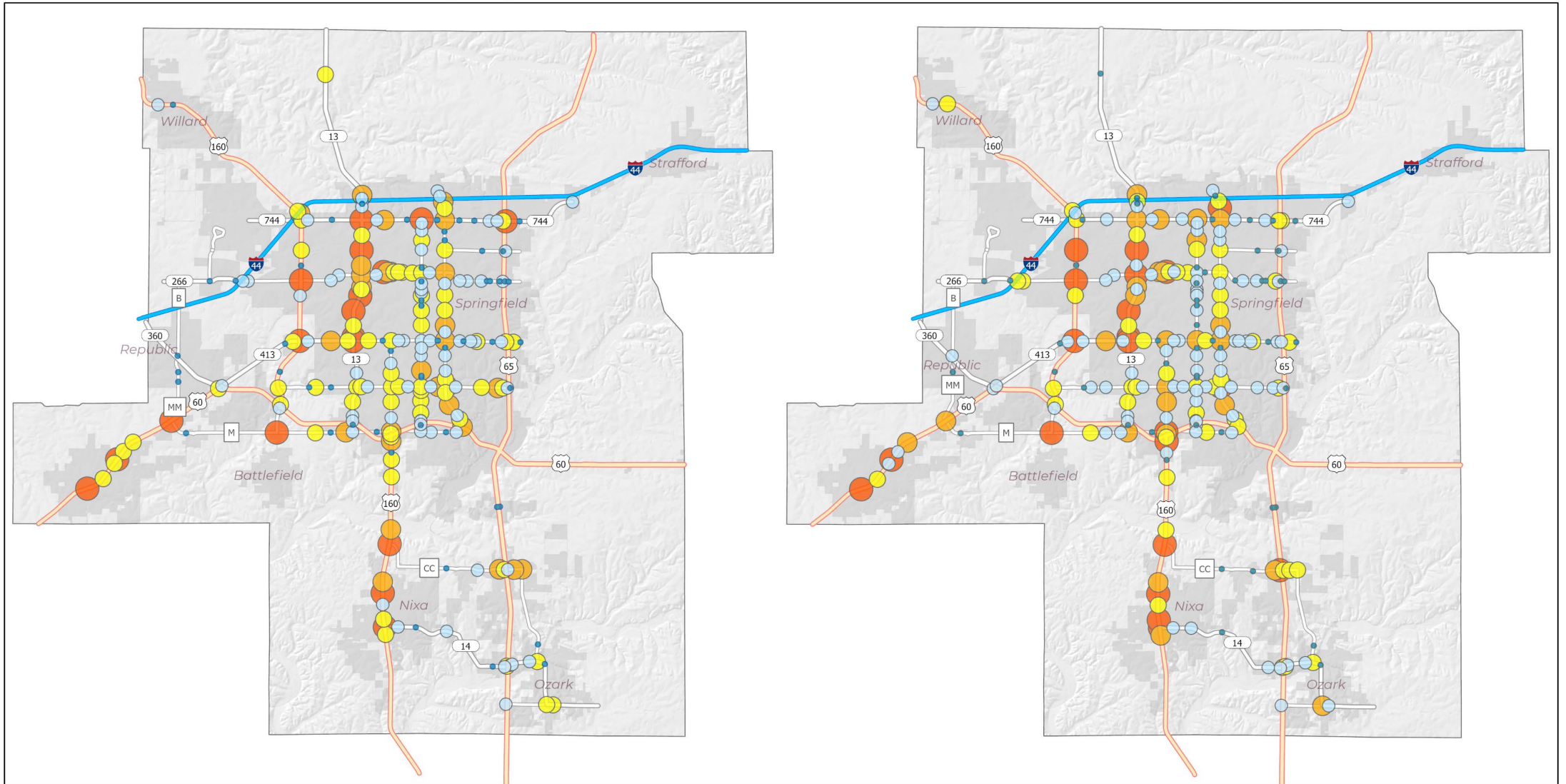


Data Source: MoDOT Crash Statistics Map. Total Crashes for 2017, 2018, 2019 & 2021, 2022, 2023



Intersection Crash Frequency 2019

Intersection Crash Frequency 2023



Crash Count/Type Average

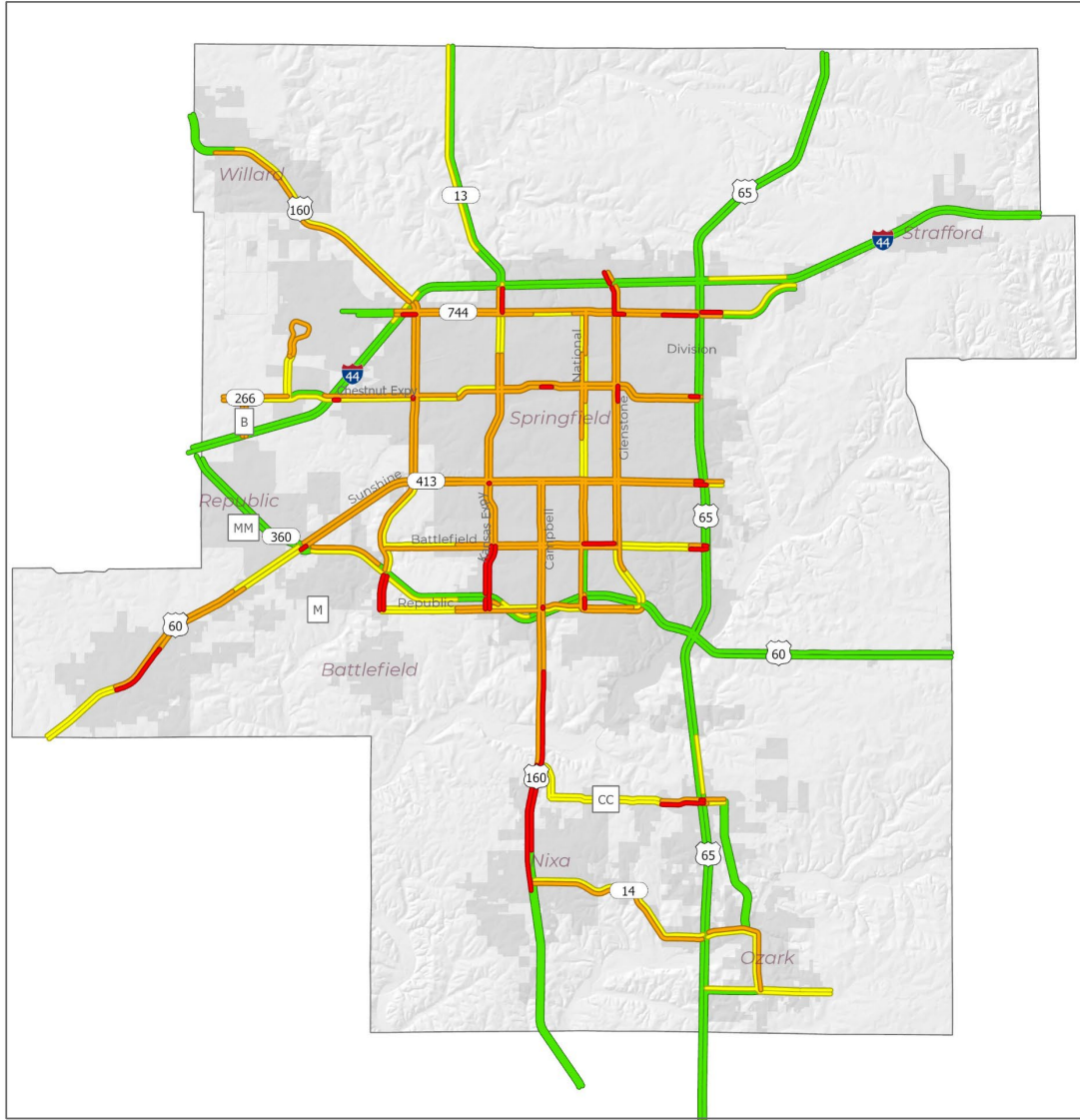
- 2.1 - 4.0
- 1.6 - 2.0
- 1.1 - 1.5
- 0.6 - 1.0
- 0.0 - 0.5



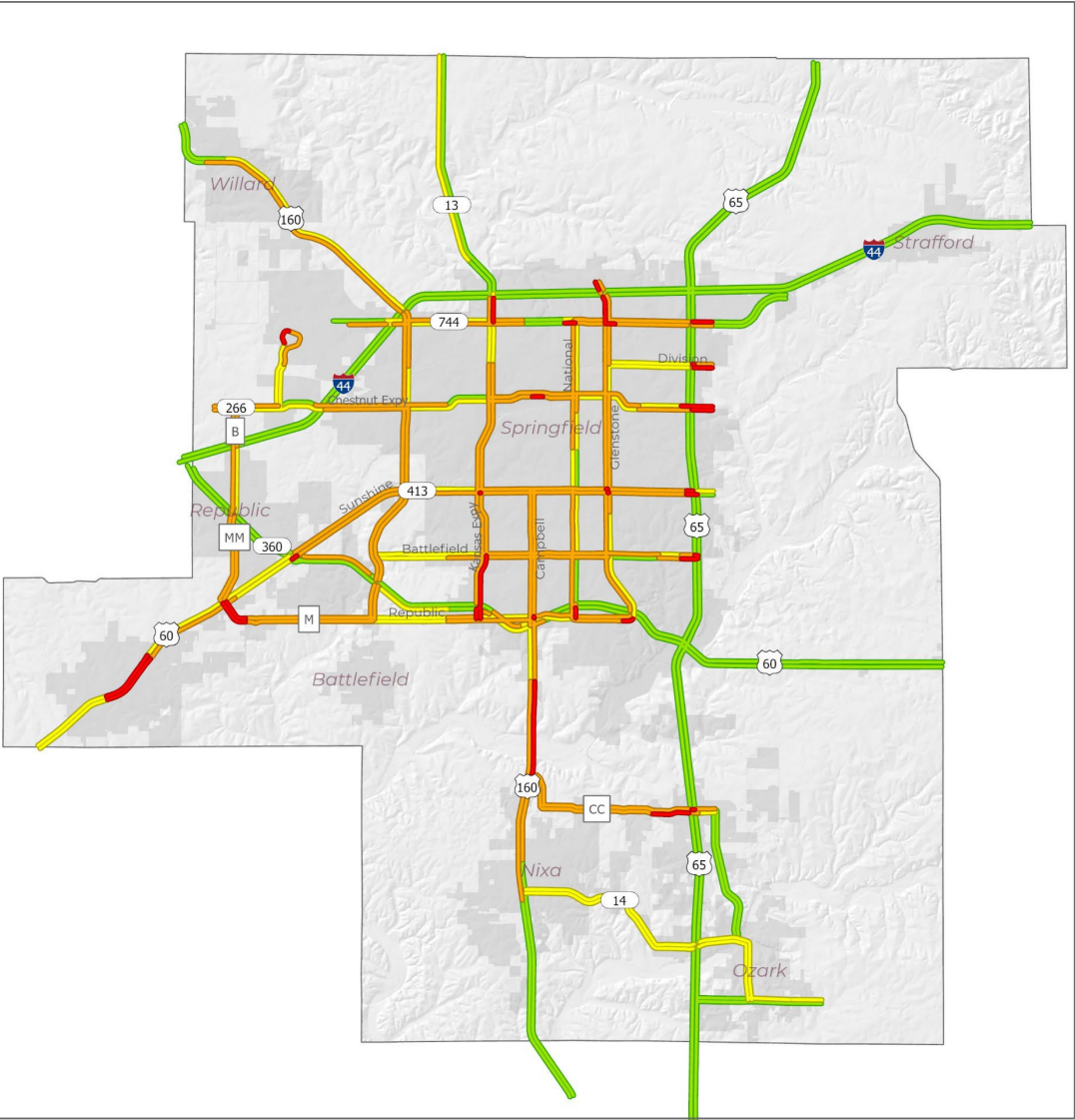
Source: MoDOT Crash Statistics Map.
Total crashes for 2016, 2017, 2018 & 2021, 2022, 2023.



AM Travel Delay 2019



AM Travel Delay 2024



- AM MPH below Speed Limit
- > or = 20.0 mph
 - 10.0 - 19.9 mph
 - 5.0 - 9.9 mph
 - < or = 4.9 mph



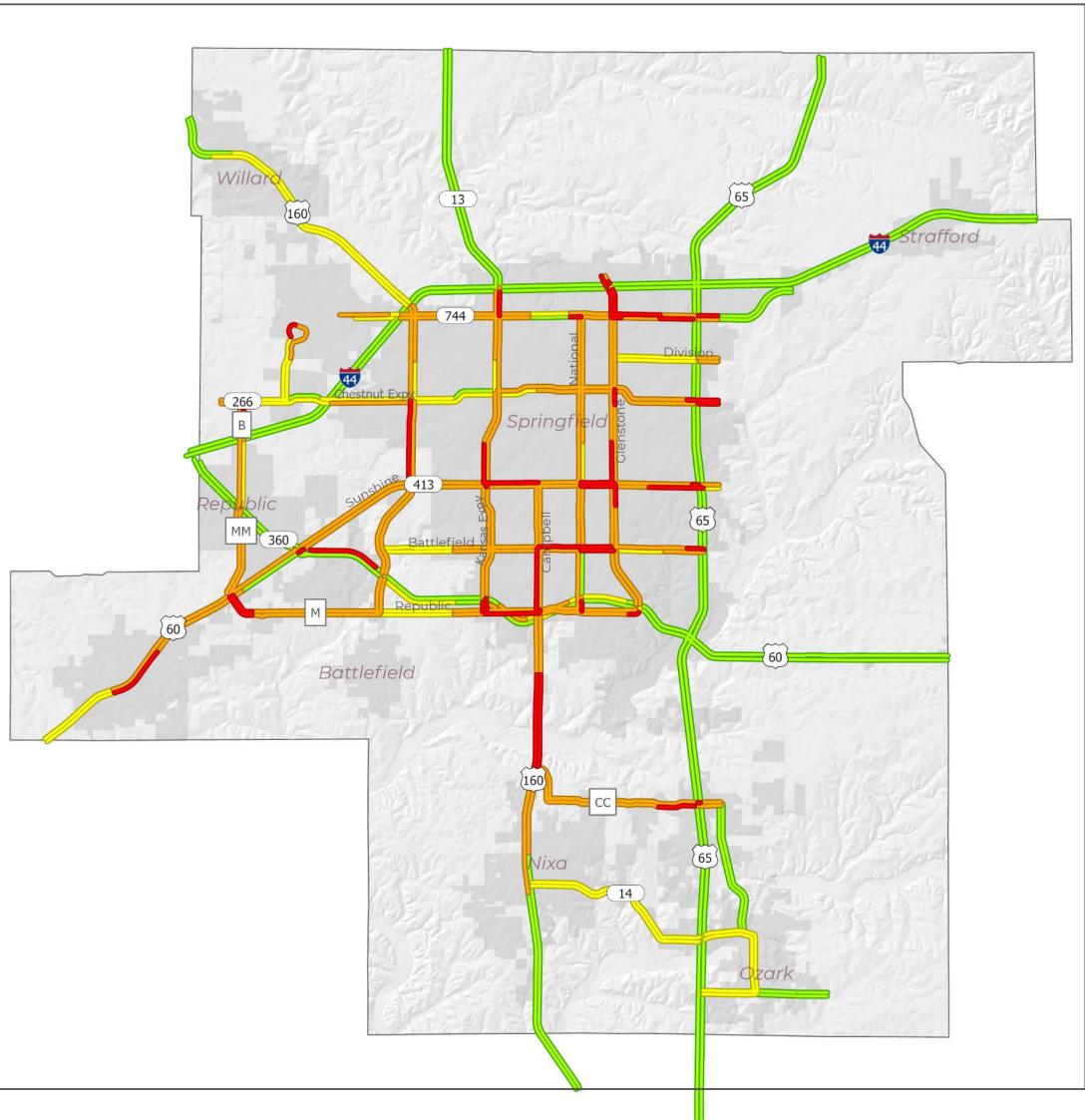
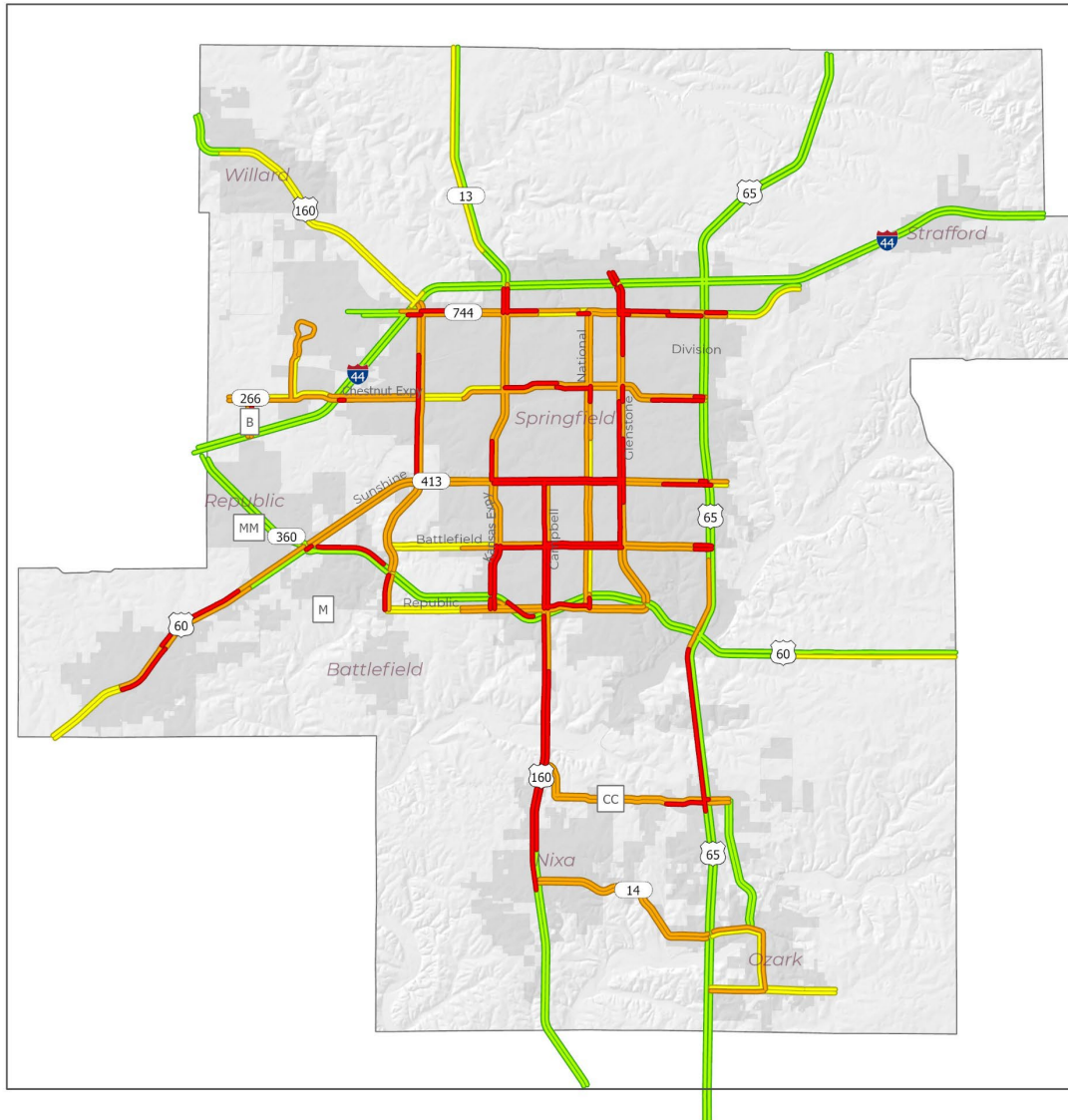
Data Sources: HERE Speed Data downloaded from RITIS for business days during March, April, & May 2019 & 2024.

AM Peak 7:15 - 8:15 am



PM Travel Delay 2019

PM Travel Delay 2024



PM MPH below Speed Limit

- > or = 20.0 mph
- 10.0 - 19.9 mph
- 5.0 - 9.9 mph
- < or = 4.9 mph



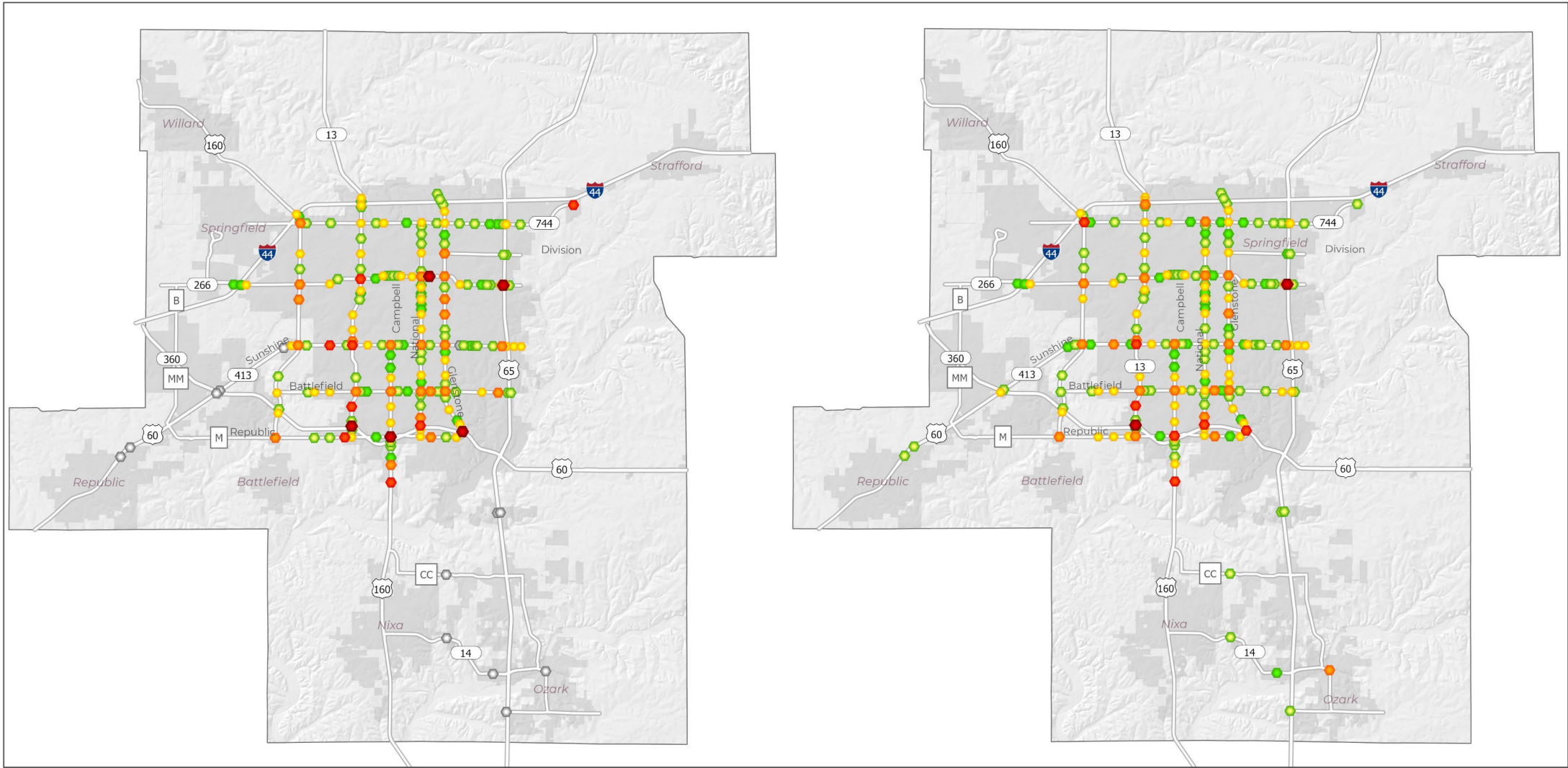
Data Sources: HERE Speed Data downloaded from RITIS for business days during March, April, & May 2019 & 2024.

PM Peak 5:00 - 6:30 pm



AM Intersection Level of Service 2019

AM Intersection Level of Service 2024



Intersection Level of Service

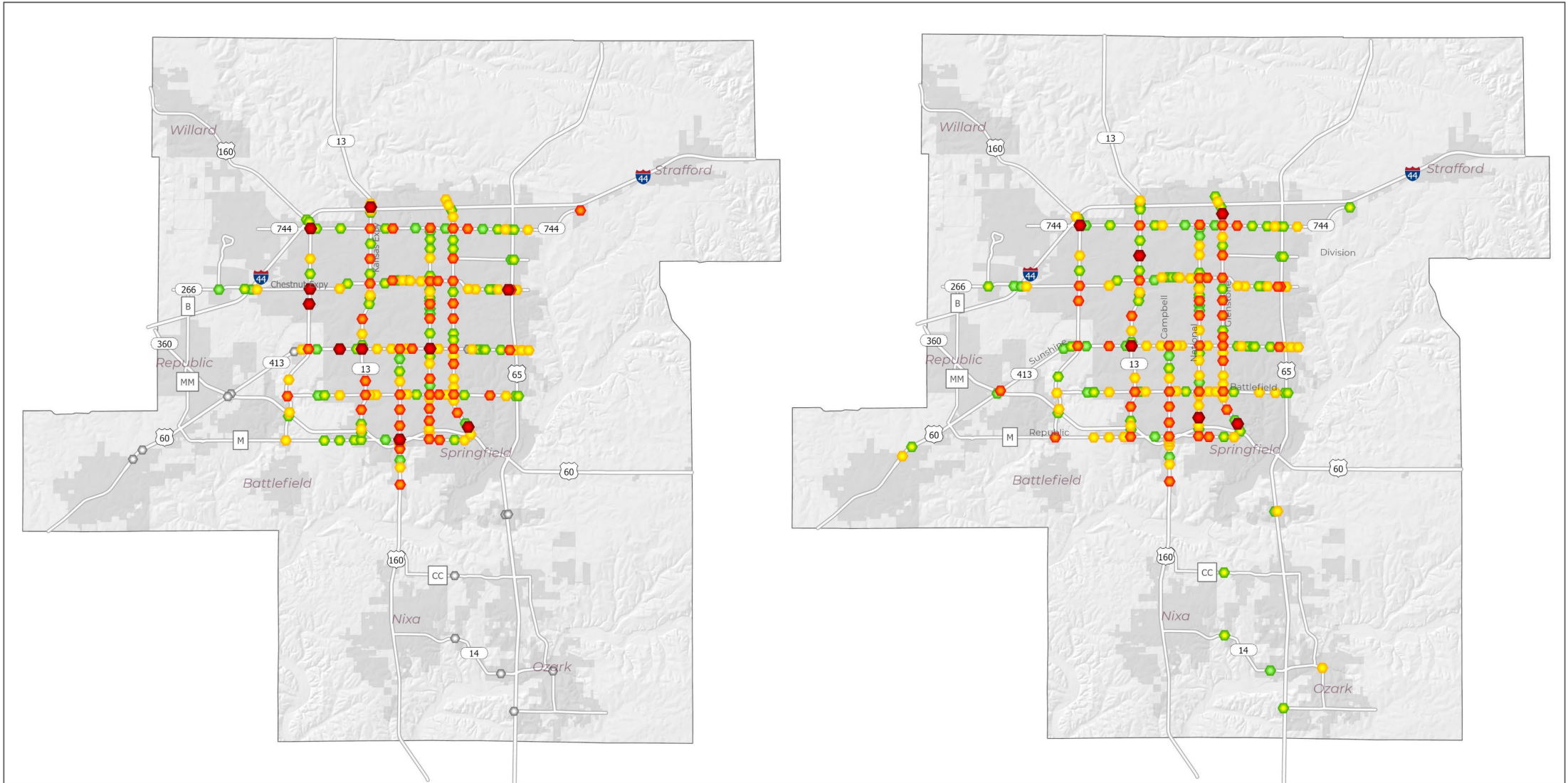
- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F
- No Data



Source: Traffic Management Center,
The City of Springfield & MoDOT
SW District

PM Intersection Level of Service 2019

PM Intersection Level of Service 2024



Intersection Level of Service



Street_Centerline



Source: Traffic Management Center,
The City of Springfield & MoDOT SW
District

Congestion Metric Summary



Adding lanes has lowered volume to capacity ratios on roads that were considered over capacity in 2019



18% (44 of 240) signalized intersections had an above average number of crashes in 2024. This is a significant improvement compared to 25% (54 of 220) of intersections having an above-average crash frequency in 2019



In 2019, the percentage of roadways congested during the AM peak was 7% and 16.8% during the PM peak. In 2024, the percentage of congested roadways was 3.5% during the AM peak and 7.8% for the PM peak



A total of 32 intersections saw improved LOS and 21 intersections saw deteriorated LOS during morning commutes between 2019-2024. The PM commute saw similar movements, with 33 improving and 16 deteriorating

Strategy Evaluation

Strategy #1 Improve Roadway Operations

Strategy #2 Reduce Miles Travelled (VMT) at
Peak Travel Times

Strategy #3 Shift Trips from Automobile to
Other Modes

Strategy #4 Shift Trips from SOV to HOV
Automobile/Van

Strategy #5 Add Capacity



Thank You!