TRANSPORTATION

FACTS

About northeastern Illinois as prepared by the Chicago Area Transportation Study

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FOCUS ON: INTRODUCING THE 2001 INTERACTIVE REGIONAL HIGHWAY ATLAS

Background

The 2001 Interactive Regional Highway Atlas (2001 Interactive Atlas) was created to meet three objectives.

1) Provide data for making decisions regarding allocation of highway improvement funds. The "Transportation Equity Act for the 21st Century" (TEA-21), states that data such as Average Annual Daily Traffic (AADT) and Vehicle Miles Traveled (VMT) can be used to apportion federal-aid highway funds to states. The 2001 Interactive Atlas provides these data as an annual update of AADT and VMT to help the Illinois Department of Transportation obtain its share of dollars for Illinois highways.

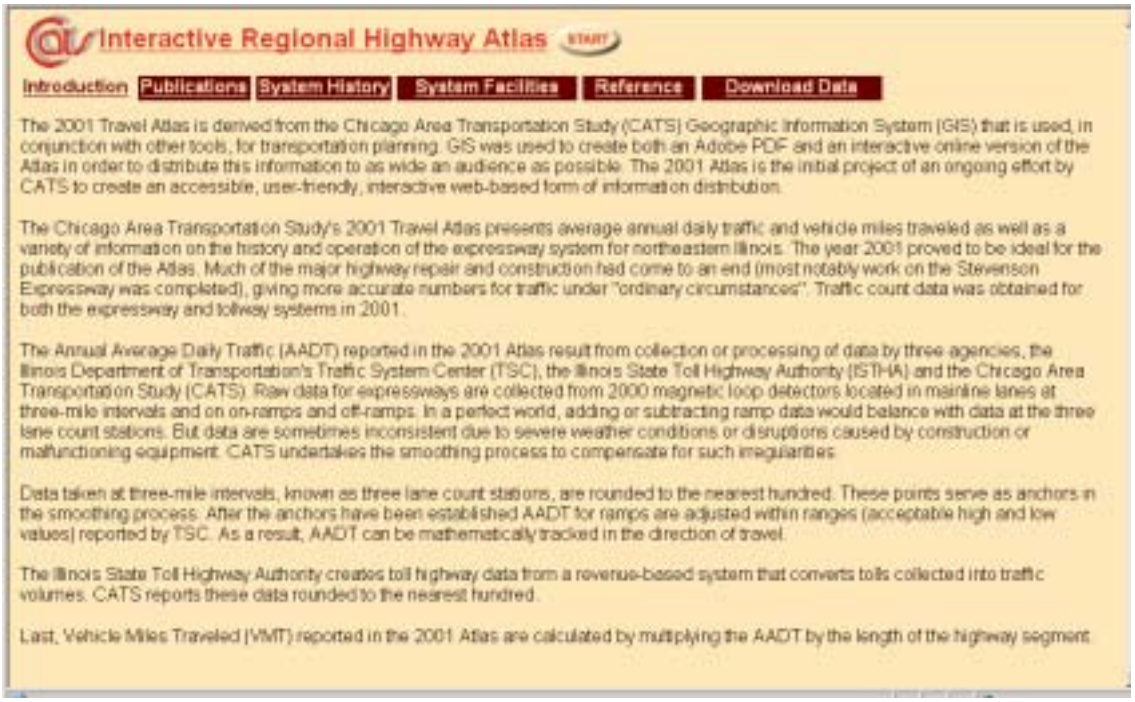
2) Develop a method for quickly updating Atlases. CATS began annual updating and reporting AADT and VMT in spreadsheet format in 1995. Atlases though, go a step further toward promoting a better understanding of the AADT/VMT by showing the data on corresponding expressway and toll highway maps. CATS has published Atlases only periodically (for years 1965, 1972, 1984, 1990 and 1995) because of the time and labor they require. The 2001 Interactive Atlas establishes a digital map that can be updated relatively quickly each year to reflect changes in highway configuration. Through continual improvements, the Atlas could be sent annually to IDOT to fulfill the requirement for providing updated AADT and VMT.

3) Build a pilot project making geographic information available on the CATS website (www.catsmpo.com/, click Publications then T-Facts). The 2001 Interactive Atlas is accessible to anyone with an Internet connection. It lets users focus on specific expressways and toll highways they are most interested in. Another feature allows data for 1995 – 2001 to be downloaded from the website as text files.

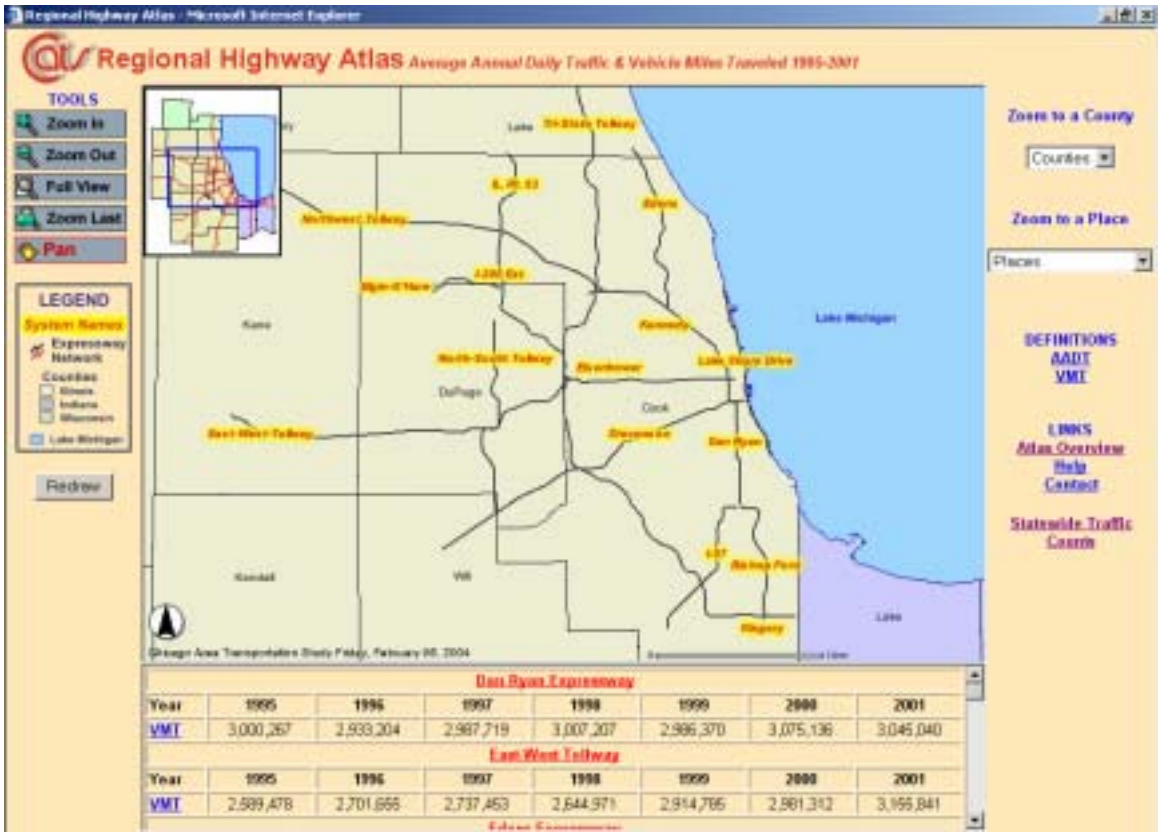
Features of the 2001 Interactive Atlas (www.catsmpo.com)

The Home Page (below) serves as a table of contents with hyperlinks to sections contained in the Atlas.

- o "Interactive Regional Highway Atlas" or "Start" launches the primary portion of the application containing the regional map, navigation tools and data for selected sites. Refer to the illustration and further explanation below.
- o "Publications" hyperlinks to 1972, 1984, 1990, 1995 and 2001 Atlases appearing in .pdf format.
- o "System History" provides a thumbnail sketch of how Chicago's roadway system developed from the 1830's plan for the city to the 1950's designs for the Interstate Highway System created by the Federal government.
- o "System Facilities" adds fascinating nuggets of history about the construction and context of individual expressways and toll highways.
- o "Reference" includes citations for the previous sections of the Atlas.
- o "Download Data" provides the link to obtain the AADT and VMT data for expressways and toll highways in .txt format.



"Regional Highway Atlas – Average Annual Daily Traffic & Vehicle Miles Traveled 1995 – 2001" (illustrated on page 3). This page contains the regional map, locator map, navigation tools, data table, legend, list boxes for counties and places, definitions and links to IDOT's statewide traffic count website.



Definitions

Annual Average Daily Traffic (AADT) are estimated calculations representing the number of vehicles passing a particular location. Vehicle Miles Traveled (VMT) data reported by CATS estimate the number of miles traveled by all types of vehicles. If, for example, 3,000 vehicles (annual average) traveled on a road segment 0.5 miles long the VMT for this segment would be calculated as follows.

AADT	X	Distance	=	VMT
3,000	X	0.5 mile	=	1,500

Expressway and Toll Highway System Data

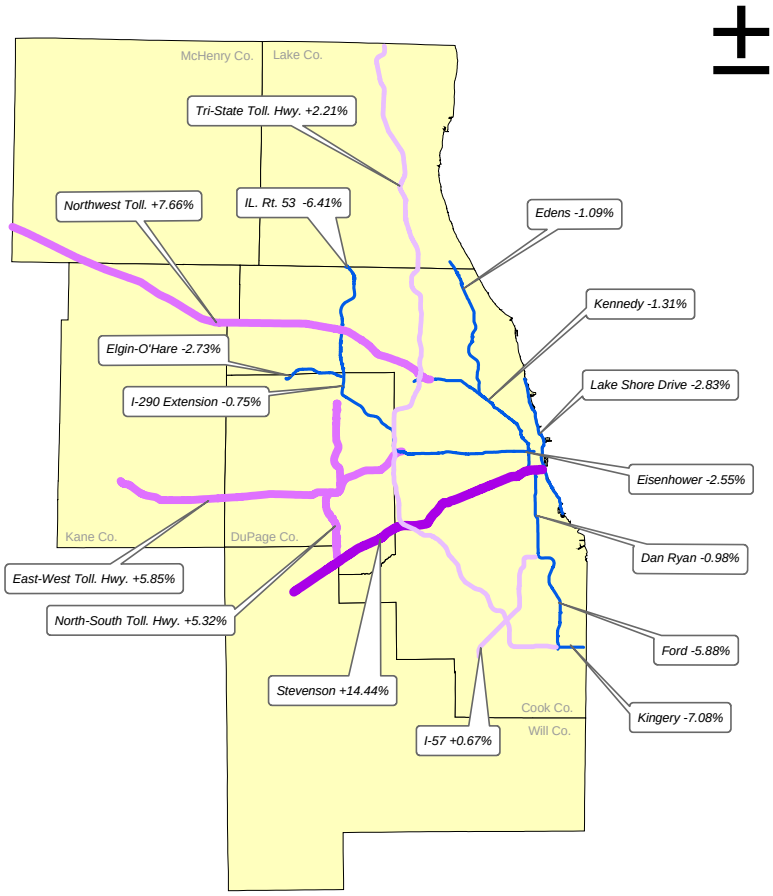
The six counties within IDOT District 1 in the Chicago Region include 15 expressways and 4 toll highways. Data are reported for all the toll highways operated by the Illinois State Toll Highway Authority and only those expressways maintained by IDOT with surveillance. Their combined distances cover about 360 miles. The database for these facilities includes 47 fields and more than 1,100 records. Data can be used to characterize the system, in whole or in part, or to accentuate a particular time period. Examples are found in the following pages.

VMT Percentage Change for All Facilities, Years 2000 – 2001

Map 1 of the regional expressway and toll highway system illustrates the annual percent change for year 2000 – 2001. Estimates are bidirectional. Values range between -7% to +14%.

Map 1. Expressway and Toll Highway VMT Change 2000-2001

System Growth 1.94%



VMT % Change by Facility

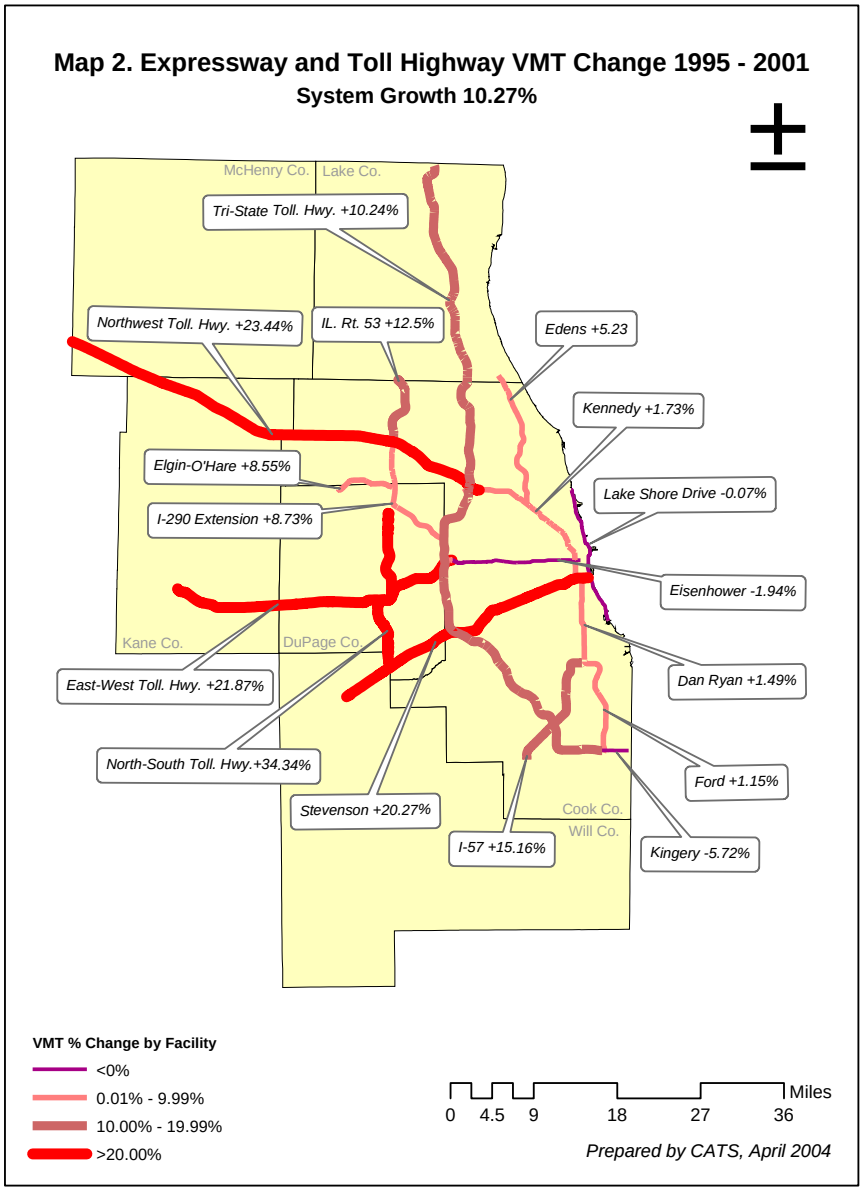
- -7% - 0
- 0.01% - 4.99%
- 5.00% - 9.99%
- >10%

0 4.5 9 18 27 36 Miles

Prepared by CATS, April 2004

VMT Percentage Change for All Facilities, Years 1995 - 2001

Map 2 shows the results of six years of VMT data for the expressways and toll highways within IDOT District 1. As with the previous map, data reflect bi-directional estimates. The range of values falls between a low of -4% and a high of +34%.



VMT in this report are sums of both directions of travel. Table 1 shows rankings of all 19 facilities by distances and percent of total. Note that the first five ranked facilities in Table 1 make up more than one half the distance of all facilities. They provide connections between Cook County and the adjacent collar counties. Four of the top five facilities are toll highways.

Table 1. Year 2001 Expressways And Toll Highways Ranked by Distance

Rank	Name	Distance	% Total
1	Tri-State Tollway	82.62	23%
2	East-West Tollway	39.68	11%
3	Northwest Tollway	38.87	11%
4	Stevenson	30.16	8%
5	North-South Tollway	20.01	5%
6	Edens	19.10	5%
7	I-290	17.72	5%
8	Kennedy	17.54	5%
9	Eisenhower	16.91	5%
10	I-57	13.97	4%
11	Ford Freeway	12.00	3%
12	Dan Ryan	11.43	3%
13	Lake Shore Drive- N	8.69	2%
14	Elgin O'Hare	7.03	2%
15	Lake Shore Drive- S	6.91	2%
16	Kennedy Reversible	6.83	2%
17	IL-53	6.76	2%
18	Dan Ryan Express	5.14	1%
19	Kingery	3.40	1%
	Total	364.77	100%

Table 2 shows the percent total of VMT for each facility. Four of the first five ranked facilities in Table 2 are also listed in the top five facilities ranked by distance in Table 1.

Table 2. Year 2001 Expressways And Toll Highways Total VMT Ranked by Percent of Total

Rank	Name	2001 VMT	% Total
1	Tri-State Tollway	9,611,511	21.4%
2	Northwest Tollway	4,236,210	9.5%
3	Stevenson	4,101,720	9.2%
4	Kennedy	3,434,758	7.7%
5	East-West Tollway	3,155,841	7.0%
6	Eisenhower	3,039,670	6.8%
7	I-290	2,761,787	6.2%
8	Edens	2,730,499	6.1%
9	Dan Ryan	2,143,486	4.8%
10	North-South Tollway	2,039,312	4.5%
11	Ford Freeway	1,484,224	3.3%
12	I-57	1,388,980	3.1%
13	Lake Shore Drive- N	1,124,721	2.5%
14	Dan Ryan Express	901,554	2.0%
15	IL-53	886,868	2.0%
16	Lake Shore Drive- S	596,296	1.3%
17	Elgin O'Hare	471,789	1.1%
18	Kingery	438,430	1.0%
19	Kennedy Reversible	279,244	0.6%
	Total	44,826,900	100.0%

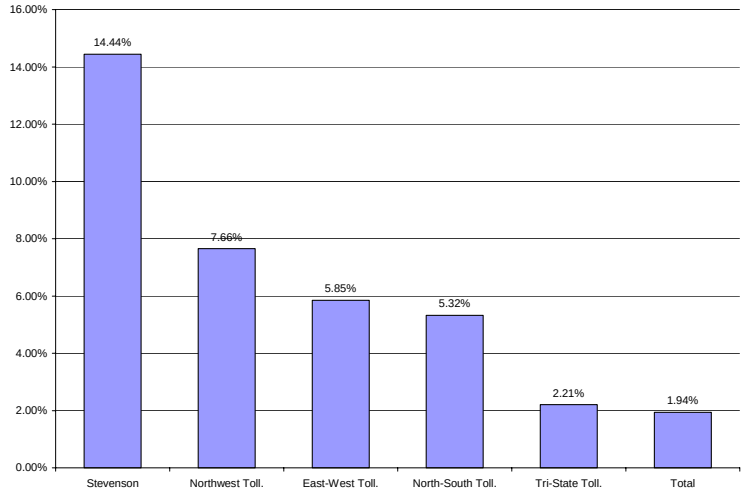
Ranking Facilities by VMT Increases

Changes in VMT shown in percentages can help attach meaning to traffic volume data by providing a sense of perspective. Another approach is to indicate the sheer volume of traffic by showing daily traffic estimates. Both methods are used in the charts found on the following pages. The sources of data were tables with VMT data for 1995 through 2001. Data were selected showing the annual number change and percent change for 2000 – 2001 and then for the period between 1995 – 2001. Data for all 19 facilities were sorted in ascending order and those ranked 1 – 5 were chosen to be highlighted.

Top 5 VMT Annual Percent Increases 2000 – 2001

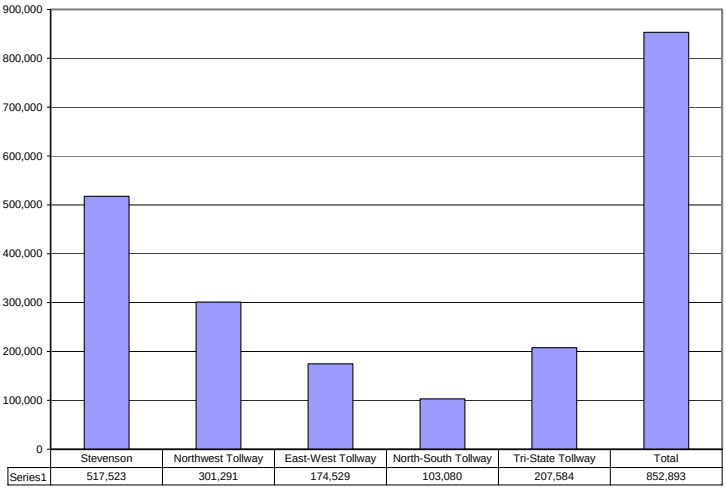
Chart 1 includes four toll highways and one expressway with increases ranging from 14.44 % to 2.21%. The Stevenson Expressway, ranked first, shows by far the largest annual percent change. Note that 2000 - 2001 was the first year after reconstruction of the Stevenson was completed and this may have had an impact on the high VMT for 2000-2001.

Chart 1. Top 5 VMT Percent Increases 2000 - 2001



The five facilities ranked in ascending order by VMT number change for 2000 – 2001 are shown in Chart 2 (page 8). In this case the facilities are the same as those listed in Chart 1. The VMT increase for the Stevenson and NW toll highway (818,814) is 96% of the difference for all expressways and toll highways combined (852,893).

Chart 2. Top 5 VMT Number Increases 2000 – 2001



Top 5 VMT Increases 1995 - 2001

CATS began annually reporting VMT changes for expressways and toll highways in the region in 1995. The longest period of time for which consecutive annual data are available is the seven year period from 1995 – 2001. Percentage changes over the longer time period take into account abrupt changes that may occur annually. Large increases still occur though, as evidenced in Chart 3 below.

VMT increases for the top 5 ranked facilities ranged from 34.34% to 15.16% for the 7- year period. Compare this to the 10.27% change for the whole system.

Chart 3. Top 5 VMT Percent Increases 1995 - 2001

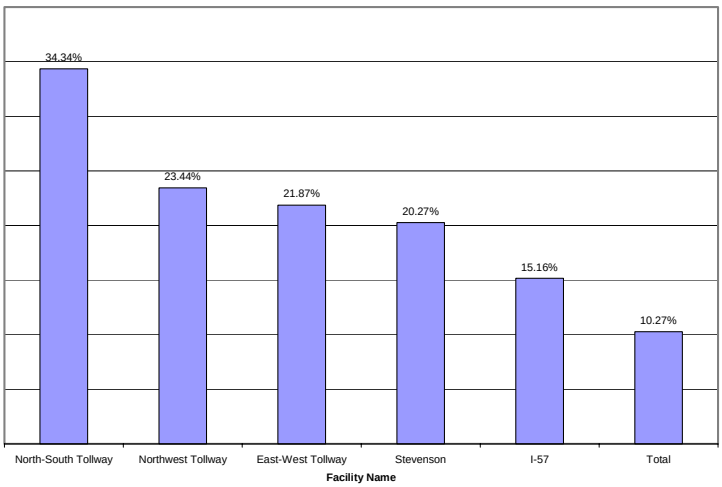
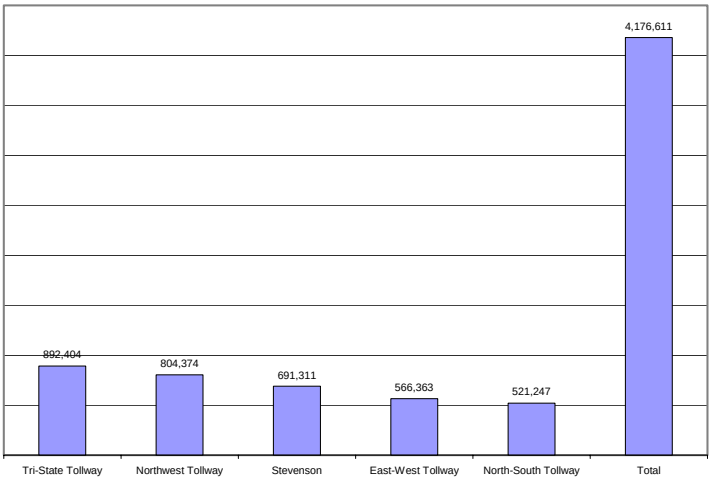


Chart 4 below shows that top ranked facilities connecting Cook County with the collar counties (Tri-State, Northwest and Stevenson) or that interconnect collar counties (East-West and North-South) outpaced those located almost wholly within Cook County. The summed VMT for the Top 5 facilities (3.5 million) represents more than 80% of the total VMT for all nineteen facilities (4.1 million).

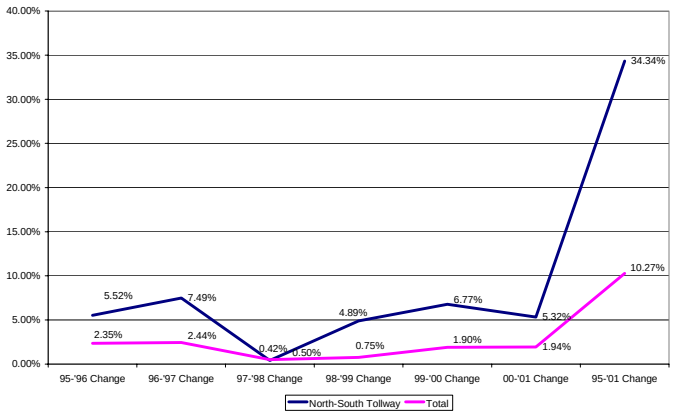
Chart 4. Top 5 Facilities Ranked By VMT Number Increase 1995 - 2001



HIGHLIGHTING THE NORTH-SOUTH TOLL HIGHWAY

This facility showed a 34.34% increase in VMT from 1995 – 2001 (see Chart 5 below). Annual growth ranged from 0.42% (1997 – 1998) to 7.49% (1996 – 1997). Note that in the 1997 – 1998 time period the system as a whole showed only a 0.50% growth rate. The direction of annual ascending or descending changes for this single facility mirrored changes occurring to the entire system.

Chart 5. North-South Toll Highway, highest Percent Increase 1995 - 2001



For More Details

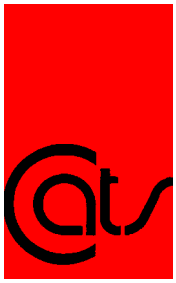
CATS Website: www.catsmpo.com

Working Paper 04-04, Dealing With AADT and VMT Data In The 2001 Interactive Regional Highway Atlas, Jon Hallas

Working Paper 00-05, VMT Database Update to 1999 Northeastern Illinois Expressway and Tollway Systems, Jon Hallas.

Working Paper 01-13, Northeastern Illinois Expressway System Atlas Annual Average Daily Traffic Volume Balancing Technical Process Methodology, Art Nicholas.

Working Paper 97-19, VMT Data Base Northeastern Illinois Expressway and Tollway Systems, Ed J. Christopher, Martha Yvarra and Maecheri Whiteside.



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