



City of Omaha  
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## Memorandum

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**Subject:** 70<sup>th</sup> Street & Dodge Street

**Date:** 9/6/2022

The City of Omaha received a request to review crashes at the 70<sup>th</sup> Street & Dodge Street full access intersection. This memorandum summarizes the review and provides recommendations for improvements.

**EXISTING CONDITIONS:** Dodge Street/US Highway 6 is a divided six-lane roadway classified locally as a major arterial with a posted speed limit of 35 miles per hour (mph) in the area of 70<sup>th</sup> Street. Dodge Street has an average daily traffic volume of 54,900 vehicles. The general land use context in the project area is commercial.

70<sup>th</sup> Street is a two-lane roadway south of Dodge Street and is classified as a local street with a speed limit of 25 mph. 70<sup>th</sup> Street provides access to the commercial area along the south side of Dodge Street and residential areas set further back. On the north side of Dodge Street at the intersection, there is a private driveway that serves the commercial areas on the north side of Dodge Street.

The 70<sup>th</sup> Street & Dodge Street intersection has a median break providing full access to/from Dodge Street in between the quarter mile intersections at 69<sup>th</sup> Street and 72<sup>nd</sup> Street. 70<sup>th</sup> Street and the private driveway approach are under stop control while Dodge Street traffic is uncontrolled.

**DATA COLLECTION:** City of Omaha collected traffic turning movement counts at 70<sup>th</sup> Street & Dodge Street on 1/12/2022. The turning movement traffic count is attached to this memo.

The City of Omaha also obtained crash reports for the intersection for the years 2015 through 2021 to evaluate safety. Crashes during 2020 and 2021 were not used to calculate the crash rates because of the change in traffic patterns due to the pandemic. Between 2015 to 2019 there was an average of 16 crashes per year, which is significantly higher than the citywide average of 1.5 crashes per year at similar intersections. During the same period, 21 of the 82 crashes (26%) involved injuries. Crashes by type and year are summarized in **Table 1** on the following page. Given the low traffic volumes of the movements involving the crash patterns, the rate of those vehicles getting in a crash are significantly higher.

**Table 1. 70<sup>th</sup> Street & Dodge Street Crashes by Type and Year, 2015 through 2021**

Crash Type	Crashes by Year							Total Crashes (2015-2019)	Annual Average Crashes (2015- 2019)
	2015	2016	2017	2018	2019	2020	2021		
LTL (WB Left Turn)	11	8	9	7	6	3	4	41	8.2
LTL (EB Left Turn)	3	3	1	0	10	3	0	17	3.4
Left-turn leaving (Total)	14	11	10	7	16	6	4	58	11.6
Angle (NB Fault)	0	0	0	0	3	0	0	3	0.6
Angle (SB Fault)	1	1	1	6	3	1	0	12	2.4
Angle (Total)	1	1	1	6	6	1	0	15	3.0
Other (All)	2	1	1	4	1	0	0	9	1.8
<b>TOTAL REPORTED CRASHES</b>	<b>17</b>	<b>13</b>	<b>12</b>	<b>17</b>	<b>23</b>	<b>7</b>	<b>4</b>	<b>82</b>	<b>16.4</b>

The predominant crash pattern is westbound left turn vehicles hitting eastbound vehicles. A further review of the crash reports revealed of the 48 westbound left turn crashes from 2015 through 2021, 33 (69%) were due to eastbound vehicles in the inside lane backed up through the intersection where the westbound left turn vehicle turned without being able to see other eastbound vehicles traveling in the outer lanes prior to impact. Other crash patterns (eastbound left turns and angle crashes) also had a high proportion (60%) involving backup of vehicles (eastbound and westbound) through the intersection. These crash statistics are based on the reports that included mention of spillback through 70<sup>th</sup> Street in the narrative. It is very possible that these numbers could be higher as some narratives provided limited description of the circumstances of the crash.

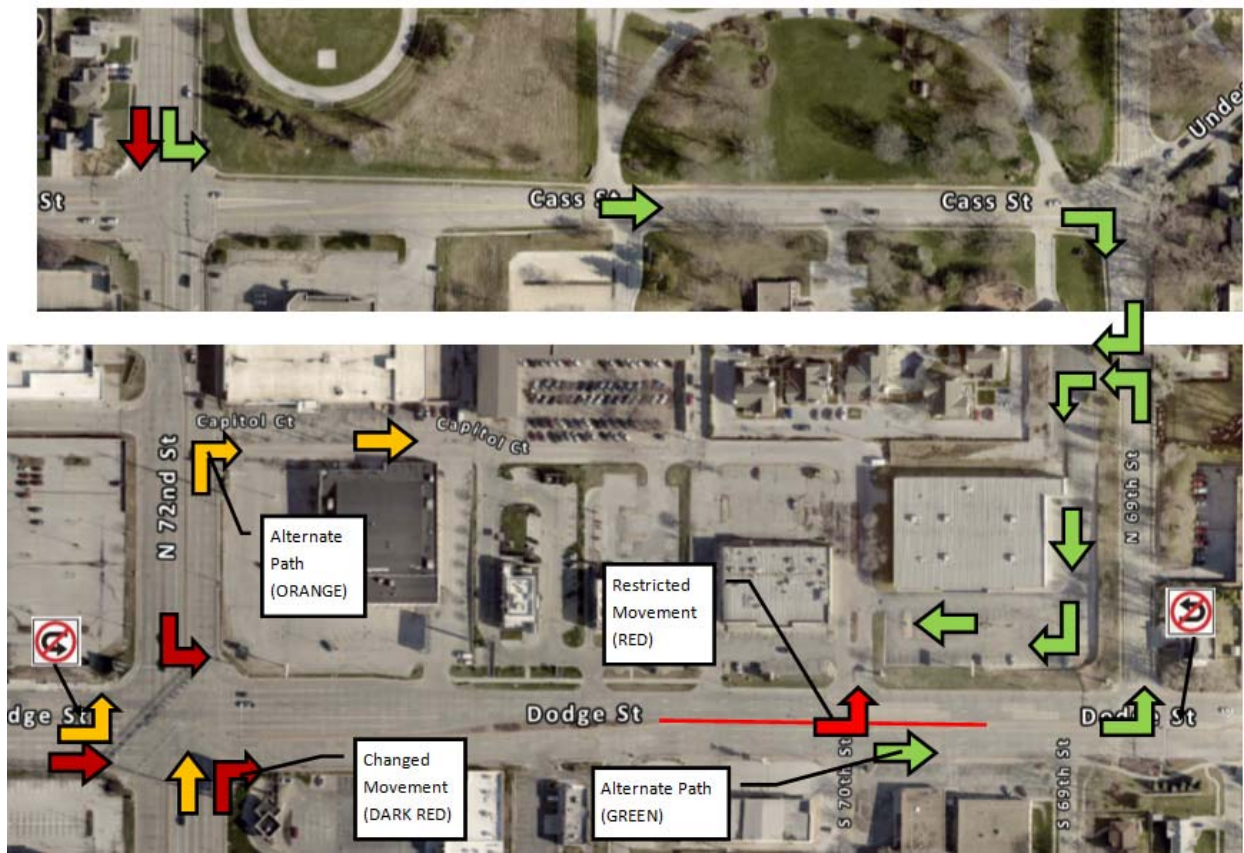
**PROPOSED IMPROVEMENTS:** Closing the median would be the most effective measure to mitigate the crash patterns and improve safety. This would convert the 70<sup>th</sup> Street and private driveway approaches to right-turn in and right-turn out only access. The graphics below show how access would be maintained via the other movements along with the traffic counts (vehicles per hour) for each changed movement:

*Westbound Left Turn (AM Peak: 23 / Mid-Day: 23 / PM Peak: 32)*





Eastbound Left Turn (AM Peak: 14 / Mid-Day: 80 / PM Peak: 85)



Northbound Left Turn (AM Peak: 3 / Mid-Day: 5 / PM Peak: 3)



*Southbound Left Turn (AM Peak: 6 / Mid-Day: 11 / PM Peak: 10)*



The northbound through (AM Peak: 1 / Mid-Day: 1 / PM Peak: 2) and southbound through (AM Peak: 1 / Mid-Day: 1 / PM Peak: 2) movements would follow the above access routes.

The closure of the median through 70<sup>th</sup> Street would be consistent with the City of Omaha's Master Plan that details an Arterial Access Control Policy to limit full access to the quarter mile intersections. The median closure would allow increases in storage length for westbound lefts at 72<sup>nd</sup> Street and for eastbound lefts at 69<sup>th</sup> Street. At a minimum, the eastbound left turn lane storage lane at 69<sup>th</sup> Street should be increased 100 feet. The median just east of the westbound left turn lanes at 72<sup>nd</sup> Street tapers and is not wide enough for two lanes, but can accommodate lengthening one lane. The through lane queues on westbound Dodge Street at 72<sup>nd</sup> Street are longer than the existing left turn storage so it would reduce the through queues by getting the left turn vehicles out of the through lane sooner.

**CONCLUSIONS:** The intersection of 70<sup>th</sup> Street & Dodge Street has a significant crash pattern involving left turn and angle crashes. A median through the intersection is recommended for the following reasons:

- The intersection has a high crash rate and predominant crash patterns; and considering the movements involved in the crashes have low volumes, the rate of crashes for those vehicle movements is even higher. The conversion with medians to a right-in right-out access would significantly increase safety by the observed crash patterns (left turns and angle).
- Access can be maintained to all areas via other existing routes for all directions of travel as described in this memo.
- Based on the recent traffic counts, the amount of diverted traffic is low and would have little impact on existing operations at nearby intersections. Closure of the median will allow increased storage length for the eastbound left turn lane at 69<sup>th</sup> Street for an increase of 100 feet of storage and 150 feet of increased storage for the westbound left turn lane at 72<sup>nd</sup> Street.

In summary, the reduction in crashes would be nearly 100% (16 per year on average) while the access changes would only impact a low number of drivers which have other reasonable access options.

It is recommended to move into design and concurrently reach out to nearby businesses and elected officials. It is assumed construction could be handled using City's on-call pavement contractor.