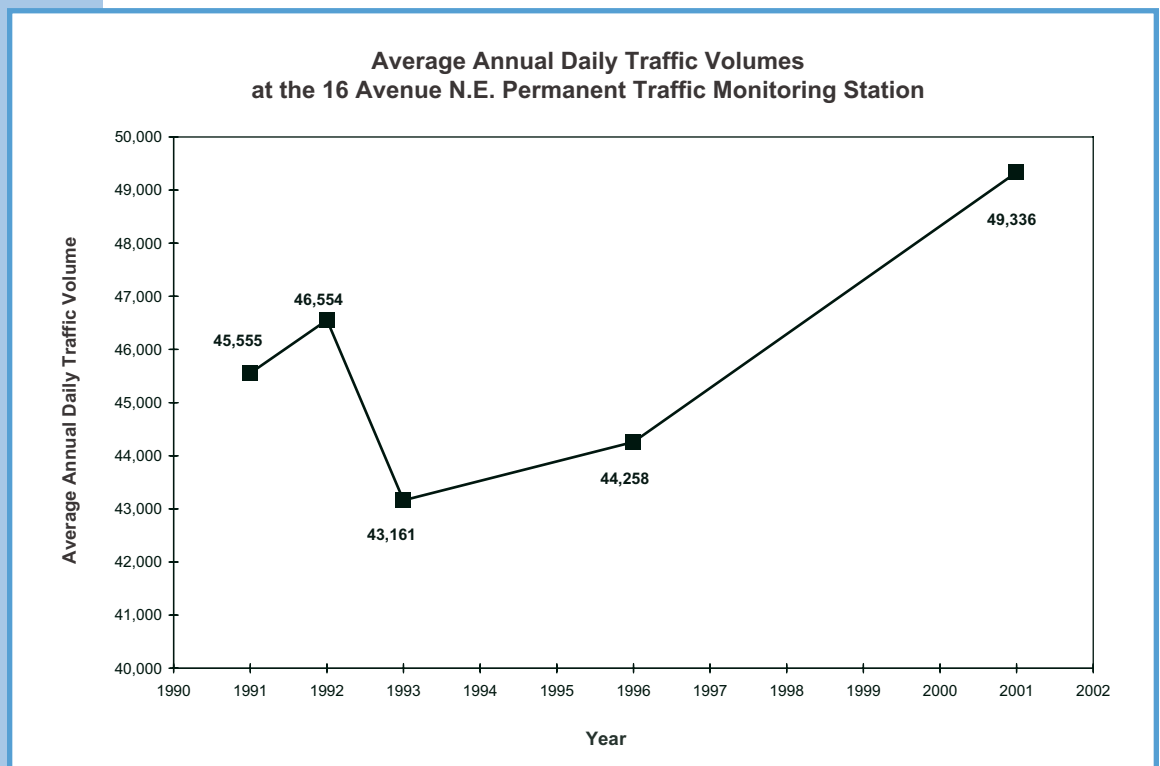# Mobility Monitor

TRAFFIC PATTERNS AT THE 16 AVENUE N.E. PERMANENT TRAFFIC MONITORING STATION

The City of Calgary maintains 12 permanent traffic monitoring stations. One of these stations is located on 16 Avenue N.E. west of Deerfoot Trail N.E. This *Mobility Monitor* reports on the traffic patterns observed at this station. The traffic patterns are different at each of the permanent traffic monitoring stations.

KEY FINDING

Average annual daily traffic at the 16 Avenue N.E. Permanent Traffic Monitoring Station increased by 12% between 1996 and 2001.
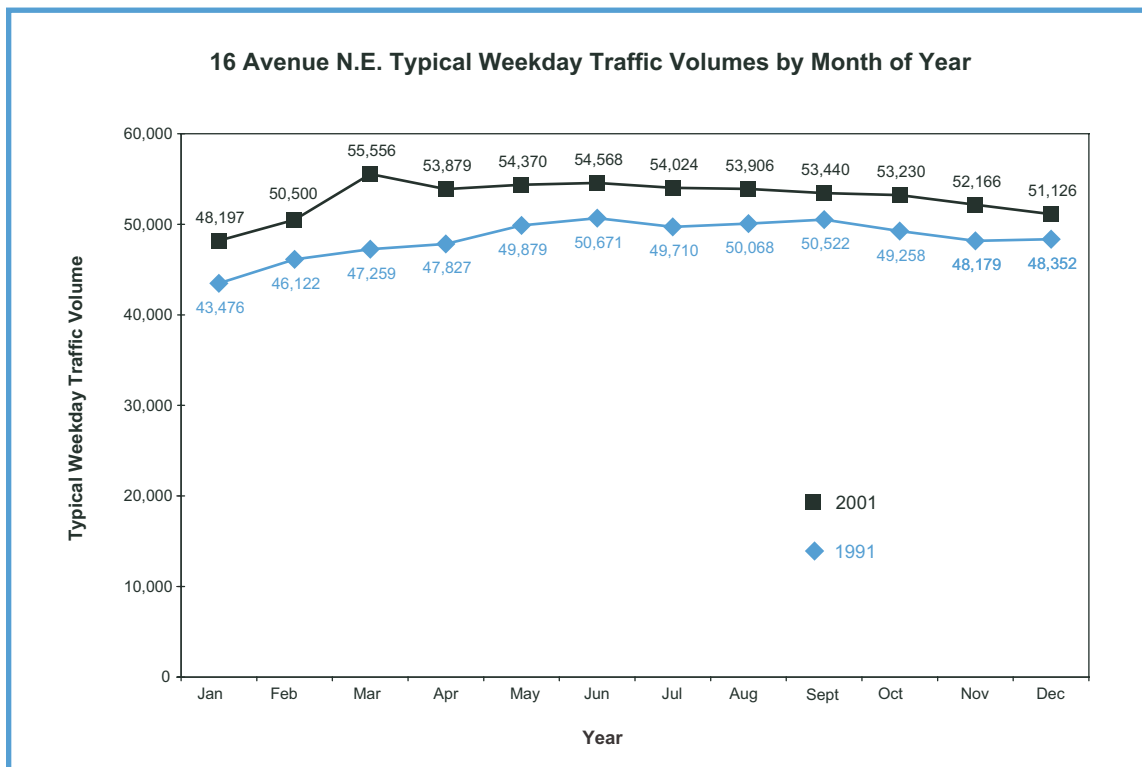

Average Annual Daily Traffic Volumes at the 16 Avenue N.E. Permanent Traffic Monitoring Station

- The average annual daily traffic volume is calculated by dividing the total volume for the year by the number of days in the year.

- The volume of traffic on 16 Avenue N.E. declined by 7% between 1992 and 1993, but consistently increased from 1993 to 2001.

- In 1991, the average annual daily traffic volume was 45,555 vehicles, but this varied from 21,272 vehicles on January 1 to 56,300 vehicles on May 31.

- In 2001, the average annual daily traffic volume was 49,336 vehicles, but this varied from 23,600 vehicles on December 25 to 61,100 vehicles on April 12.

KEY FINDING

***The seasonal pattern of traffic volumes on 16 Avenue N.E. changed very
little between 1991 and 2001. The exception was March 2001, which was
the peak month of the year.***

16 Avenue N.E. Typical Weekday Traffic Volumes by Month of Year

Month	2001	1991
Jan	48,197	43,476
Feb	50,500	46,122
Mar	55,556	47,259
Apr	53,879	47,827
May	54,370	49,879
Jun	54,568	50,671
Jul	54,024	49,710
Aug	53,906	50,068
Sept	53,440	50,522
Oct	53,230	49,258
Nov	52,166	48,179
Dec	51,126	48,352

Y-axis: Typical Weekday Traffic Volume
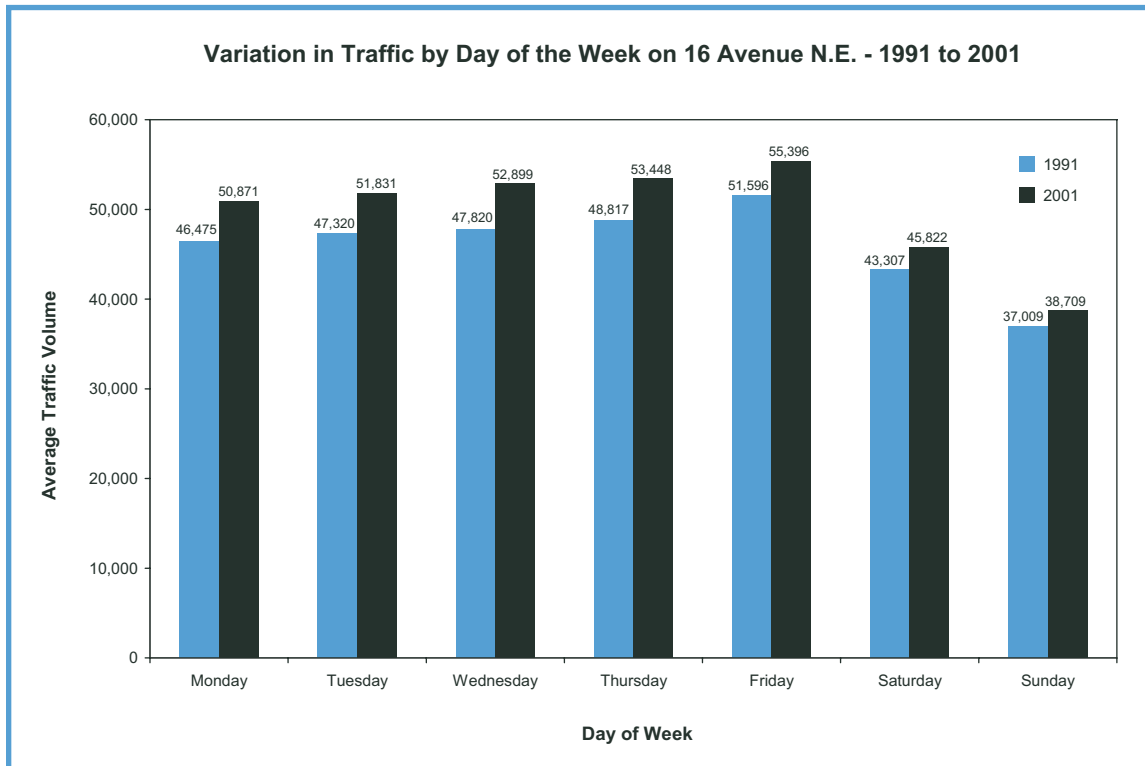X-axis: Year

■ 2001
◆ 1991

- The typical weekday traffic volume for each month was calculated by dividing the total traffic volume on typical weekdays in a month by the number of typical weekdays in the month. Saturdays, Sundays, statutory holidays and other unusual days, such as a Friday before a long weekend or a snow day were excluded.

- In 1991, the typical weekday traffic volume was 48,400 for the year. By 2001, the typical weekday traffic volume increased by 9% to 52,900.

- The range of variation in traffic volumes has decreased very slightly from 1991 to 2001. The lowest month in 1991, January, was 10% less than average, while the lowest month in 2001, January, was 9% less than average. The highest month in 1991, June, was 5% higher than average, while the highest month in 2001, March, was 5% higher than average.

Sources of Information

The data in this *Mobility Monitor* comes from the permanent traffic monitoring station on 16 Avenue N.E. west of Deerfoot Trail N.E. At permanent traffic monitoring stations information on traffic is collected 24 hours a day for every day of the year. From time to time the equipment may fail and some data may be missing for that year. In this report only years where data was available for every day of the year were used.

KEY FINDING

In 2001 the traffic volume pattern by day of the week was similar to the pattern for 1991.

Variation in Traffic by Day of the Week on 16 Avenue N.E. - 1991 to 2001

Day	1991	2001
Monday	46,475	50,871
Tuesday	47,320	51,831
Wednesday	47,820	52,899
Thursday	48,817	53,448
Friday	51,596	55,396
Saturday	43,307	45,822
Sunday	37,009	38,709

(Y-axis: Average Traffic Volume, 0 to 60,000. X-axis: Day of Week.)

- The average traffic volume for each day of the week was calculated by dividing the total traffic volume on each day of the week for the entire year by the number of days of the week for the year. Statutory holidays and other unusual days, such as a Friday before a long weekend or a snow day were excluded from the calculation.

- In both 1991 and 2001, the highest traffic volume was on Friday, which had 107% of the typical weekday traffic volume in 1991 and 105% in 2001. Monday had the lowest traffic volume for a weekday, with 96% of the typical weekday volume.

- Saturdays and Sundays had much lower volumes than the weekdays. The traffic volumes on Saturday were 90% of the typical weekday traffic volume in 1991 and 87% in 2001. The traffic volumes on Sunday were 77% of the typical weekday traffic volume in 1991 and 73% in 2001.

What are the Uses of Data from Permanent Traffic Monitoring Stations?

Permanent traffic monitoring stations are used primarily to collect information on day to day and seasonal patterns of traffic. These can then be used to adjust one-day counts at other locations to take into account these variations.

Permanent traffic monitoring stations can also be used to collect very detailed information on critical parts of the road network to help with decisions about improvements and operations.

KEY FINDING

In 2001, the traffic volume pattern by the time of day on typical weekdays was similar to the pattern in 1991.

16 Avenue N.E. Typical Weekday Traffic Volumes by Time of Day

■ 2001
◆ 1991
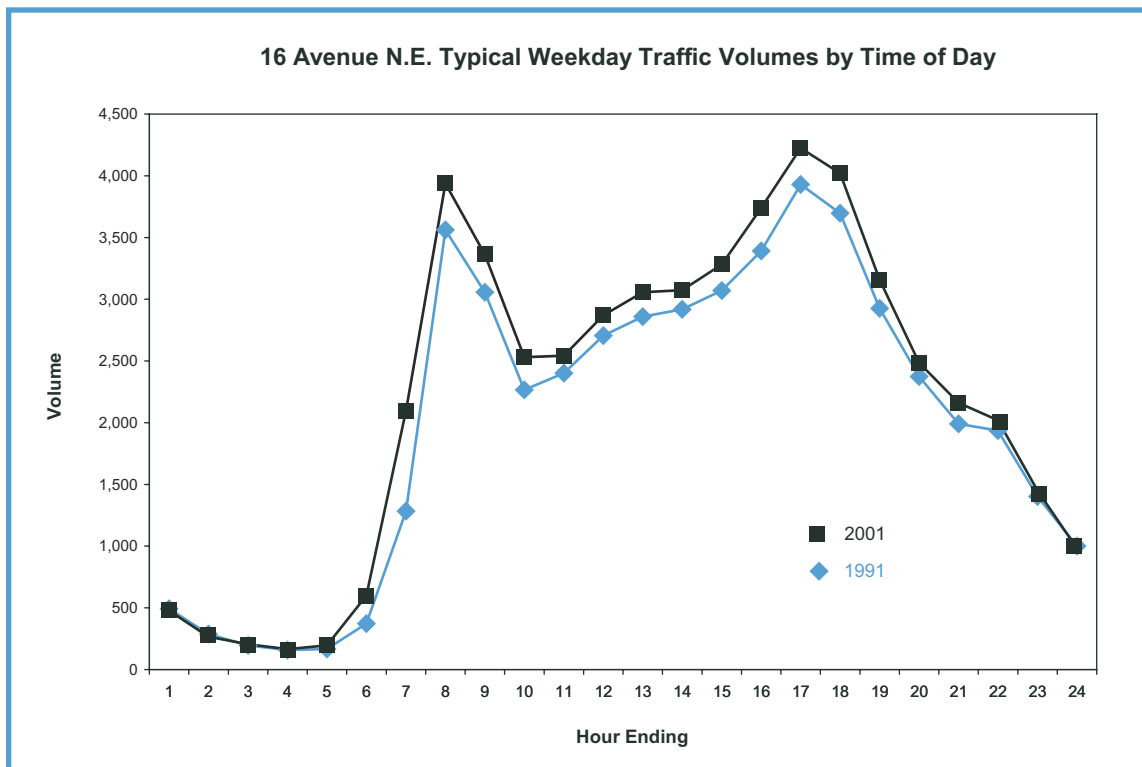
- Average hourly volumes were calculated for typical weekday traffic for each year. Saturdays, Sundays, statutory holidays and other unusual days, such as a Friday before a long weekend or a snow day were excluded.

- While the total volume increased by 9% the change between 1991 and 2001 ranged from a 7% decrease for the 1 a.m. to 2 a.m. time period to a 63% increase for the 6 a.m. to 7 a.m. time period. The biggest increase was 814 vehicles in the 6 a.m. to 7 a.m. time period.

- In 1991, the highest hourly volume was 3,929 vehicles during the 4 p.m. to 5 p.m. time period. In 2001, the highest hourly volume was 4,225 vehicles during the 4 p.m. to 5 p.m. time period.

How Accurate and Reliable is this Data?

How concerned should you be by the potential for error in the data presented in The *Mobility Monitor*? Traffic on a road can vary by as much as 10% from one day to the next. The data used in this *Mobility Monitor* are from the permanent counting stations. Data was available for all relevant days for each year, virtually eliminating any uncertainty due to sampling. The limitations of the counting machines will cause a small amount of uncertainty, but this should not be an important issue in this analysis. Even so, a change from one year to the next may be due to some random event, such as the weather, accidents or illness. This is why it is wise to look at trends, since changes that are consistent over a long period of time are more likely to be real, and not just the result of random events.