

# Right Angle Collisions at Traffic Signals



# Surrey Vision Zero

1. Change focus away from blaming road user behaviours
2. Engineering has important role to play
3. Innovation and data





# BC Collision Data Sources



ICBC



RCMP

# RCMP – Contributing Factors

Ignoring traffic control device **32%**



**28%**  
Fail to yield right of way



**46%** Driver Inattentive

# Video Footage Data

Photo of Traffic Camera

400 Traffic Cameras



Traffic Management Centre



Weekly Fire Department Reports

# 368 RA Collisions

- 2015 to 2017 data
- Filtered out incomplete data
- Filtered out non traffic signal RA collisions

# Time into Red Phase

All Right Angle Collisions (368)

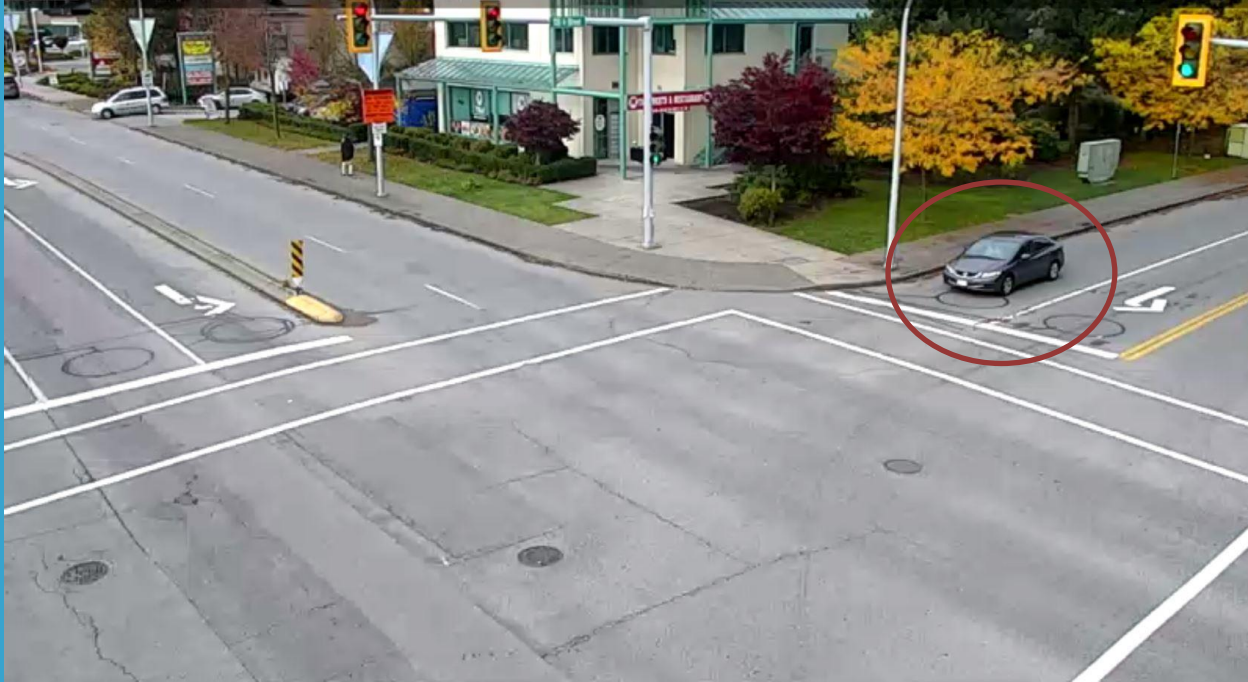


# First Vehicle Through Green





# First Vehicle Through Green



# First Vehicle Through Green



# First Vehicle Through Green

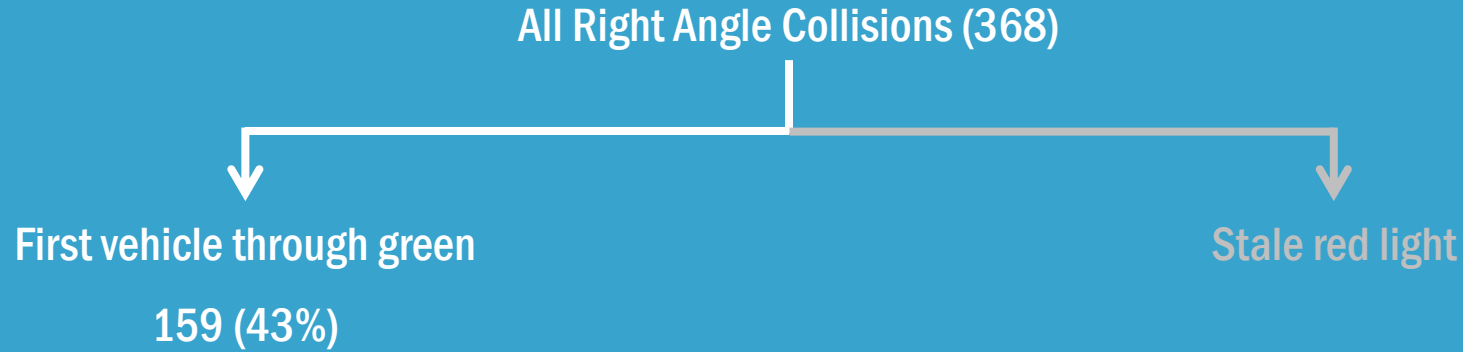


# First Vehicle Through Green





# First Vehicle Through Green



# Major vs. Minor Road

All Right Angle Collisions



First vehicle through green

159 (43%)

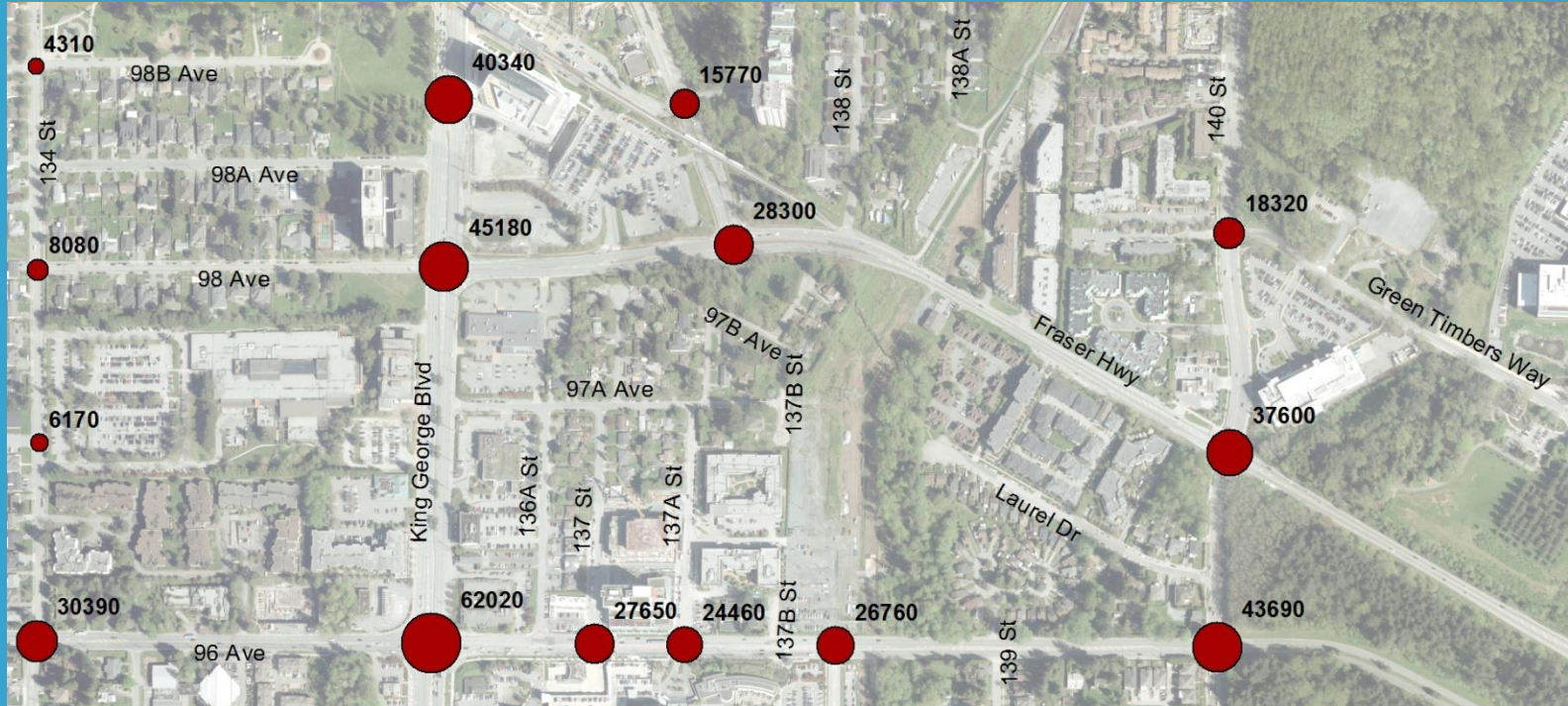


Red light runner on major road

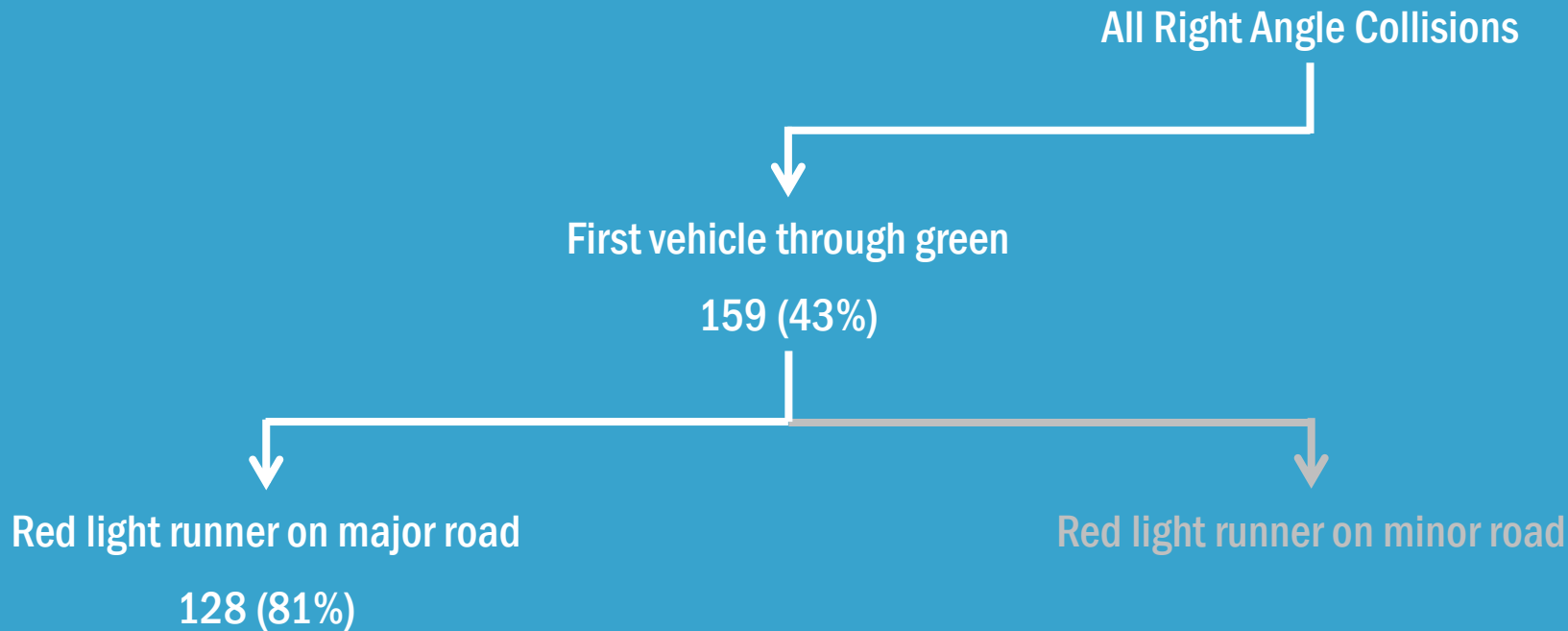


Red light runner on minor road

# City of Surrey Traffic Volumes

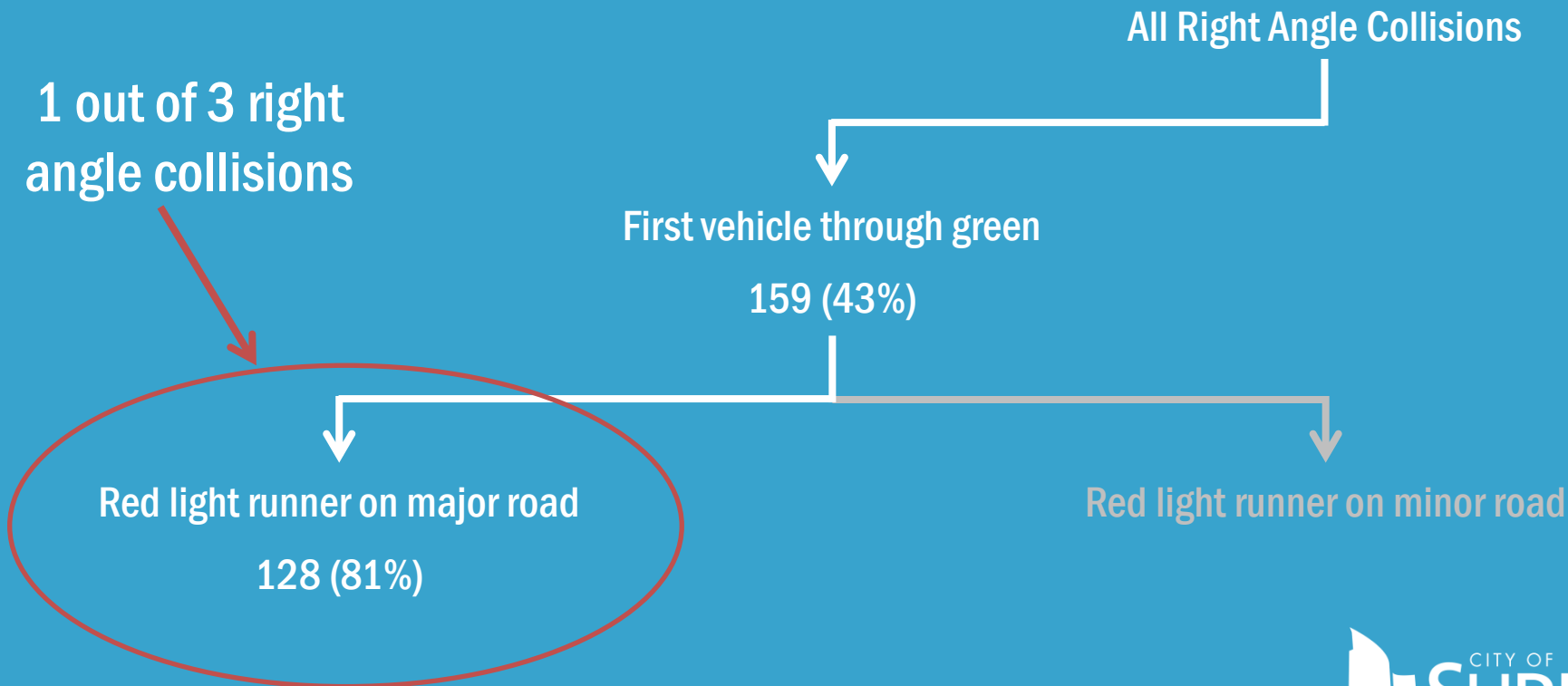


# Red Light Runner on Major Road

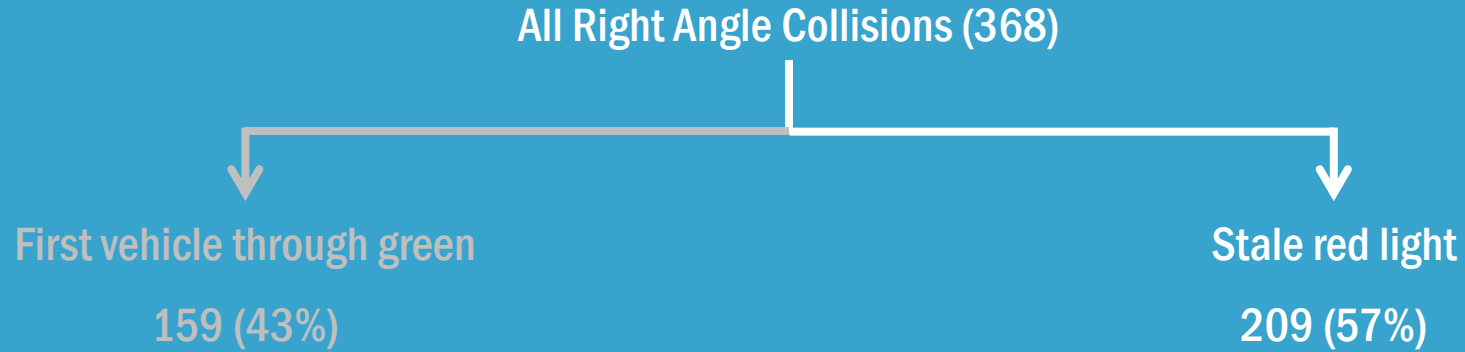




# Red Light Runner on Major Road

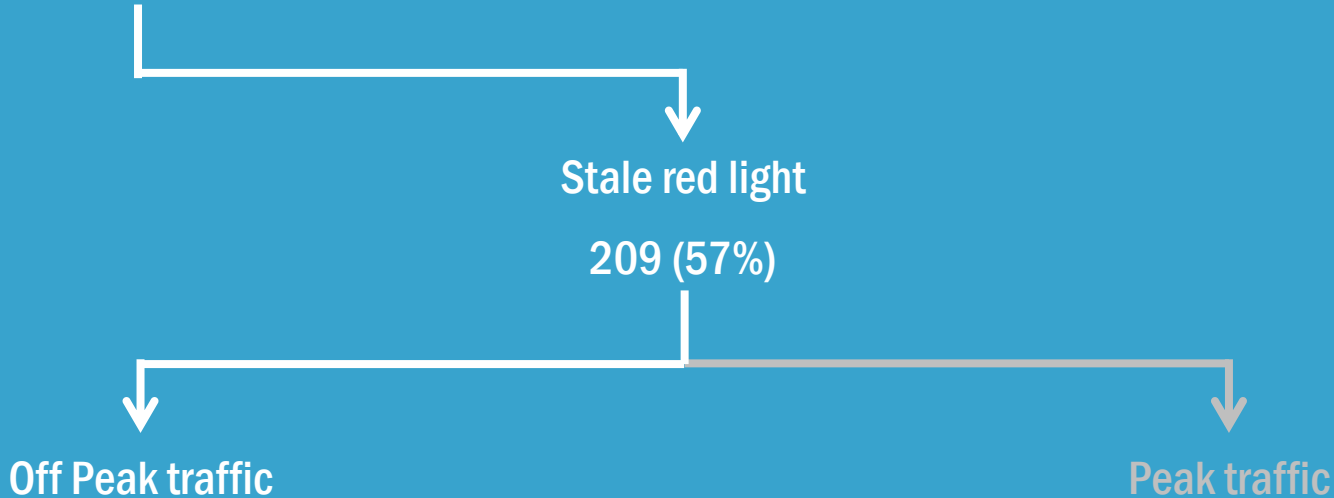


# First Vehicle Through Green

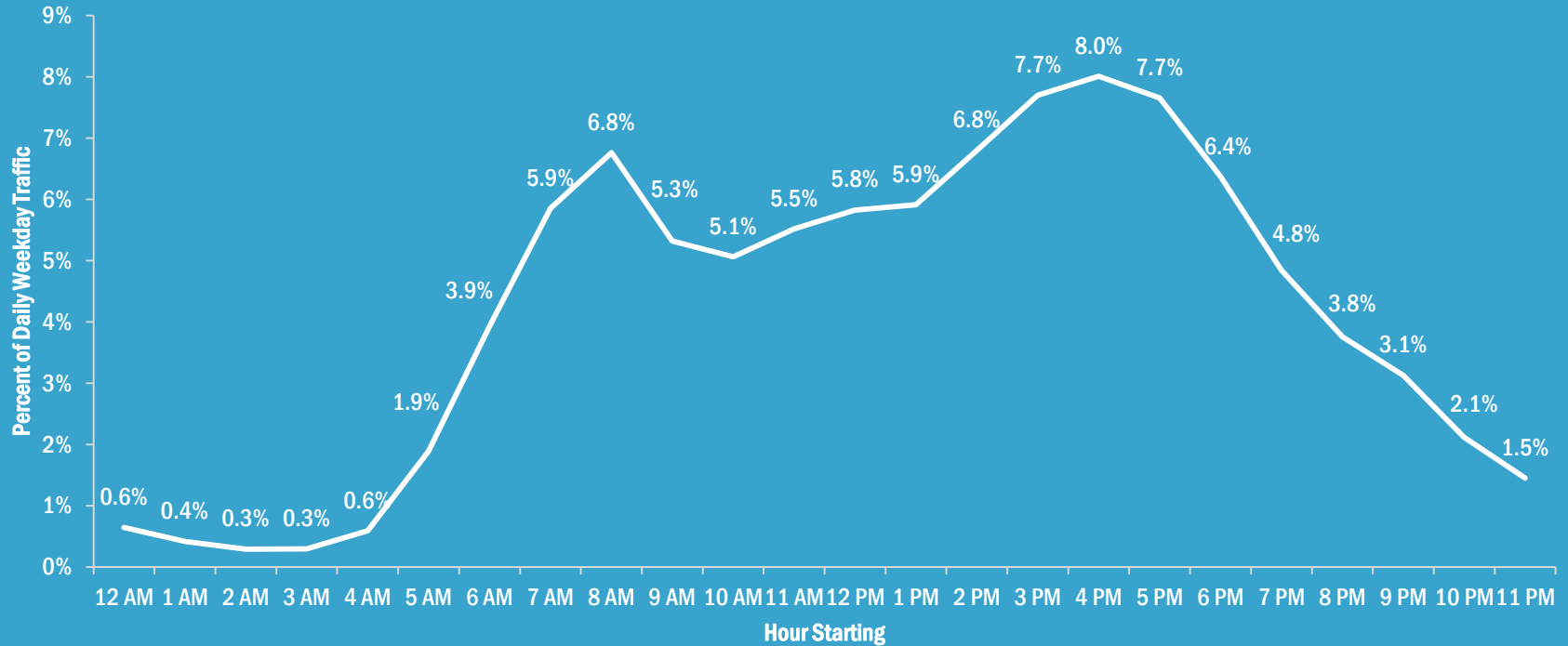


# Peak vs. Off Peak Traffic

All Right Angle Collisions

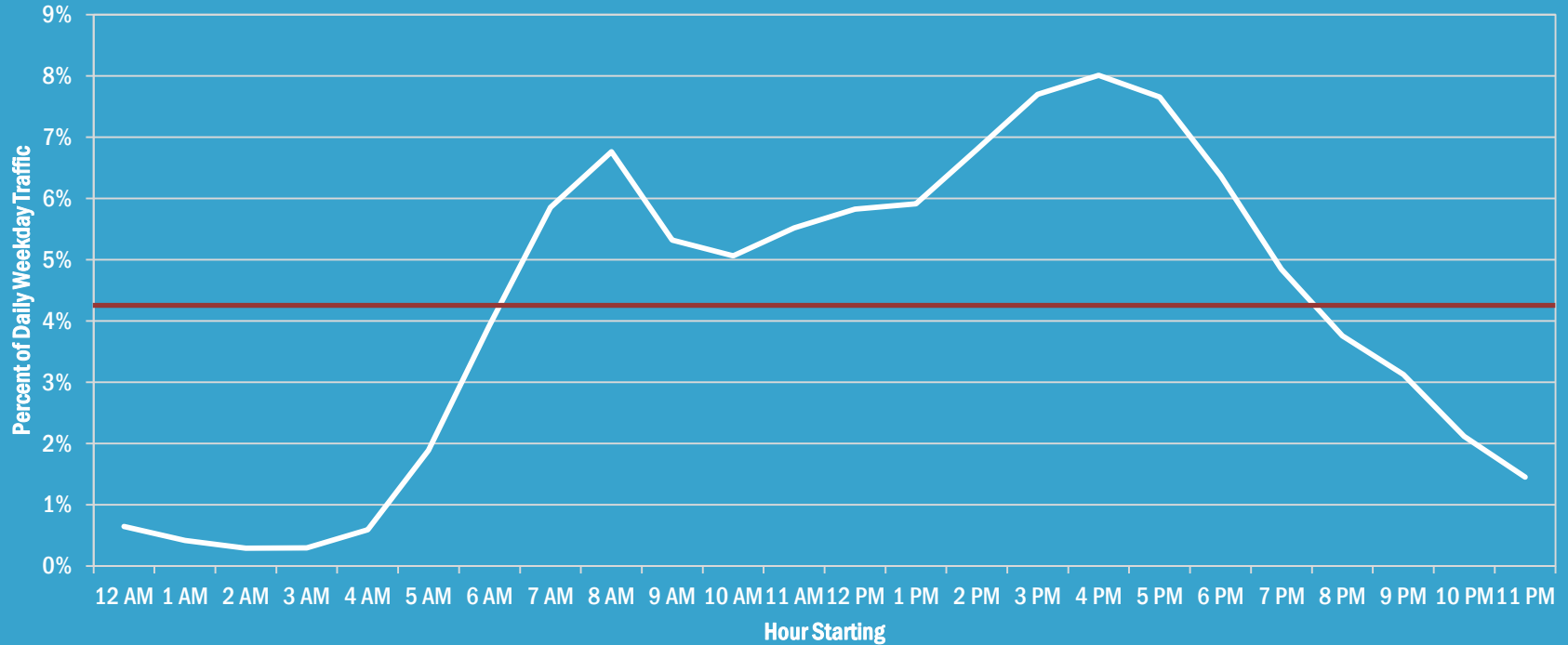


# Surrey Traffic Volumes



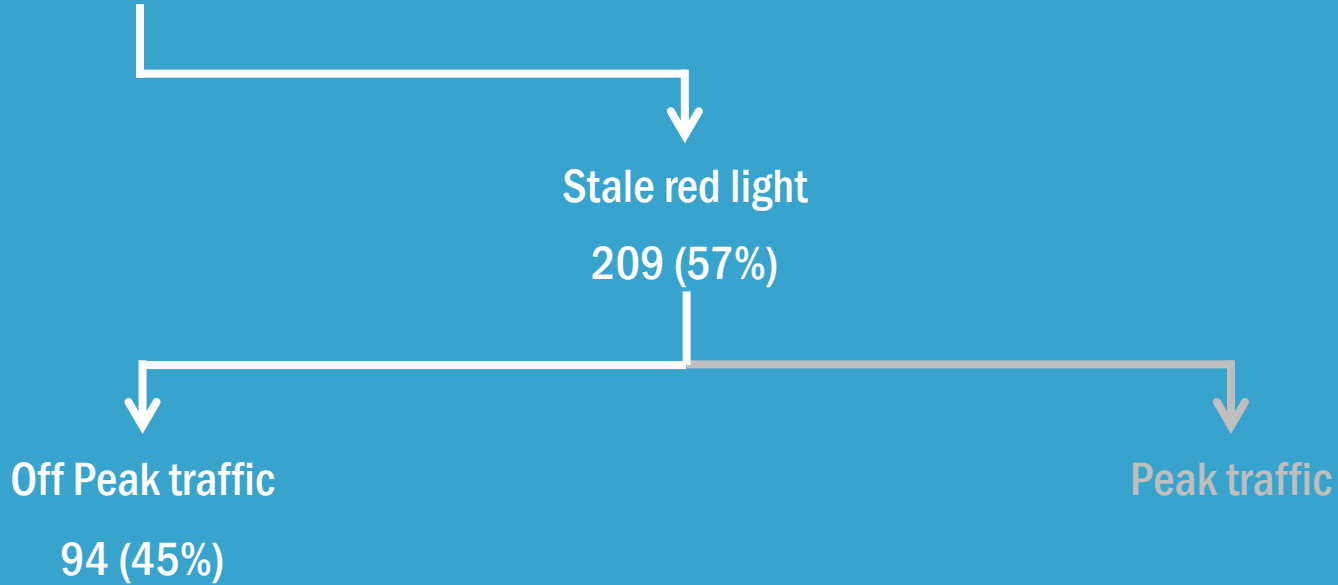


# Surrey Traffic Volumes



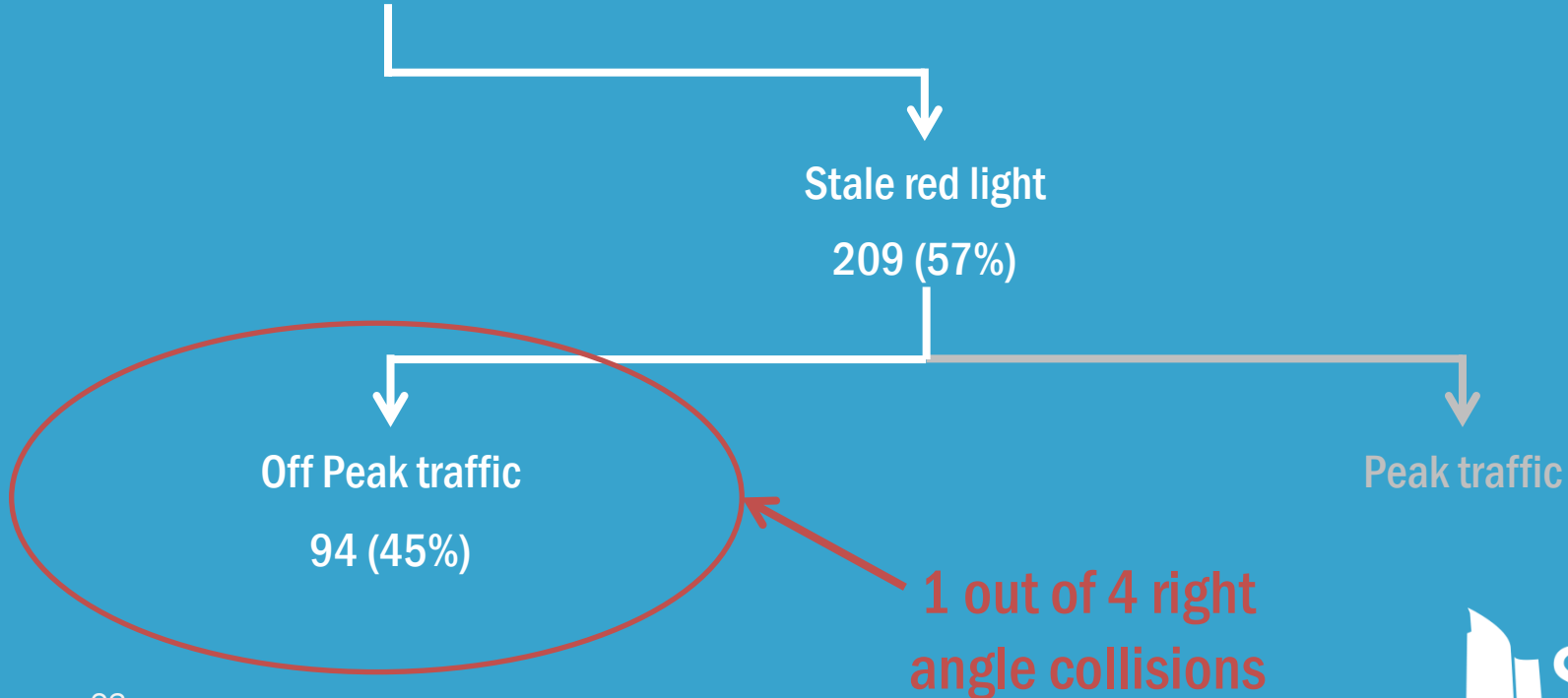
# Off Peak Traffic

All Right Angle Collisions



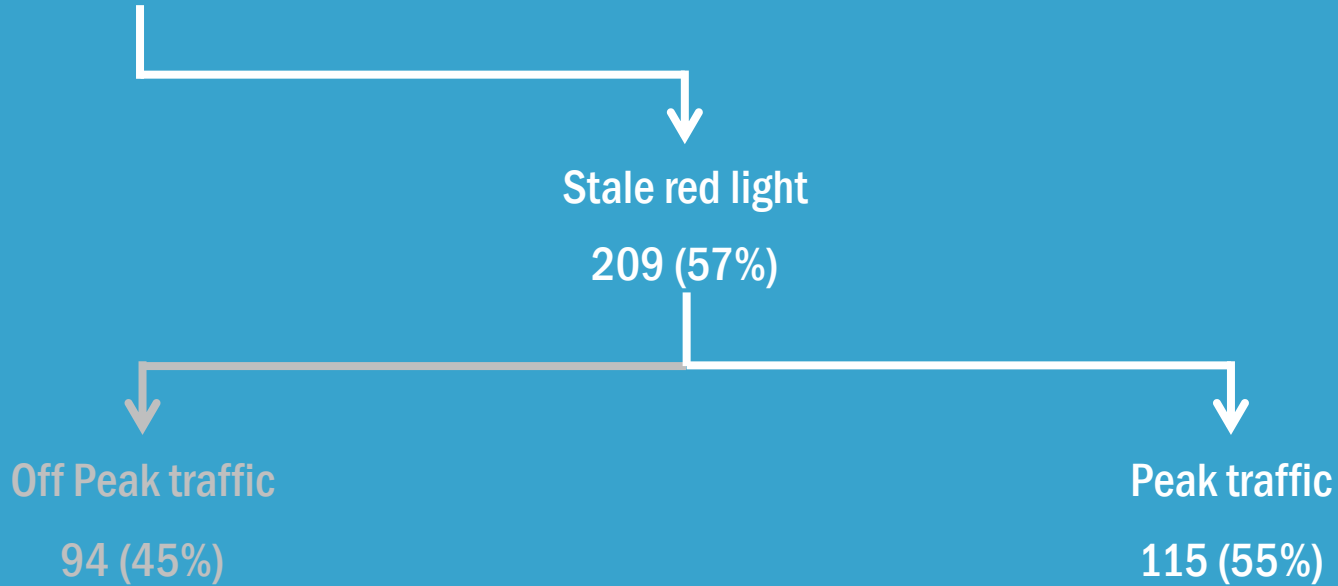
# Off Peak Traffic

All Right Angle Collisions



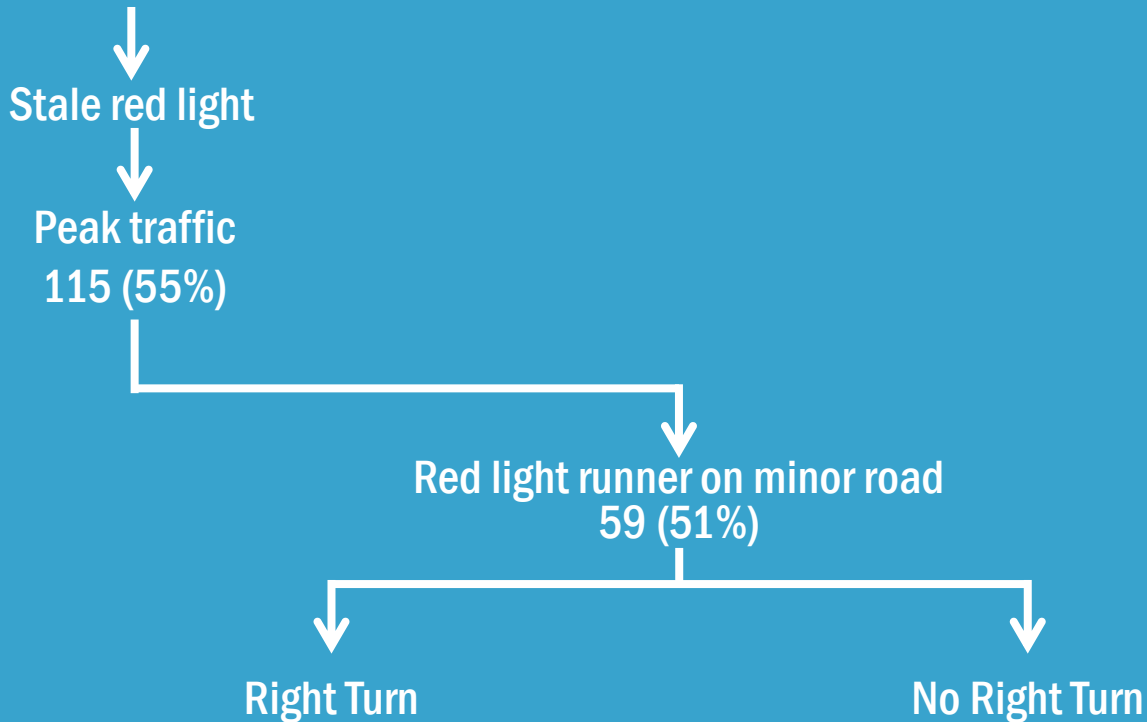
# Peak Traffic

All Right Angle Collisions



# Right vs. No Right Turn

All Right Angle Collisions

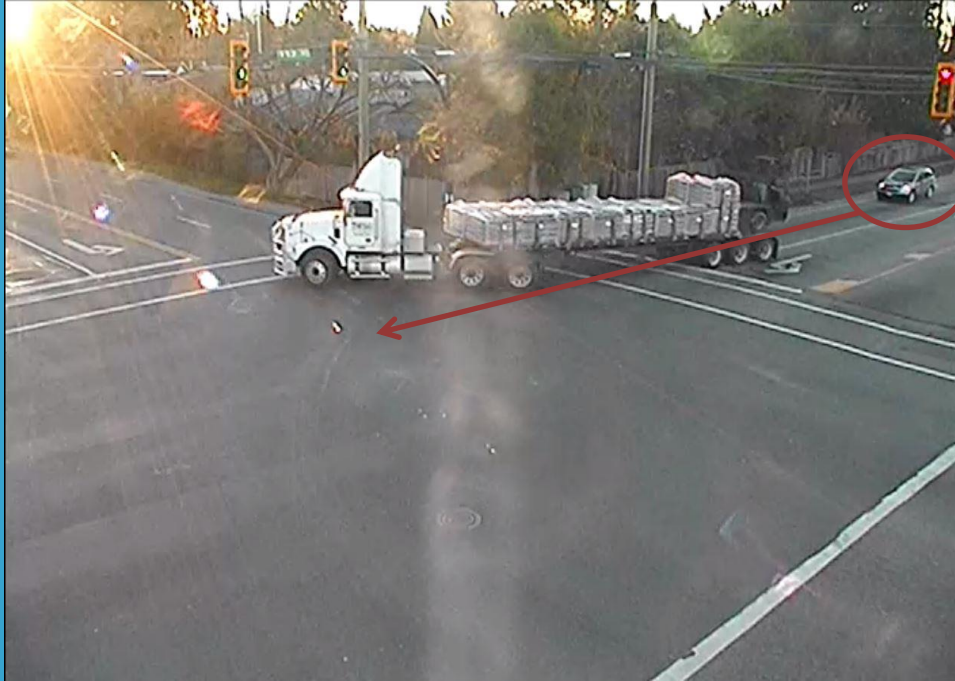


# Right Turns





# Right Turns



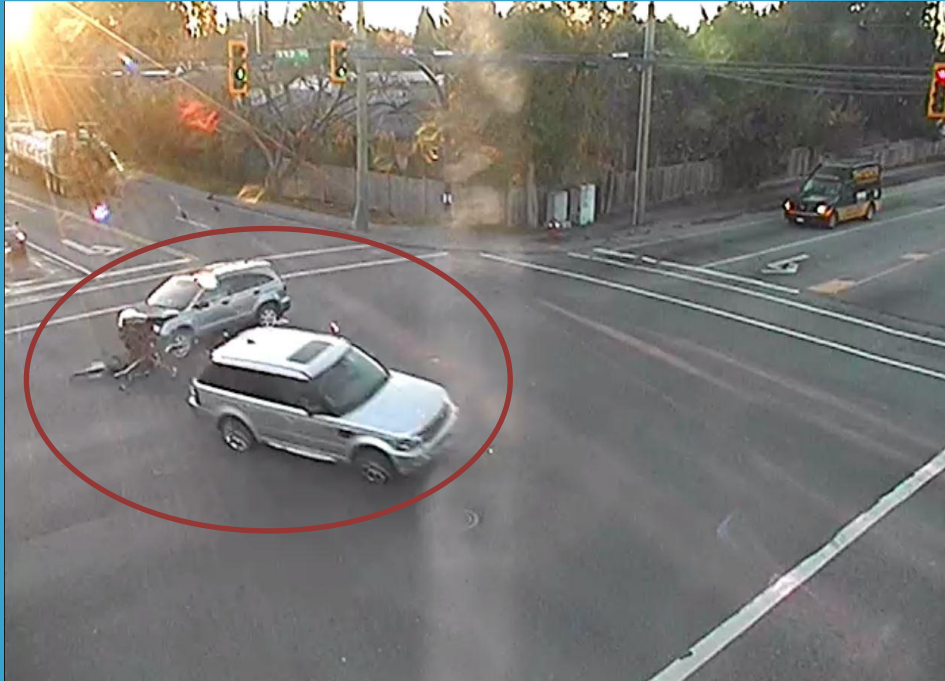
# Right Turns



# Right Turns

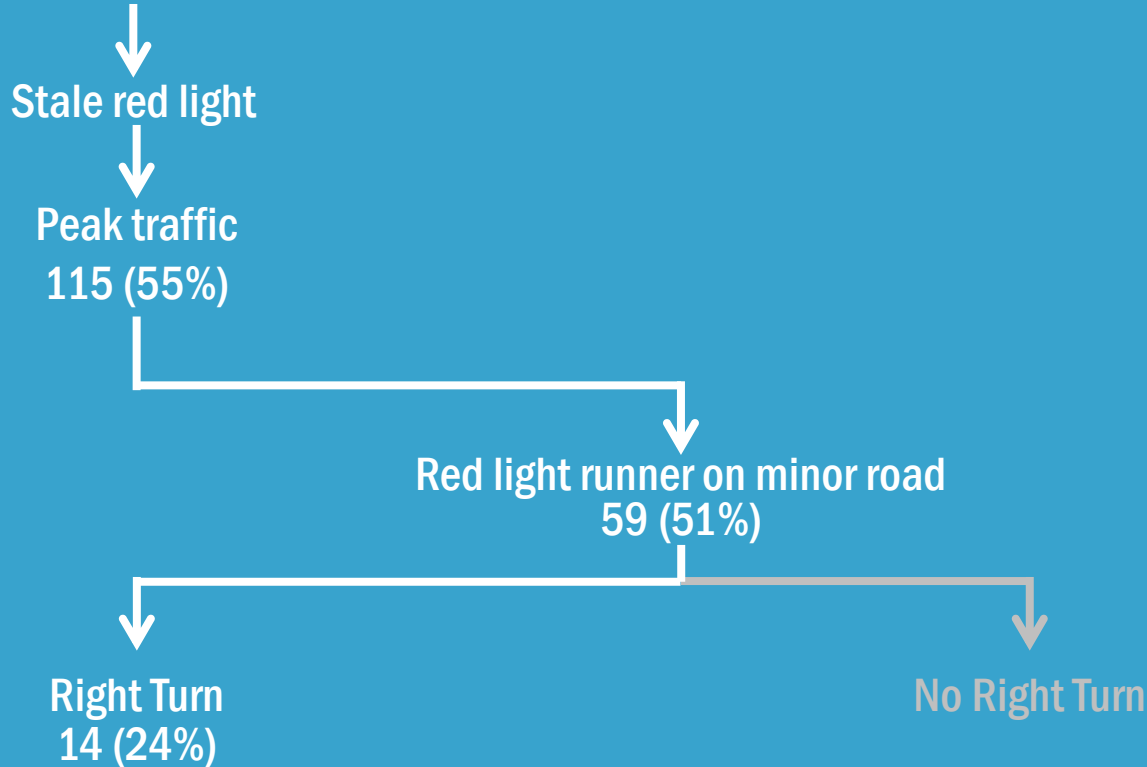


# Right Turns



# Right Turns

All Right Angle Collisions





# Conclusions

1. Innovation and Data
2. Engineering and road user behaviours
3. Limitations

