



CITY OF RAPID CITY

Engineering Services

300 Sixth Street

Rapid City, SD 57701-5053

www.rcgov.com

Direct Phone: (605)-394-4118 E-Mail: john.less@rcgov.org

13 January 2012

Mr. Bill Bollock
2112 Argyle St.
Rapid City, SD 57702

Re: ALL-WAY STOP Study
Argyle St. and St. Anne St.

Dear Mr. Bollock:

Enclosed is a copy of the ALL-WAY STOP study that was completed last year. Please feel free to contact me if you have any questions.

Sincerely,

John Less, PE, PTOE
Traffic Engineer

Enclosure

Cc: Mayor Sam Kooiker (with enclosure)
Alderman Dave Davis (with enclosure)
Alderman Jerry Wright (with enclosure)
Michael Howard, Mayor's Office (with enclosure)
Terry Wolterstorff, Public Works Director (with enclosure)
Dale Tech, City Engineer (without enclosure)

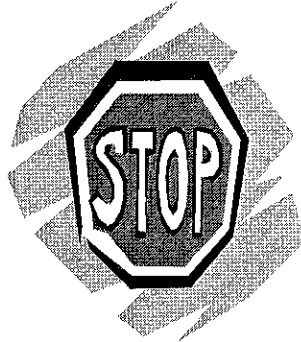


EQUAL HOUSING
OPPORTUNITY

EQUAL OPPORTUNITY EMPLOYER

ENGINEERING SERVICES/PUBLIC WORKS DEPARTMENT

ALL WAY STOP CONTROL WARRANT STUDY



ARGYLE ST. & ST. ANNE ST.

September 29, 2010



ENGINEERING SERVICES/PUBLIC WORKS DEPARTMENT

INTRODUCTION

- This traffic control evaluation was completed in response to a citizen's request. A location map is attached for reference.
- The intersection currently operates with STOP control for St. Anne St.
- There is a one-way inbound driveway to Meadowbrook Elementary School that aligns with St. Anne St. The school pedestrian crossing is located at Argyle St. and Flormann St. (an existing ALL-WAY STOP).
- Meadowbrook Elementary School is the only school in the District to successfully implement a Safe Routes to School (SRTS) program. A steering committee comprised of parent & PTA representatives, the school's principal, Growth Management staff, PD staff and the City Traffic Engineer reviewed the area around the school for potential issues with school age pedestrians. Additionally, all parents were surveyed to identify any concerns related to traffic/pedestrian safety around the school. Neither the committee's audit of pedestrian/bike routes nor the surveys included any concerns about the Argyle St./St. Anne St. intersection.

EVALUATION

The evaluation criteria used are from the Manual on Uniform Traffic Control Devices 2009 (MUTCD):

- 1) Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.

No traffic signal is planned at this location.

- 2) A crash problem, as indicated by five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right- and left-turn collisions as well as right-angle collisions.

There have been no State reportable crashes (property damage greater than \$1,000 or involving injuries) at this intersection in the most recent three years of available data.

- 3) Minimum volumes warranting a multi-way stop:
 - a. The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day, and

- b. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour, but

The current combined traffic and pedestrian volumes do not meet the above criteria – (see attached warrant evaluation).

- 4) Where no single criterion is satisfied, but where Criteria 2, 3a and 3b are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.

There have been no crashes at this intersection in the most recent three years of available data so this criterion is not applicable.

The MUTCD further suggest the following additional criteria to be considered in an engineering study:

- 5) The need to control left-turn conflicts.

Left turn conflicts are not a significant factor at this intersection.

- 6) The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes.

The intersection does not have high pedestrian volumes – crossing of school children is done at Argyle St. and Flormann St.

- 7) Locations where a road user, after stopping, cannot see conflicting traffic and is not able to reasonably safely negotiate the intersection unless conflicting cross traffic is also required to stop.

Intersection sight distance is not a factor at this location.

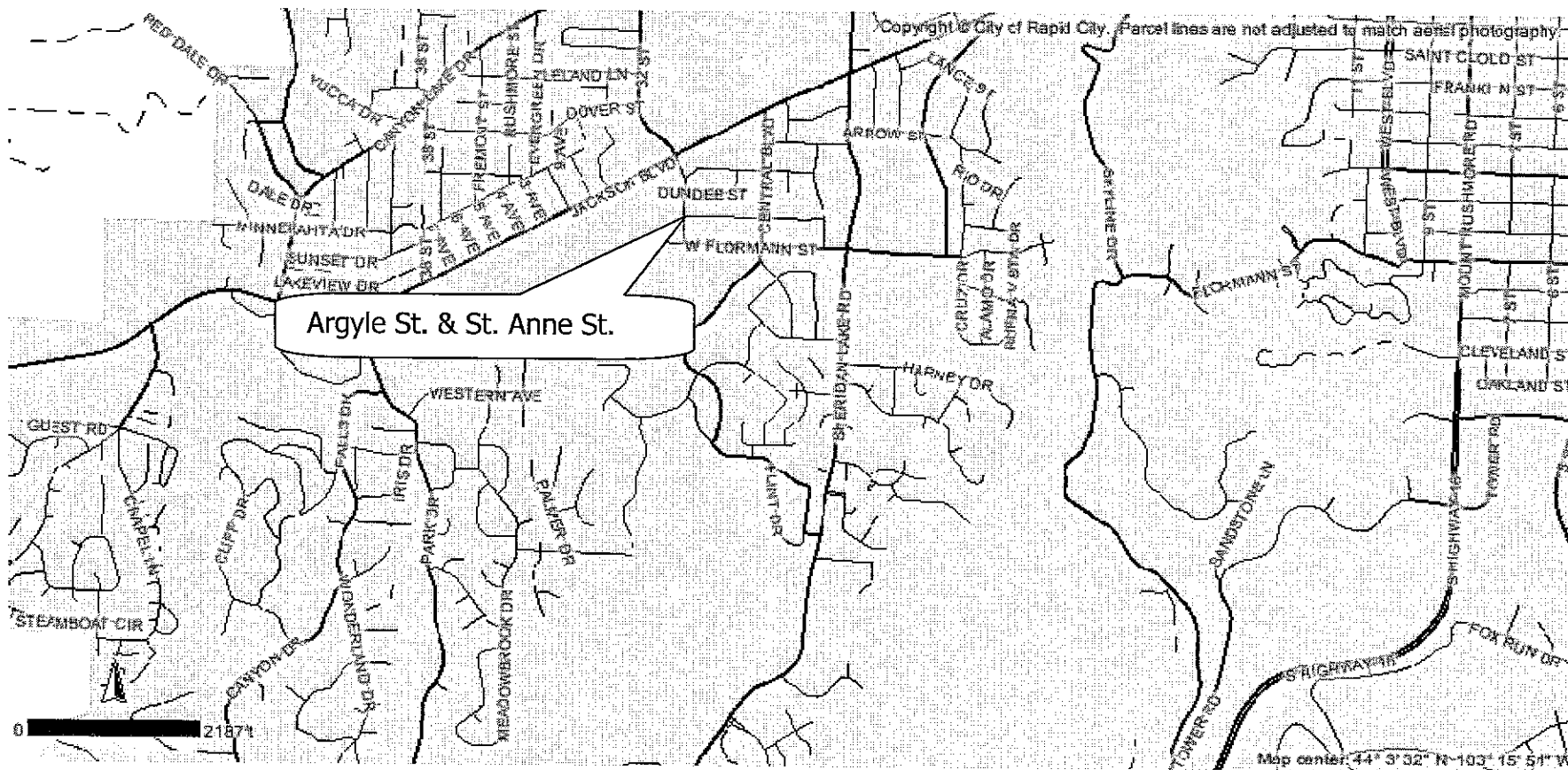
- 8) An intersection of two residential neighborhood collector streets of similar design and operating characteristics where multiway stop control would improve traffic operational characteristics of the intersection.

There are no significant operations issues at the intersection.

CONCLUSIONS/RECOMMENDATIONS

- 1) The existing conditions at Argyle St. and St. Anne St. do not warrant a multi-way STOP operation.
- 2) Meadowbrook Elementary School's Safe Routes to School program did not identify the intersection of Argyle St. and St. Anne St. as an area of concern.
- 3) The existing traffic control should remain in place.

INTERSECTION LOCATION MAP



**MULTI-WAY STOP
VOLUME WARRANT**

09/08/10

**W.ST ANNE STREET
MINOR ROAD VOLUMES**

**ARGYLE STREET
MAJOR ROAD VOLUMES**

HOUR BEGINNING	WB VOLUME	TOTAL VOLUME	VOLUME REQUIRED TO MEET WARRANT				VOLUME REQUIRED TO MEET WARRANT	WARRANT MET?
				NB VOLUME	NB VOLUME	TOTAL VOLUME		
0000	4	4	200	0	3	3	300	NO
0100	0	0	200	0	1	1	300	NO
0200	2	2	200	0	4	4	300	NO
0300	0	0	200	0	1	1	300	NO
0400	1	1	200	1	3	4	300	NO
0500	1	1	200	1	4	5	300	NO
0600	9	9	200	3	24	27	300	NO
0700	54	54	200	89	108	197	300	NO
0800	40	40	200	138	120	258	300	NO
0900	9	9	200	11	27	38	300	NO
1000	10	10	200	19	34	53	300	NO
1100	8	8	200	34	59	93	300	NO
1200	22	22	200	27	53	80	300	NO
1300	10	10	200	14	29	43	300	NO
1400	30	30	200	44	112	156	300	NO
1500	47	47	200	151	112	263	300	NO
1600	27	27	200	45	78	123	300	NO
1700	30	30	200	39	96	135	300	NO
1800	26	26	200	25	63	88	300	NO
1900	21	21	200	14	36	50	300	NO
2000	11	11	200	11	32	43	300	NO
2100	11	11	200	3	17	20	300	NO
2200	2	2	200	5	6	11	300	NO
2300	1	1	200	3	4	7	300	NO
TOTAL	376			677	1026			
# HOURS WARRANT MET	0							
WARRANT MET?	NO							