

Traffic Impact Study

2025-01-24 (DJK) reviewed, all previous comments addressed. Added DiExSys info for 38th & Chambers, high crash rate last five years so we need a little deeper dive into crash data and see if any mitigation measures can be incorporated into intersection (Sect. 5.5)

Thank you Dean for your comments. We have included further evaluation of the crash data given the summary sheets you have provided. Kimley-Horn's responses are provided in blue text boxes throughout the report.

QuikTrip 4217

Aurora, Colorado

Prepared for:

QuikTrip Corporation

Kimley»Horn

turn lane queues are expected to spill back beyond striped lengths and into the existing continuous lane without impacting the adjacent through/right turn lanes. The City of Aurora could consider extending striped lengths; however, vehicles can also continue queuing in space extending beyond the striped left turn lanes.

It is recommended to install a 100 foot southbound left turn lane at the 35th Place and Chambers intersection and a shared taper with the adjacent northbound left turn lane.

5.5 Chambers Road Corridor Safety Analysis

Based on communication with City of Aurora staff, the study area along Chambers Road was requested to identify hazards in the area, if any, are identified in this section. Other roadway considerations including those for pedestrian safety are included in this analysis.

Based on the surrounding existing and proposed conditions, the project site, there are no observable traffic safety hazards in the area. While there is a gradual downward slope along Chambers Road to the north of the 70 interchange, it is not believed that vehicles at the intersection experience any safety concerns because of this grade. However, a sight distance evaluation of the westbound right turning vehicles at all three intersections was performed as project traffic is anticipated to perform these turning movements. Westbound left/through movements at 35th Place and 38th Avenue along Chambers Road are not applicable for evaluation, as these movements are governed by a traffic signal, while the westbound right turning vehicles may turn right after stop at these signals as well as at the proposed three-quarter movement access along Chambers Road.

The posted speed limit along Chambers Road within the study area is 40 miles per hour. Based on AASHTO – A Policy on Geometric Design of Highways and Streets, 7th Edition, standards and the posted speed limit on Chambers Road of 40 miles per hour, the westbound right turning vehicles from stop at 38th Avenue & Chambers Road (#1), 35th Place & Chambers Road (#2), and the three-quarter access on Chambers Road (#3) should have available sight distance of 385 feet to the left. Therefore, all obstructions for right turning vehicles from stop at these intersections

A quick look at traffic crashes at the three studied intersections identified that at 38th and Chambers looks like it could have an issue. Over half the accidents had injuries (40 crashes in 5 years). The rest of the intersections were close to an crash a year. Please look at the attached DiExSys summary report of 38th and provide more info on crashes and potential mitigation if practicable. (provide only text content of crashes, not formal report in this TIS).

Understood, a deeper analysis has been provided for the safety analysis given the additional information.



City of Aurora (CO)
DiExSys™ Vision Zero Suite
General Summary Report

01/23/2025

FOR REVIEW ONLY, DO
NOT ATTACH IN TIS

38th and Chambers.

Type: Intersection Search Name: Map Boundary Search From: 1/1/2019 To: 12/31/2023

Crash Severity

By	Crashes:	Number of	People:
FAT:	0	Killed:	0
INJ:	18	Injured:	0
PDO:	22		7
TOTAL:	40		18

Crash Location

On Road:	40
Off Road Left:	0
Off Road Right:	0
Off Road at Tee:	0
Off in Median:	0
Off Unknown:	0
Unknown:	0
TOTAL:	40

Weather Conditions

None:	35
Rain:	0
Snow/Sleet/Hail:	4
Fog:	0
Dust:	0
Wind:	0
Unknown:	1
TOTAL:	40

Crash Type

Overturning:	0	Bridge Abutment:	0
Other Non-Collision:	0	Column/Pier:	0
Pedestrian:	0	Culvert/Headwall:	0
Broadside:	13	Embankment:	0
Head On:	0	Curb:	0
Rear End:	5	Delineator Post:	0
Sideswipe (Same):	1	Fence:	0
Sideswipe (Opposite):	0	Tree:	0
Approach Turn:	18	Lrg Bldrs or Rocks:	0
Overtaking Turn:	2	Barricade:	0
Parked Motor Veh:	0	Wall/Building:	0
Railway Veh:	0	Crash Cushion:	0
Bicycle:	1	Mailbox:	0
Motorized Bicycle:	0	Other Fixed Object:	0
Domestic Animal:	0	Total Fixed Objects:	0
Wild Animal:	0	Rocks in Roadway:	0
Light/Utility Pole:	0	Vehicle Cargo/Debris:	0
Traffic Signal Pole:	0	Road Maint Equip:	0
Sign:	0	Involving Other Object:	0
Bridge Rail:	0	Total Other Object:	0
Guard Rail:	0	TOTAL:	40
Cable Rail:	0		
Concrete Barrier:	0		

Lighting Conditions

Daylight:	28
Dawn/Dusk:	2
Dark-Lighted:	9
Dark-Unlighted:	0
Unknown:	1
TOTAL:	40

Road Conditions

Dry:	36
Wet:	2
Muddy:	0
Snowy:	2
Icy:	0
Slushy:	0
Foreign Material:	0
Road Treatment:	0
Unknown:	0
Dry W/Icy Road Treatment:	0
Wet W/Icy Road Treatment:	0
Snowy W/Icy Road Treatment:	0
Icy W/Icy Road Treatment:	0
Slushy W/Icy Road Treatment:	0
TOTAL:	40

Number of Vehicles

One Car:	0
Two Car:	36
Three or More:	4
Unknown:	0
TOTAL:	40

Road Description Details by Vehicle

At Intersection:	36
At Driveway Access:	0
Intersection Related:	4
Non Intersection:	0
In Alley:	0
Roundabout:	0
Ramp:	0
Parking Lot:	0
Unknown:	0
TOTAL:	40



City of Aurora (CO)
DiExSys™ Vision Zero Suite
General Summary Report

01/23/2025

FOR REVIEW ONLY, DO
NOT ATTACH IN TIS

38th and Chambers.

Type: Intersection Search Name: Map Boundary Search From: 1/1/2019 To: 12/31/2023

Vehicle Type Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
Psg'r Car/Psg'r Van:	11	16	2
Psg'r Car/Psg'r Van w/Trl:	0	0	0
Pickup Truck/Utility Van:	8	13	0
Pickup Truck/Utility Van w/Trl:	1	0	0
SUV:	13	9	2
SUV w/Trl:	0	0	0
Truck 10k lbs or Less:	0	0	0
Trucks > 10k lbs/Busses > 15 People:	6	1	0
Motor Home:	0	0	0
School Bus 15 People or Less:	0	0	0
Non School Bus 15 People or Less:	0	0	0
Motorcycle:	0	0	0
Bicycle:	0	1	0
Motorized Bicycle:	0	0	0
Farm Equipment:	0	0	0
Hit and Run/Unknown Vehicle:	1	0	0
Other:	0	0	0
Unknown:	0	0	0
TOTAL:	40	40	4

Mainline/Ramps/Frontage

Crossroad A:	0
B:	0
C:	0
D:	0
E:	0
F:	0
G:	0
H:	0
I:	0
J:	0
Left Frontage Road (L):	0
K:	0
M:	0
N:	0
O:	0
P:	0
Mainline/HOV:	40
Right Frontage Road (R):	0
Rest Area/Truck Ramp (T):	0
Other (Z):	0
TOTAL:	40

Crash Rates

Years:	5.00	PDO: 22000000 / MVMT
AADT:	0	Injury: 18000000 / MVMT
Length:	0	Fatal: 0 / 100MVMT
		Total: 40000000 / MVMT

Human Contributing Factor Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
No Apparent Contributing Factor:	18	38	4
Asleep at the Wheel:	0	0	0
Illness:	0	0	0
Distracted by Passenger:	1	0	0
Driver Inexperience:	3	0	0
Driver Fatigue:	0	0	0
Driver Preoccupied:	4	0	0
Driver Unfamiliar with Area:	2	0	0
Driver Emotionally Upset:	1	0	0
Evading Law Enforcement Officer:	0	0	0
Physical Disability:	0	0	0
Unknown:	11	2	0
TOTAL:	40	40	4



City of Aurora (CO)
DiExSys™ Vision Zero Suite
General Summary Report

01/23/2025

FOR REVIEW ONLY, DO
NOT ATTACH IN TIS

38th and Chambers.

Type: Intersection Search Name: Map Boundary Search From: 1/1/2019 To: 12/31/2023

Condition of Driver Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
No Impairment Suspected:	39	40	4
Alcohol Involved:	1	0	0
RX, Meds or Drugs Involved:	0	0	0
Illegal Drugs Involved:	0	0	0
Alcohol and Drugs Involved:	0	0	0
Driver/Ped not Observed:	0	0	0
Unknown:	0	0	0
TOTAL:	40	40	4

Vehicle Direction Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
North:	9	16	0
Northeast:	0	0	0
East:	9	7	1
Southeast:	1	0	0
South:	20	8	2
Southwest:	0	0	0
West:	1	9	1
Northwest:	0	0	0
Unknown:	0	0	0
TOTAL:	40	40	4

Vehicle Movement Factor Detail by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
Going Straight:	15	28	0
Slowing:	0	0	0
Stopped in Traffic:	0	4	3
Making Right Turn:	4	2	0
Making Left Turn:	17	6	1
Making U-Turn:	2	0	0
Passing:	0	0	0
Backing:	2	0	0
Entering/Leaving Parked Position:	0	0	0
Starting in Traffic:	0	0	0
Parked:	0	0	0
Changing Lanes:	0	0	0
Avoiding Objects in Roadway:	0	0	0
Weaving:	0	0	0
Wrong Way:	0	0	0
Other:	0	0	0
Unknown:	0	0	0
TOTAL:	40	40	4