## Rapid City Area Metropolitan Planning Organization

# 2010 TRAFFIC VOLUME COUNTS REPORT



In cooperation with:

City of Rapid City Engineering Services Division Public Works Department

February 2011

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#### INTRODUCTION/PURPOSE

Traffic volume studies are conducted to obtain accurate information about the number and movement of vehicles within or through an area or at selected points within an area. Current and historical volume counts provide vital information that is used in operational evaluations, traffic modeling and in the selection and design of road network improvements. The <u>Traffic Volume Counts Report</u> is designated in the Rapid City Area Metropolitan Planning Organization's (MPO) Operations Plan as one of the transportation products to be presented to the MPO's three transportation process committees. This report is an informational document and as such does not require any formal approval process. Traffic volume information is presented for the years 2008 – 2010.

#### **DATA & METHODOLOGY**

The <u>Traffic Volume Counts Report</u> presents the most recent three years of data collected by the City's Engineering Services Division - Public Works Department and the South Dakota Department of Transportation (SDDOT). Note that the identification of regular counting sites is a dynamic process and not every location may have associated with it three years of history. Volume information is also provided for all counts that were conducted in conjunction with other engineering studies.

- All volumes presented in this document have been adjusted to account for seasonal variations. Seasonal adjustment factors for each year are developed using data from the South Dakota Department of Transportation's permanent count stations.
- Data provided by the City's Engineering Services Division Public Works Department has been collected using portable traffic counters while the data provided by the SDDOT has been collected at permanent counting stations. The permanent stations count traffic volumes daily and provide a basis for determining the variation of traffic volumes throughout the year.
- In accordance with accepted traffic engineering protocol, volume counts were only conducted on Tuesdays, Wednesdays, or Thursdays. Mondays and Fridays do not generally represent typical weekdays due to the influence of higher numbers of people being absent from the workplace and a higher percentage of recreational travel.
- Volumes have not been factored to account for vehicles with more than two axles, i.e. trucks, certain recreational vehicles, vehicle/trailer combinations, etc. The actual vehicular volumes are generally lower than the published counts and can be determined if the percentage of vehicles with more than two axles is known. The correction factor is given by the formula,

1.0 – 0.5 \* percentage of truck traffic.

#### **COMPARISON OF ANNUAL VOLUMES**

The count summary includes the percent change between successive year's counts. A weighted average percent change is also calculated taking into consideration all of the counts. Extreme caution should be exercised when interpreting annual changes in volumes for the following reasons:

- Traffic volumes will vary on a particular section of roadway depending on the month the count was conducted or the day of the week of the count. Additionally, there is an inherent variability in traffic volumes due to factors that are not easily explained or quantified.
- Construction projects, on or adjacent to a section of road, can significantly alter traffic volumes.
- Traffic count reliability is directly related to the amount of data collected. The more counts taken at a particular location, the higher the accuracy of conclusions drawn from the data. A single volume provides a "snapshot" of traffic that traveled that roadway on that specific day. Trend analyses should most accurately be limited to using permanent count station data.

#### PERMANENT COUNT STATIONS

Data from the following five SDDOT permanent count stations are included in this report:

- 5th Street, north of St. Cloud Street
- Anamosa Street, east of Haines Avenue
- West Main Street, east of Jackson Boulevard
- I-90, east of the Elk Vale Road interchange
- I-90, east of I-190

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		2008 SEASONALLY	% Change	2009 SEASONALLY	% Change	2010 SEASONALLY
ROAD	LIMITS	ADJUSTED COUNT	2008/2009	ADJUSTED COUNT	2009/2010	ADJUSTED COUNT
1ST ST	OMAHA TO MAIN	1,031	-24%	780	-4%	748
2ND ST	MAIN TO OMAHA	996	2%	1,020	-13%	892
3RD ST	MAIN TO OMAHA	2,863	-22%	2,245	-10%	2,023
5TH ST	PARKVIEW TO MINNESOTA	No Count		5,959	7%	6,397
5TH ST	CATRON TO PARKIEW	4,499	14%	5,134	4%	5,335
5TH ST	MINNESOTA TO TEXAS	12,265	-13%	10,716	14%	12,172
5TH ST	TEXAS TO 3RD	15,609	-21%	12,364	11%	13,746
5TH ST 5TH ST	3RD TO FAIRMONT	23,445	-27% -25%	17,039 17,964	7% 11%	18,177
5TH ST	FAIRMONT TO ST PATRICK ST. PATRICK TO ST. CLOUD	24,045 20,087	-25 <i>%</i> -7%	18,587	10%	19,936 20,446
5TH ST	ST. CLOUD TO COLUMBUS	19,939	-12%	17,565	11%	19,516
5TH ST	COLUMBUS TO ST. JOSEPH	19,586	11%	21,691	-18%	17,809
5TH ST	ST JOSEPH TO MAIN	19,072	10%	20,964	-17%	17,431
5TH ST	MAIN TO OMAHA	18,303	6%	19,427	-16%	16,364
5TH ST	OMAHA TO NEW YORK	19,430	3%	19,931	-6%	18,684
5TH ST	NEW YORK TO NORTH	No Count	370	20,223	-3%	19,531
32ND ST	JACKSON TO CANYON LAKE	4,787	2%	4,892	-4%	4,695
44TH ST	RAIDER TO MAIN	4,795		No Count	1.2	5,153
225TH ST	N ELLSWORTH TO BRIGGS	1,786	-10%	1,602	-14%	1,385
ANAMOSA ST	WEST BLVD N TO HAINES	4,619	-9%	4,204	-16%	3,550
ANAMOSA ST	HAINES TO MAPLE	CONSTRUCTION		8,141	8%	8,757
ANAMOSA (E) ST	MAPLE TO LACROSSE	7,366	4%	7,645	23%	9,403
CAMBELL ST	CATRON TO MINNESOTA	10,162	14%	11,624	19%	13,836
CAMBELL ST	MINNESOTA TO FAIRMONT	15,072	2%	15,405	-3%	14,973
CAMBELL ST	FAIRMONT TO ST PATRICK	20,282	-1%	20,175	-4%	19,304
CAMBELL ST	ST PATRICK TO OMAHA	19,930	-5%	18,936	7%	20,173
CAMBELL (E) ST	OMAHA TO E NORTH	21,227	1%	21,447	8%	23,168
CANYON LAKE DR	JACKSON TO CLIFTON	8,082	-22%	6,344	23%	7,778
CANYON LAKE DR	CLIFTON TO SOO SAN	8,973	-22%	6,955	16%	8,059
CANYON LAKE DR	SOO SAN TO SHERIDAN LAKE	13,154	-13%	11,446	7%	12,217
CANYON LAKE DR	SHERIDAN LAKE TO MTVIEW	13,335	-4%	12,807	3%	13,228
CATHEDRAL DR	MT RUSHMORE TO TOWER	14,885	-15%	12,606	21%	15,304
CATHEDRAL DR	TOWER TO 5TH	13,898	-8%	12,748	33%	17,005
CATRON BLVD	SHERIDAN LAKE TO US-16	9,046	12%	10,099	-6%	9,538
CATRON BLVD	US-16 TO 5TH	8,651	45%	12,522	3%	12,905
CATRON (E) BLVD	5TH TO SD-79	8,185	54%	12,567	1%	12,710
COUNTRY RD DEADWOOD AVE	HAINES TO W NIKE	1,524 17,547	-20% 6%	1,227 18,576	23% -10%	1,514
DEADWOOD AVE	OMAHA TO LIEN  CEMENT PLANT TO LIEN	No Count	0 /6	No Count	-10 %	16,733 15,334
DEADWOOD AVE	LIEN TO N PLAZA	13.973	-1%	13.845	-5%	13,199
DEADWOOD AVE	N PLAZA TO I-90	14,182	5%	14,873	-7%	13,822
DEADWOOD AVE	I-90 TO CITY LIMIT	1,941	22%	2,368	17%	2,776
DISK DR	HAINES TO MAPLE	7,715	-5%	7,344	-21%	5,771
DISK (E) DR	MAPLE TO LACROSSE	7,642	-3%	7,397	-17%	6,132
DYESS AVE	MALL TO SEGER	3,076	-2%	3,000	14%	3,406
E NORTH ST	MILWAUKEE TO LACROSSE	16,161	2%	16,452	-6%	15,407
E NORTH ST	LACROSSE TO CAMBELL	17,136	2%	17,440	10%	19,101
E NORTH ST	CAMBELL TO ANAMOSA	18,179	3%	18,796	4%	19,506
E NORTH ST	ANAMOSA TO I-90	12,094	21%	14,638	10%	16,058
EAST BLVD	KANSAS CITY TO ST JOSEPH	5,473	11%	6,082	-6%	5,687
EAST BLVD	ST JOSEPH TO MAIN	9,381	-7%	8,752	-2%	8,619
EAST BLVD	MAIN TO OMAHA	11,404	7%	12,241	-7%	11,352
EAST BLVD	OMAHA TO E NORTH	14,490	12%	16,245	-12%	14,347
EGLIN ST	LACROSSE TO LUNA	No Count		4,146	25%	5,168
EGLIN ST	LUNA TO E. NORTH	No Count		4,192	32%	5,528
EGLIN ST	ANAMOSA TO BEALE	3,023	-1%	2,994	109%	6,246
EGLIN ST	DYESS TO ELK VALE	No Count		No Count		1,965
ELK VALE RD	SD-79 TO SD-44	10,108	25%	12,648	7%	13,516
ELK VALE RD	SD-44 TO I-90	13,576	34%	18,199	6%	19,371
ELK VALE RD	I-90 TO SEGER	CONSTRUCTION	4:0	2,415	-5%	2,288
	5TH TO WISCONSIN	10,726	-16%	8,971	64%	14,693
FAIRMONT BLVD			4%	8,445	25%	10,522
FAIRMONT BLVD FAIRMONT (E) BLVD	WISCONSIN TO ELM	8,123			227	0.101
FAIRMONT BLVD FAIRMONT (E) BLVD FAIRMONT(E) BLVD	ELM TO CAMBELL	7,076	4%	7,385	23%	9,101
FAIRMONT BLVD FAIRMONT (E) BLVD					23% 4% 2%	9,101 19,888 19,130

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		2008 SEASONALLY	% Change	2009 SEASONALLY	% Change	2010 SEASONALLY
ROAD	LIMITS	ADJUSTED COUNT	2008/2009	ADJUSTED COUNT	2009/2010	ADJUSTED COUNT
HAINES AVE	DISK TO MALL	17,213	3%	17,653	-2%	17,213
HAINES AVE	MALL TO COUNTRY	10,450	-1%	10,342	30%	13,457
HAINES AVE	COUNTRY TO COBALT	4,277	-2%	4,189	14%	4,762
HAINES AVE	COBALT TO CITY LIMIT	2,061	13%	2,336	-5%	2,211
HILLSVIEW DR	ST PATRICK TO RAIDER	2,937	7%	3,133	10%	3,446
I-190	OMAHA TO SILVER	17,496	49%	26,122	-5%	24,802
I-190	SILVER TO I-90	18,831	22%	22,890	-13%	19,975
I-90	I-190 TO HAINES	28,646	-10%	25,798	34%	34,561
I-90	ELK VALE TO EAST CITY LIMIT	19,965	7%	21,376	15%	24,494
JACKSON BLVD	CITY LIMIT TO CHAPEL LN	4,768		No Count		No Count
JACKSON BLVD	CHAPEL LN TO CANYON LAKE	8,159	16%	9,462	6%	10,027
JACKSON BLVD	CANYON LAKE TO 32ND	12,292	0%	12,329	9%	13,463
JACKSON BLVD	32ND TO SHERIDAN LAKE	14,701	13%	16,589	-2%	16,322
JACKSON BLVD	SHERIDAN LK TO MT VIEW (N)	17,055	71%	29,246	-21%	22,967
JACKSON BLVD	MT VIEW (N) TO MAIN (W)	22,651	-5%	21,412	-12%	18,856
LACROSSE (N) ST	OMAHA TO E NORTH	11,151	10%	12,248	-16%	10,342
LACROSSE (N) ST	E NORTH TO ANAMOSA	28,133	-12%	24,726	-10%	22,156
LACROSSE (N) ST	ANAMOSA TO I-90	23,096	0%	23,004	-12%	20,244
LACROSSE (N) ST	I-90 TO DISK	17,751	-20%	14,169	-25%	10,568
LACROSSE (N) ST	DISK TO MALL	3,723	-9%	3,402	33%	4,513
LIBERTY BLVD	N ELLSWORTH TO I-90	1,760	81%	3,184	-3%	3,083
MAIN (W) ST	BERRY PINE TO 44TH	2,018	<u> </u>	No Count		1,878
MAIN (W) ST	44TH TO SOO SAN	5,008		No Count		4,608
MAIN (W) ST	SOO SAN TO STURGIS	14,950	-38%	9,205	15%	10,564
MAIN (W) ST	STURGIS TO SHERIDAN LAKE	22,149	-26%	16,414	3%	16,913
MAIN (W) ST	SHERIDAN LAKE TO MTVIEW	22,900	-6%	21,589	0%	21,520
MAIN (W) ST	JACKSON TO WEST BLVD	35,686	4%	37,098	8%	39,934
MAIN (W) ST	WEST TO CROSS	No Count		No Count		18,143
MAIN ST	WEST BLVD TO MT RUSHMORE	14,619	6%	15,440	-1%	15,346
MAIN ST	MT RUSHMORE TO 5TH	11,745	12%	13,173	-11%	11,713
MAIN ST	5TH TO EAST BLVD	9,175	9%	9,976	9%	10,877
MAIN ST	EAST BLVD TO STEELE	6,591	10%	7,235	33%	9,596
MALL DR	HAINES TO MAPLE	CONSTRUCTION		3,302	17%	3,864
MALL DR	MAPLE TO LACROSSE	CONSTRUCTION		3,373	-10%	3,022
MALL DR	LACROSSE TO E. NORTH	No Count	400/	No Count	400/	1,692
MALL (E) DR	E NORTH TO DYESS	3,764	13%	4,266	43%	6,080
MALL (E) DR	DYESS TO ELK VALE	2,251	18%	2,653	81%	4,802
MAPLE (N) AVE	DISK (W) TO DISK (E)	7,642	-64%	2,743	-18%	2,261
MINNESOTA (E) ST	5TH TO ELM ELM TO CAMBELL	3,532	23%	4,356	23%	5,341
MINNESOTA (E) ST		4,856	-15% 25%	4,147 10.758	25%	5,184
MOUNTAINVIEW RD MOUNTAINVIEW RD	JACKSON TO CANYON LAKE	8,636	15%	- 1	-13% -9%	9,345
MOUNTAINVIEW RD	CANYON LAKE TO MAIN	16,056 16.870	23%	18,419 20,825	-9 % -11%	16,806
MT RUSHMORE RD	MAIN TO OMAHA  CATHEDRAL TO ST PATRICK	- /	-3%	25,009	-11%	18,575
MT RUSHMORE RD		25,768 27.567	-3 % -7%	· ·	-3 % -6%	24,345
MT RUSHMORE RD	ST PATRICK TO ST JOSEPH ST JOSEPH TO MAIN	20,058	-7 % 5%	25,651 21,120	-8%	24,046 19,340
MT RUSHMORE RD	MAIN TO OMAHA	16,001	7%	17,143	-0%	14,798
MT RUSHMORE RD	OMAHA TO NORTH	6,868	-31%	4,732	59%	7,545
N ELLSWORTH RD	US-14/16 TO LIBERTY	8,006	7%	8,543	-11%	7,545
NEMO RD	WESTBERRY TRAILS TO BERRY PINE	3,506	-14%	3,014	18%	3,567
OMAHA (W) ST	DEADWOOD TO MTVIEW	23,573	17%	27,490	-14%	23,629
OMAHA (W) ST	MTVIEW TO WEST BLVD	27,020	30%	35,097	-3%	33,939
OMAHA ST	WEST BLVD TO MT RUSHMORE	23,204	39%	32,237	-9%	29,194
OMAHA ST	MT RUSHMORE TO 5TH	26,501	19%	31,579	-6%	29,801
OMAHA ST	5TH TO EAST BLVD	23,781	22%	29,021	-13%	25,248
OMAHA ST	EAST BLVD TO LACROSSE	21,380	19%	25,374	-15%	21,605
OMAHA (E) ST	LACROSSE TO CAMBELL	19,649	16%	22,811	-25%	17,190
RADAR HILL RD	MULE DEER TO US-14/16	3,139	13%	3,536	5%	3,705
SD-44 (E)	CAMBELL TO ST PATRICK	18,335	5%	19,270	-3%	18,598
SD-44 (E)	ST PATRICK TO TWILIGHT	22,684	20%	27,108	-12%	23,770
	TWILIGHT TO JOLLY	17,186	4%	17,957	/-	CONSTRUCTION
, ,		· · · · · · · · · · · · · · · · · · ·	3%	15,595	+	CONSTRUCTION
SD-44 (E)	JOLLY TO RESERVOTE	15 182				
SD-44 (E) SD-44 (E)	JOLLY TO RESERVOIR RESERVOIR TO AIRPORT	15,182 CONSTRUCTION	370		24%	7 504
SD-44 (E) SD-44 (E) SD-44 (E)	RESERVOIR TO AIRPORT	CONSTRUCTION		6,042	24% 11%	7,504 10 412
SD-44 (E) SD-44 (E)			-11% -5%		24% 11% -6%	7,504 10,412 2,674

		2008 SEASONALLY	% Change	2009 SEASONALLY	% Change	2010 SEASONALLY
ROAD	LIMITS	ADJUSTED COUNT	2008/2009	ADJUSTED COUNT	2009/2010	ADJUSTED COUNT
SHERIDAN LAKE RD	S WILDWOOD TO CATRON	7,577	12%	8,513	3%	8,782
SHERIDAN LAKE RD	CATRON TO CORRAL	12,431	14%	14,233	-6%	13,359
SHERIDAN LAKE RD	CORRAL TO FLORMANN	13,811	2%	14.067	-9%	12.836
SHERIDAN LAKE RD	FLORMANN TO JACKSON	14,629	1%	14,705	6%	15,563
SHERIDAN LAKE RD	JACKSON TO CANYON LAKE	7.560	18%	8,907	-10%	8.023
SHERIDAN LAKE RD	CANYON LAKE TO W MAIN	8.150	16%	9,485	-13%	8.271
SOO SAN DR	CANYON LAKE TO RANGE	8.182	7%	8.714	-20%	6,975
SOUTH CANYON RD	BERRY PINE TO 44TH	5,173	1%	5,235	36%	7,128
SOUTH CANYON RD	W MAIN TO 44TH	937	170	No Count	0070	902
ST JOSEPH (W) ST	WEST BLVD TO WEST ST	No Count		No Count		19,475
ST JOSEPH ST	WEST BLVD TO MT RUSHMORE	14.184	3%	14,581	2%	14,807
ST JOSEPH ST	MT RUSHMORE TO 5TH	12.066	8%	13.080	-8%	12,022
ST JOSEPH ST	5TH TO EAST BLVD	8,797	22%	10,694	2%	10,877
ST JOSEPH ST	EAST BLVD TO STEELE	8.227	2%	8,377	18%	9.854
ST JOSEPH (E ) ST	STEELE TO ST PATRICK	12.707	-9%	11,583	-20%	9,314
ST JOSEPH (E) ST	ST PATRICK TO CAMBELL	6,046	6%	6,379	-17%	5,277
ST PATRICK ST	WEST BLVD TO MT RUSHMORE	3,817	-17%	3.167	21%	3,842
ST PATRICK ST	MT RUSHMORE TO 5TH	6.876	-11%	6.107	30%	7.938
ST PATRICK ST	5TH TO ELM	11.204	-4%	10.784	15%	12.362
ST PATRICK (E) ST	ELM TO ST JOSEPH	12,650	-9%	11,552	16%	13,348
ST PATRICK (E) ST	ST JOSEPH TO CAMBELL	13,944	-6%	13.171	25%	16,412
ST PATRICK (E) ST	CAMBELL TO CREEK	15,288	-2%	14,918	15%	17,211
ST PATRICK (E) ST	CREEK TO SD-44	11,913	-1%	11,770	-5%	11,148
STURGIS RD	MAIN TO W CHICAGO	12,186	4%	12,733	-5%	12,054
STURGIS RD	W CHICAGO TO ST MARTINS	9,320	3%	9,567	0%	9,528
TWILIGHT DR	SD-44 TO JOLLY LN	7,256	8%	7,815		CONSTRUCTION
TWILIGHT DR	JOLLY LN TO RESERVOIR	3,526	19%	4,212		CONSTRUCTION
US-14/16	I-90 TO WESTGATE	13,956	13%	15,758	-8%	14,456
US-14/16	S ELLSWORTH TO OAK	1,749	6%	1,854	-8%	1,707
US-16	CITY LIMIT TO CATRON	9,932	50%	14,863		CONSTRUCTION
US-16	CATRON TO CATHEDRAL	10,992	37%	15,018	-21%	11,898
W CHICAGO ST	44TH TO STURGIS	10,842	6%	11,531	12%	12,878
W CHICAGO ST	STURGIS TO DEADWOOD	13,740	-2%	13,430	-5%	12,746
WEST BLVD	FLORMANN TO ST PATRICK	5,517	-71%	1,586	-1%	1,562
WEST BLVD	ST PATRICK TO ST CLOUD	5,230	-8%	4,821	20%	5,768
WEST BLVD	ST CLOUD TO ST JOSEPH	8,813	12%	9,891	-1%	9,824
WEST BLVD	ST. JOSEPH TO MAIN	14,686	-10%	13,290	7%	14,222
WEST BLVD	MAIN ST TO OMAHA ST	16,604	-23%	12,822	18%	15,150
WEST GATE RD	US-14/16 TO BLUEBIRD	3,340	8%	3,591	5%	3,766