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16. Abstract

In an effort to provide increased mobility within the Houston metropolitan area, a major commitment has been made to implement an extensive system of transitways in the median of the city's freeway network. These lanes are reserved for high-occupancy vehicles. At present, carpools are permitted to use three of the four transitways currently in operation. This report presents the results of transitway carpool surveys performed on the Katy, Northwest and Gulf Transitways. In addition to obtaining socio-economic, demographic and travel information, the surveys were designed to: 1) determine perceptions of transitway utilization; 2) identify why individuals have chosen to carpool; and 3) assess carpooler attitudes and impacts pertaining to the transitways. This report covers the time period from October 1985 through November 1988.

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A SUMMARY OF CARPOOL SURVEY DATA FROM THE KATY, NORTHWEST AND GULF TRANSITWAYS

By

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Research Report 484-9

An Evaluation of the Impact of Permitting Carpools to Use the Katy Transitway
Research Study 2-10-85-484

Sponsored by the
Metropolitan Transit Authority of Harris County
and the
Texas State Department of Highways and Public Transportation

In Cooperation with the
U.S. Department of Transportation
Federal Highway Administration

Texas Transportation Institute
The Texas A&M University System
College Station, Texas 77843-3135

February 1989

METRIC (SI*) CONVERSION FACTORS

APPROXIMATE CONVERSIONS TO SI UNITS

Symbol	When You Know	Multiply By	To Find	Symbol
	LENGTH			
in	inches	2.54	millimetres	mm
ft	feet	0.3048	metres	m
yd	yards	0.914	metres	m
mi	miles	1.61	kilometres	km
	AREA			
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mi^2	square miles	2.59	kilometres squared	km^2
ac	acres	0.395	hectares	ha
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lb	pounds	0.454	kilograms	kg
T	short tons (2000 lb)	0.907	megagrams	Mg
	VOLUME			
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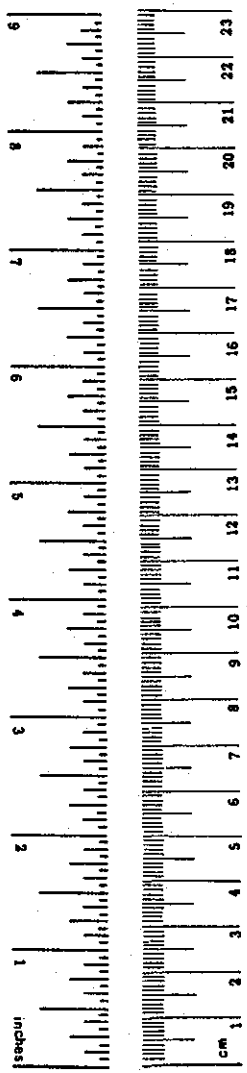
gal	gallons	3.785	litres	L
ft^3	cubic feet	0.0328	metres cubed	m^3
yd^3	cubic yards	0.0765	metres cubed	m^3

NOTE: Volumes greater than 1000 L shall be shown in m^3.

TEMPERATURE (exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C



APPROXIMATE CONVERSIONS TO SI UNITS

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	LENGTH			
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m	metres	3.28	feet	ft
m	metres	1.09	yards	yd
km	kilometres	0.621	miles	mi
	AREA			
mm^2	millimetres squared	0.0016	square inches	in^2
m^2	metres squared	10.764	square feet	ft^2
km^2	kilometres squared	0.39	square miles	mi^2
ha	hectores (10 000 m^2)	2.53	acres	ac
	MASS (weight)			
g	grams	0.0353	ounces	oz
kg	kilograms	2.205	pounds	lb
Mg	megagrams (1 000 kg)	1.103	short tons	T
	VOLUME			
mL	millilitres	0.034	fluid ounces	fl oz
L	litres	0.264	gallons	gal
m^3	metres cubed	35.315	cubic feet	ft^3
m^3	metres cubed	1.308	cubic yards	yd^3

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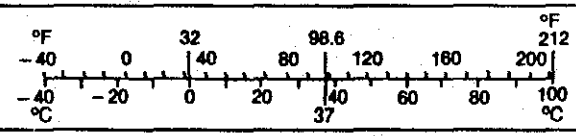

These factors conform to the requirement of FHWA Order 5190.1A.

* SI is the symbol for the International System of Measurements

ABSTRACT

In an effort to provide increased mobility within the Houston metropolitan area, a major commitment has been made to implement an extensive system of transitways in the median of the city's freeway network. These lanes are reserved for high-occupancy vehicles. At present, carpools are permitted to use three of the four transitways currently in operation. This report presents the results of transitway carpool surveys performed on the Katy, Northwest and Gulf Transitways. In addition to obtaining socio-economic, demographic and travel information, the surveys were designed to: 1) determine perceptions of transitway utilization; 2) identify why individuals have chosen to carpool; and 3) assess carpooler attitudes and impacts pertaining to the transitways. This report covers the time period from October 1985 through November 1988.

Key Words: Transitways, High-Occupancy Vehicle Lanes, Busways, Carpools, Priority Treatment

IMPLEMENTATION STATEMENT

Experience with operating exclusive, reversible transitway is limited. As a result, many of the operating procedures and approaches being used in Houston are being developed through experience. This study was undertaken to assist the Metropolitan Transit Authority of Harris County and the Texas State Department of Highways and Public Transportation in the implementation and operation of the transitway system.

DISCLAIMER

The contents of this report reflect the views of the author who is responsible for the opinions, findings, and conclusions presented herein. The contents do not necessarily reflect the official views of the Texas State Department of Highways and Public Transportation, the Metropolitan Transit Authority of Harris County, or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

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SUMMARY

In an effort to provide increased mobility within the Houston metropolitan area, a major commitment has been made to implement an extensive system of transitways in the median of the city's freeway network. These lanes are reserved for high-occupancy vehicles. At present, carpools are permitted to use three of the four transitways currently in operation. This report presents the results of transitway carpool surveys performed on the Katy, Northwest and Gulf Transitways. In addition to obtaining socio-economic, demographic and travel information, the surveys were designed to: 1) determine perceptions of transitway utilization; 2) identify why individuals have chosen to carpool; and 3) assess carpooler attitudes and impacts pertaining to the transitways. This report covers the time period from October 1985 through November 1988.

The Katy Transitway was opened to authorized buses and 8+ vanpools in October 1984. To encourage increased vehicular utilization of the facility, authorized 4+ carpools were allowed to begin using the transitway in April 1985. A few months later (October 1985), authorized 3+ carpools were permitted to use the transitway. In August 1986, the minimum passenger requirement for vehicles was lowered to 2 persons and all authorization requirements were eliminated. This method of operation continued successfully for the next two years.

By the fall of 1988, however, a.m. peak-hour vehicle volumes on the Katy Transitway were approaching capacity. This necessitated increasing the minimum carpool occupancy requirement from 2 to 3 persons between the hours of 6:45 a.m. and 8:15 a.m. effective October 17, 1988. *(Note: 2-person carpools are still permitted to use the transitway in the mornings before 6:45 a.m. and after 8:15 a.m. and during the entire p.m. operating period.)* Because of the success of permitting carpools on the Katy Transitway, the decision was

made to permit 2+ carpools on the Northwest and Gulf Transitways when they became operational in May 1988 and August 1988, respectively.

This report documents the results of transitway carpool user surveys performed in November 1988 along the Northwest and Gulf Transitways and compares them to the results of similar surveys performed along the Katy Transitway in 1985, 1986, 1987 and 1988. Some of the more important data from these surveys (trip destination, choice of commuting mode and perceptions of the transitways) are summarized on the following pages.

Trip Destination

Although the downtown area is the single largest attractor of peak-period transitway carpool trips, carpools have also demonstrated the capability of serving trips to numerous locations other than the downtown area (Table S-1).

Mode Choice Considerations

Previous Mode of Travel

In looking at previous travel modes of transitway carpoolers, 65% of the current Katy Transitway carpoolers drove alone. By contrast, 53% of the Gulf Transitway Carpoolers and 60% of the Northwest Transitway carpoolers were already carpooling prior to using the transitway (Table S-1).

Impacts of the Transitway on Mode Choice

Results of the carpool surveys show that transitways can be credited with encouraging individuals to switch travel modes (Table S-1). While sizable percentages of the carpoolers indicated that they would be carpooling even if there was no transitway, 35% of the current Katy Transitway carpoolers, 21% of those using the Northwest Transitway and 14% of the carpoolers on the Gulf Transitway said they would not.

Table S-1.
Characteristics of Transitway Carpoolers,
Katy, Northwest and Gulf Transitway Carpool Surveys

	Katy Transitway				Northwest Transitway	Gulf Transitway
Characteristic	**1985**	**1986**	**1987**	**1988**	**1988**	**1988**
Trip Destination	(n=31)	(n=65)	(n=573)	(n=404)	(n=268)	(n=123)
Downtown	29%	49%	39%	42%	38%	81%
Galleria/City Post Oak/Uptown	13%	15%	22%	19%	26%	9%
Greenway Plaza	13%	——	6%	3%	4%	3%
Texas Medical Center	3%	3%	6%	5%	4%	——
Other	42%	33%	27%	31%	28%	7%
Previous Travel Mode	(n=88)	(n=191)	(n=564)	(n=391)	(n=239)	(n=97)
Drove Alone	50%	46%	50%	45%	34%	28%
Carpool	24%	18%	29%	33%	60%	53%
Vanpool	4%	4%	2%	3%	1%	6%
Bus	2%	8%	9%	7%	4%	5%
Didn't Make Trip	20%	24%	10%	12%	1%	8%
Would You Carpool If No Transitway	(n=90)	(n=197)	(n=565)	(n=398)	(n=255)	(n=122)
Yes	70%	59%	50%	54%	70%	75%
No	16%	25%	37%	35%	21%	14%
Not Sure	14%	16%	13%	11%	9%	11%
Joined Present Carpool	(n=88)	(n=195)	——	——	(n=222)	(n=111)
Before Transitway Opened	55%	60%	——	——	66%	51%
After Transitway Opened	45%	40%	——	——	34%	49%
Number of Months Carpools Have Existed	(n=82)	(n=186)	——	——	(n=207)	(n=102)
Average	34	32	——	——	17	24
Number of Months Transitway Has Been Open to Carpools	6	12	24	42	3	6

Perceived Transitway Travel Time Savings

One of the primary reasons for developing the transitway network was to offer riders of high-occupancy vehicles both a travel time advantage and travel time reliability over traveling in the regular freeway lanes. Transitway carpoolers generally do perceive a travel time savings as a result of being able to use the priority lane. Median travel time savings reported by Katy Transitway carpoolers is 20 minutes in the a.m. and 22 minutes in the p.m.; median travel time savings by Northwest and Gulf Transitway carpoolers is 15 minutes in both the a.m. and p.m. (Table S-2). It is interesting to note the extent to which perceived travel time savings exceed actual travel time savings (determined from the results of travel time and delay studies conducted along the freeway corridors).

Table S-2.
Perceived Impacts of the Transitway on Travel Time Savings
Katy, Northwest and Gulf Transitway Carpool Surveys

Impact	Katy Transitway 1985	Katy Transitway 1986	Katy Transitway 1987	Katy Transitway 1988	Northwest Transitway 1988	Gulf Transitway 1988
Perceived Transitway Travel Time Savings (minutes)	(n=90)	(n=187)	(n=569)	(n=394)	(n=256)	(n=121)
a.m. (50th Percentile)	9	15	20	20	15	15
p.m. (50th Percentile)	17	20	20	22	15	15
Actual Transitway Travel Time Savings (minutes)[1]						
a.m. (6:00-9:30 a.m.)	6.8	3.0	4.4	5.1	3.1	3.3
p.m. (3:30-7:00 p.m.)	5.5	4.0	1.0	2.7	1.3	7.7

[1] *Source: TTI Research Report 484-7 and TTI Travel Time Studies*

Perception of Transitway Utilization

One of the primary reasons for permitting carpools to utilize the transitways is to increase both the actual and perceived utilization of the priority lanes. Carpoolers were asked whether they felt the transitway was sufficiently utilized to justify the project. Their responses are summarized in Table S-3.

Table S-3.
Perception of Transitway Utilization
Katy, Northwest and Gulf Transitway Carpool Surveys

Perception	Katy Transitway 1985[1]	Katy Transitway 1986[2]	Katy Transitway 1987[3]	Katy Transitway 1988[4]	Northwest Transitway 1988[3]	Gulf Transitway 1988[3]
Is the Transitway Sufficiently Utilized to Justify the Project	(n=86)	(n=196)	(n=606)	(n=371)	(n=257)	(n=118)
Yes	34%	45%	82%	47%	69%	65%
No	43%	32%	9%	27%	14%	21%
Not Sure	23%	23%	9%	26%	17%	14%
Transitway A.M. Peak Period Vehicle Volumes[5]	138	256	2412	2032	961	681

[1] *Authorized buses and vanpools (before carpools)*
[2] *Authorized buses, vanpools and 3+ carpools*
[3] *2+ vehicles, no authorization*
[4] *3+ vehicles, no authorization between 6:45 a.m. and 8:15 a.m.; 2+ vehicles, no authorization at all other times*
[5] *Source: TTI Research Report 484-7 and TTI transitway volumes counts*

As to be expected, as actual utilization of the Katy Transitway has increased (1985-1987) so has the perception of utilization. In 1988 (after utilization of the transitway was restricted to 3+ vehicles between 6:45 a.m. and 8:15 a.m.), both the actual and perceived utilization of the transitway declined; less than half of those surveyed in 1988 felt the transitway is sufficiently utilized with the current 3+ restriction in the a.m.

By contrast, at least 65% of the Northwest and Gulf Transitway carpoolers felt these transitways were sufficiently utilized to justify the project.

Conclusions

In conclusion, it appears that carpoolers generally perceive they are receiving a number of benefits from using the transitway. In fact, between 14% and 35% of those surveyed said they would not be carpooling if not for the transitway. Furthermore, it appears that permitting carpools to use the transitways has proven successful in increasing both the actual and perceived utilization of the facilities without attracting a substantial number of persons away from other transitway modes.

CHAPTER 1
INTRODUCTION

Within the Houston metropolitan area, a major commitment has been made to develop physically separated transitways in the medians of the existing freeway system. These lanes are reserved for the exclusive use by high-occupancy vehicles. To date, approximately 36 miles of the planned 95-mile transitway system are in operation (Figure 1).

A major concern of both the Metropolitan Transit Authority (METRO) and the State Department of Highways and Public Transportation (SDHPT) is the determination of the types of vehicles that are to be permitted to use the transitways. Initially, only authorized buses and 8+ vanpools were envisioned to be eligible users, as this approach had proven highly successful in the operation of the I-45 North Freeway Contraflow Lane in north Houston. Therefore, when the Katy Transitway opened in October 1984, its use was also limited to authorized buses and 8+ vanpools. Although this approach offered the potential to move large volumes of persons, it did not result in moving large volumes of vehicles and the transitway appeared to be underutilized. To encourage increased vehicular utilization of the facility, authorized 4+ carpools were allowed to begin using the transitway in April 1985. About 6 months later (October 1985), authorized 3+ carpools were permitted to use the transitway. In August 1986, the minimum passenger requirement for vehicles was lowered to 2 persons and all authorization requirements were eliminated.

By the fall of 1988, however, a.m. peak-hour (7:00 a.m. - 8:00 a.m.) vehicle volumes on the Katy Transitway were approaching or exceeding capacity. This dramatic increase in utilization was beginning to have a negative effect on the facility's a.m. operation (lower transitway travel speeds, increased travel times and unreliable travel times). As a result, the minimum carpool occupancy requirement was raised from 2 to 3 persons between 6:45

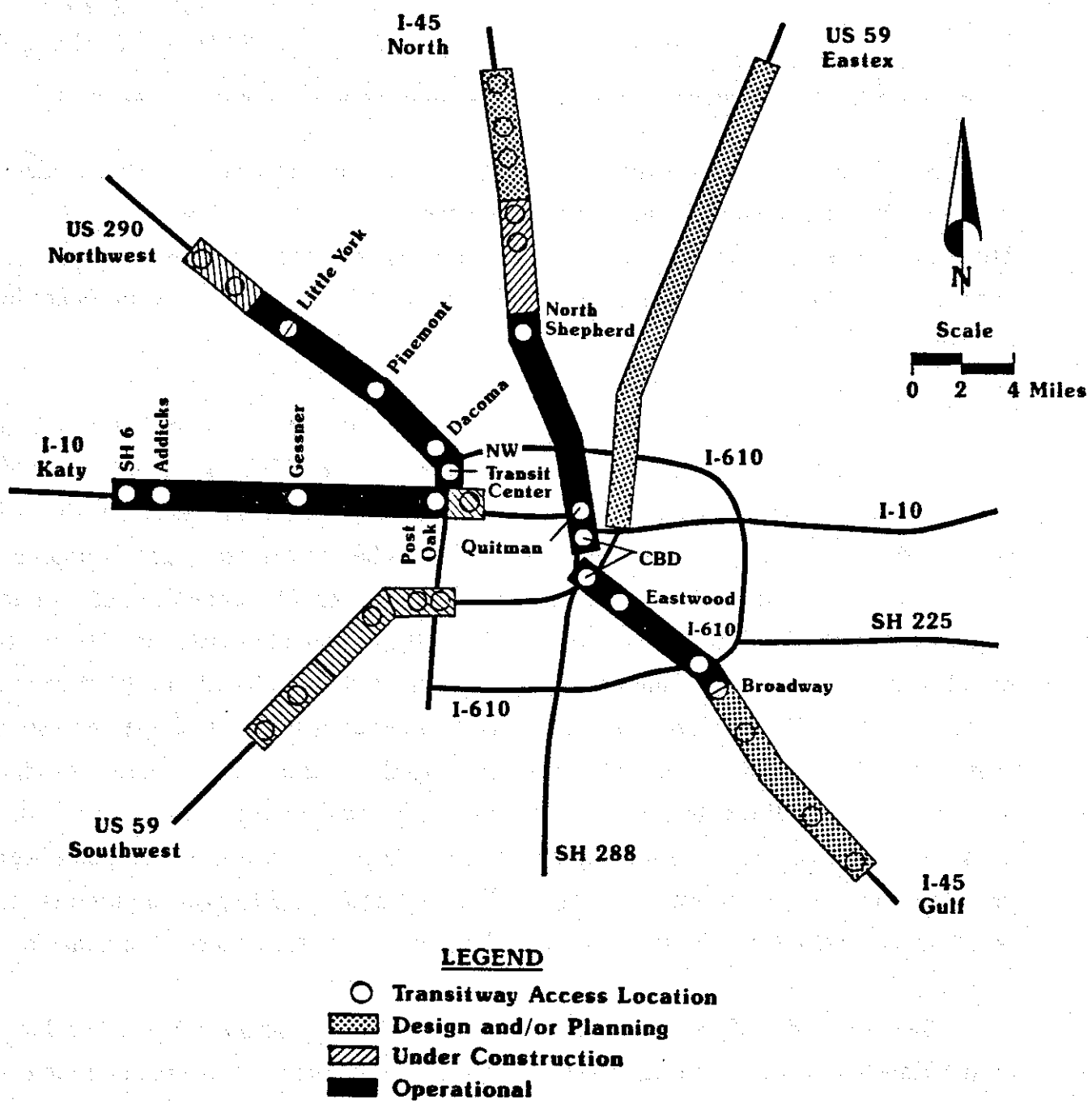


Figure 1.
Current Status of the Committed Houston Transitway System

a.m. and 8:15 a.m. effective October 17, 1988; 2-person carpools are still permitted to use the transitway in the mornings before 6:45 a.m. or after 8:15 a.m. and during the entire p.m. operating period.

Because of the success of permitting carpools on the Katy Transitway, the decision was made to permit 2+ carpools on the Northwest and Gulf Transitways when they became operational in May 1988 and August 1988, respectively. Since these transitways are the first of their kind to open, they are being intensively studied to develop improved guidelines for planning, designing and operating future transitway improvements in Houston and across the nation.

One important aspect of this evaluation is the identification of the travel patterns and perceptions of transitway users. This research report documents the results of transitway carpool user surveys performed in November 1988 along the Northwest and Gulf Transitways and compares them to the results of similar surveys conducted along the Katy Transitway in 1985, 1986, 1987 and 1988.

These surveys were primarily intended to: 1) determine perceptions of transitway utilization; 2) identify why individuals have chosen to carpool; and 3) assess carpooler attitudes and impacts pertaining to the transitways. Demographic data and data concerning general travel characteristics were also collected.

All survey data were collected by TTI personnel. Comprehensive Katy Transitway carpool survey data were collected in October 1985 and April 1986. Somewhat less comprehensive efforts were performed in October 1987 and November 1988. In addition, a special 7-question survey was distributed in April 1987. Comprehensive Northwest and Gulf Transitway carpool survey data were collected in November 1988.

A chronology of carpool survey activities relative to the opening dates and operating restrictions of each transitway is outlined on the following page.

Katy Transitway Carpool Surveys:

October 1985 - 1 year after the opening of the transitway and 6 months after carpools were introduced.

April 1986 - 18 months after transitway operation began; 1 year after carpools were introduced; about 7 months after the carpool passenger requirement was lowered to 3 persons.

April 1987 - 2.5 years after the transitway opened; 2 years following the introduction of carpools; 8 months after unauthorized 2+ carpools were permitted.

October 1987 - Approximately 3 years after the transitway opened; 2.5 years after carpools were introduced; 14 months after unauthorized 2+ carpools were permitted.

November 1988 - Approximately 4 years after the transitway began operation; 3.5 years after carpools were introduced; 2 years after unauthorized 2+ carpools were permitted; 3 weeks after the minimum carpool occupancy requirement was raised from 2 to 3 persons between the hours of 6:45 a.m. and 8:15 a.m.

Northwest Transitway Carpool Survey:

November 1988 - Approximately 3 months after the transitway opened.

Gulf Transitway Carpool Survey:

November 1988 - Approximately 6 months after the transitway opened.

Carpool Survey Methodology

For the 1985 and 1986 Katy Transitway survey efforts, carpools were surveyed during the p.m. transitway operating period. All vehicles were stopped at the entrance to the Katy Transitway by METRO police. TTI staff distributed surveys to all carpools entering the lane. One survey was given to each driver and a different survey was given to each passenger. The driver survey requested more detailed data than did the passenger survey. Postage-paid return envelopes were included with the surveys and carpoolers were requested to return the completed questionnaire by mail.

For the 1987 Katy Transitway survey, however, it became necessary to modify the survey procedures. Vehicle volumes in the Katy Transitway during the p.m. peak period were approaching 2,000 vehicles. Hence, for safety and operational reasons, it was no longer feasible to distribute surveys by stopping vehicles as they entered the transitway.

Instead, license plates of carpools traveling inbound on the transitway during the a.m. operating period were recorded by TTI staff. The SDHPT Division of Motor Vehicles license plate files were accessed to obtain addresses. A survey was mailed to each address (excluding corporate addresses and leasing agencies). A postage-paid envelope was included with each of the surveys. Carpool drivers were asked to complete the survey and return it to TTI. This same procedure was followed for the 1988 carpool surveys along the Katy, Northwest and Gulf Transitways.

An example survey instrument and cover letter used (for the comprehensive carpool surveys) is included in the Appendix.

Response rates to the Katy, Northwest and Gulf Transitway carpool surveys are presented in Table 1.

Table 1.
Carpool Survey Distribution
Katy, Northwest and Gulf Transitway Carpool Surveys

Survey Group	License Plates Read	Surveys Mailed or Distributed	Surveys Returned Address Unknown or Vehicle Not on Transitway	Surveys Completed	Response Rate (% of Surveys Mailed or Distributed)
Katy Transitway, Oct. 1985					
Carpool Drivers and Passengers	—	121	—	81	67%
Katy Transitway, Apr. 1986					
Carpool Drivers and Passengers	—	294	—	198	67%
Katy Transitway, Apr. 1987					
Carpool Drivers	2,459	1,603	147	607	38%
Katy Transitway, Oct. 1987					
Carpool Drivers	2,502	1,536	111	605	39%
Katy Transitway, Nov. 1988					
Carpool Drivers	1,704	1,033	81	409[1]	40%
Northwest Transitway, Nov. 1988					
Carpool Drivers	797	553	71	261[2]	47%
Gulf Transitway, Nov. 1988					
Carpool Drivers	500	363	27	124[2]	34%

[1] *Includes 7 responses from vanpool drivers.*
[2] *Includes 4 responses from vanpool drivers.*

Note: For the 1985 and 1986 Katy Transitway Surveys, surveys were distributed to carpools as they entered the transitway; for the 1987 Katy Transitway surveys and the 1988 Katy, Northwest and Gulf Transitway Surveys, carpool surveys were distributed by mail.

CHAPTER 2
SURVEY FINDINGS

Transitway carpool user surveys primarily addressed the following 3 areas: 1) personal characteristics; 2) travel patterns and trip characteristics; and 3) attitudes and impacts pertaining to the transitways.

Personal Characteristics

Questions were asked to identify the age, sex, occupation and educational level of the transitway carpoolers. Responses to these questions are summarized in Table 2.

Table 2.
Personal Characteristics of Transitway Carpoolers,
Katy, Northwest and Gulf Transitway Carpool Surveys

	Katy Transitway				Northwest Transitway	Gulf Transitway
Personal Characteristic	**1985**	**1986**	**1987**	**1988**	**1988**	**1988**
Age (years)	(n=90)	(n=193)	(n=545)	(n=381)	(n=255)	(n=121)
50th Percentile	41	40	36	36	35	35
Sex	(n=90)	(n=192)	(n=543)	(n=377)	(n=253)	(n=118)
Male	71%	62%	58%	54%	53%	42%
Female	29%	38%	42%	46%	47%	58%
Occupation	(n=87)	(n=192)	(n=535)	(n=362)	(n=239)	(n=117)
Professional	58%	45%	44%	44%	44%	33%
Managerial	20%	23%	19%	19%	17%	14%
Clerical	11%	15%	16%	12%	20%	31%
Sales	2%	6%	8%	8%	13%	11%
Homemaker	2%	1%	2%	3%	1%	—
Student	1%	8%	5%	4%	0%	1%
Craftsman	—	—	3%	2%	2%	4%
Operative	5%	—	0%	0%	—	2%
Service Worker	—	1%	1%	6%	2%	4%
Laborer	—	—	—	1%	1%	—
Retired	—	1%	2%	1%	—	—
Unemployed	1%	—	—	—	—	—
Education (years)	(n=90)	(n=194)	(n=536)	(n=371)	(n=245)	(n=118)
Average	16.1	15.3	15.6	15.5	15.2	14.1

Age and Sex

The median age of persons in Katy Transitway carpools is 41 in 1985, 40 in 1986 and 36 in 1987 and 1988. The median age of Northwest and Gulf Transitway carpoolers in 1988 is 35.

The majority of the persons in Katy and Northwest Transitway carpools are male; whereas, the majority of the persons in Gulf Transitway carpools are female.

Occupation

The most recent survey data indicate that between 33% and 44% of the transitway carpoolers are employed in "professional" positions, between 14% and 19% are classified as "managerial" and between 12% and 31% are employed in clerical positions. The high percentage (31%) of clerical workers in the Gulf Transitway corridor is consistent with the high percentage (58%) of females.

Education

The average transitway carpooler has completed at least 2 years of college.

Travel Patterns and Trip Characteristics

As part of the initial survey efforts for each transitway evaluation (1985 and 1986 surveys of Katy Transitway carpoolers; 1988 surveys of Northwest and Gulf Transitway carpoolers), carpoolers were asked a series of questions pertaining to the formation and operation of the carpool on the transitway.

Year Joined Carpool

The year transitway carpoolers joined their present carpool is presented in Table 3. For the Katy Transitway corridor, 45% of the carpoolers surveyed in 1985 and 40% of those

surveyed in 1986 reported joining their present carpool after the opening of the Katy Transitway to carpools (April 1985).

Table 3.
Travel Characteristics of Transitway Carpoolers
Katy, Northwest and Gulf Transitway Carpool Surveys

	Katy Transitway		Northwest Transitway	Gulf Transitway
Travel Characteristic	**1985**	**1986**	**1988**	**1988**
Year Joined Present Carpool	(n=88)	(n=195)	(n=222)	(n=111)
Before 1970	5%	5%	——	1%
1970-1975	10%	8%	1%	2%
1976-1980	7%	6%	4%	6%
1981-1984	23%	13%	10%	8%
1985	55%	38%	4%	5%
1986	——	30%	10%	6%
1987	——	——	11%	13%
1988	——	——	60%	59%
Joined Present Carpool	(n=88)	(n=195)	(n=222)	(n=111)
Before Transitway Opened	55%	60%	66%	51%
After Transitway Opened	45%	40%	34%	49%
Number of Months Carpools Have Existed	(n=82)	(n=186)	(n=207)	(n=102)
Average	34	32	17	24
Number of Months Transitway Has Been Open to Carpools	6	12	3	6
Transitway Trip Frequency	(n=31)	(n=64)	(n=259)	(n=123)
% Carpools Using Daily	100%	97%	84%	81%
Percent Carpools Using Transitway	(n=31)	(n=65)	(n=260)	(n=124)
a.m.	94%	89%	99%	98%
p.m.	100%	100%	72%	84%
Duration of Transitway Use	(n=26)	(n=65)	(n=257)	(n=123)
% Carpools Using Transitway Since Opening Day[1]	42%	22%	77%	67%
Main Reasons for Carpooling on Transitway[2]	(n=328)	(n=969)	(n=668)	(n=301)
Saves Time	27%	26%	33%	31%
Freeway Too Congested	26%	25%	31%	31%
Costs Less	16%	10%	10%	10%
Reliable Schedule	13%	10%	13%	15%
Time to Relax	6%	7%	——	——
No Bus Service to Destination	5%	7%	3%	2%
Car Used by Others	4%	6%	3%	3%
No Other Way Available	0%	——	2%	0%
Other	3%	9%	5%	8%

[1] *The Katy Transitway had been open approximately 6 months at the time of the 1985 survey and 12 months at the time of the 1986 survey. The Northwest Transitway had been open 3 months and the Gulf Transitway had been open 6 months at the time of the 1988 surveys.*

[2] *On this question, it was possible to check more than one reason. Thus, the "n" value is the total number of reasons checked, not the number of surveys completed.*

For the Northwest Transitway corridor, 34% of the transitway carpoolers reported joining their present carpool after the opening of the Northwest Transitway (August 1988); 49% of the Gulf Transitway carpoolers joined their present carpool after the opening of the Gulf Transitway (May 1988).

Trip Purpose

It has been estimated that the majority of trips served by the transitways during the a.m. peak period are work or school trips. Results of the Northwest and Gulf Transitway carpool surveys confirm this theory:

Transitway	*Trip Purpose*
Northwest:	94% Work; 5% School; 1% Other
Gulf:	99% Work; 1% School

Transitway Trip Frequency

As would be expected for a mode that primarily serves work or school trips, almost all carpools use the transitway five days per week (Table 3.)

Percent of Carpools Using the Transitway by Time Period

Most all carpools typically use the transitway in both the a.m. and p.m. (Table 3). Those which do not use the transitway in the a.m. generally indicated that they left before the transitway opened in the morning or that they used a different travel route in the morning. Those which do not use the transitway in the p.m. typically stated that: 1) traffic on the freeway in the p.m. was not severe enough to warrant using the transitway; or 2) they cannot exit the transitway conveniently. In addition, a small percentage of the Northwest Transitway carpoolers reported using the Katy Transitway in the p.m.

Duration of Transitway Use

Approximately 42% of the Katy Transitway carpoolers surveyed in 1985 and 22% of those surveyed in 1986 reported using the priority lane since it opened to carpools

(Table 3.) Approximately 77% of the Northwest Transitway carpoolers and 67% of the Gulf Transitway carpoolers had been using the transitway since opening day.

Reasons for Carpooling on the Transitway

As indicated by the data in Table 3, the main reasons persons chose to carpool on the transitway were: 1) to save time; 2) the freeway is too congested; 3) it costs less; and 4) a reliable travel schedule.

Trip Length

Carpoolers were asked how long their round trip would be if they drove alone and how much longer their round trip is because they carpool. Carpool trip length frequencies are illustrated in Figure 2; 50th percentile responses are presented in Table 4. The average one-way carpool trip is in excess of 20 miles.

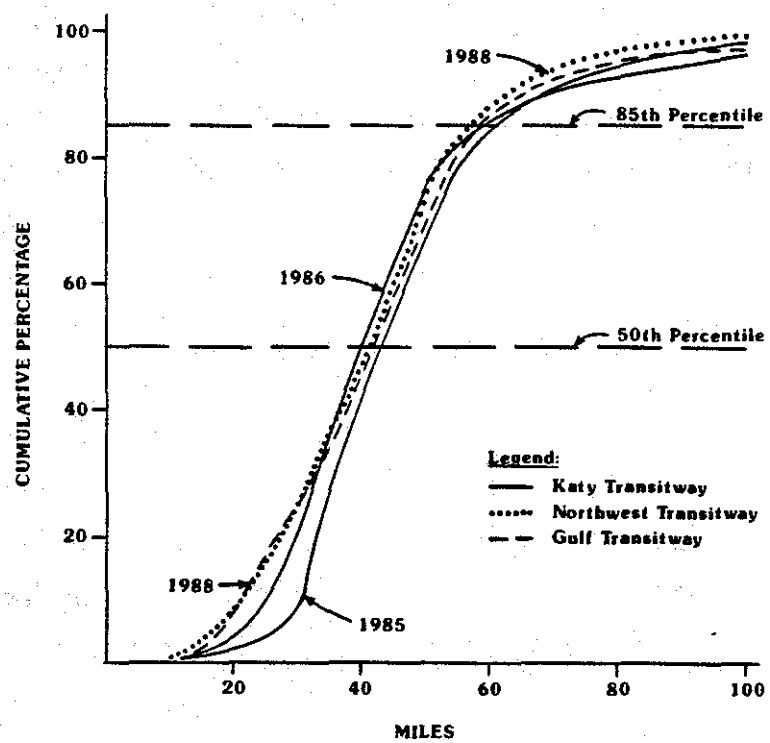


Figure 2.
Round Trip Mileage for Transitway Carpoolers

Table 4.
Trip Characteristics of Transitway Carpools
Katy, Northwest and Gulf Transitway Carpool Surveys

Trip Characteristic	Katy Transitway 1985	Katy Transitway 1986	Northwest Transitway 1988	Gulf Transitway 1988
Round Trip Distance if Drove Alone (miles)	(n=87)	(n=189)	(n=244)	(n=114)
50th Percentile	42	40	41	40
Average	44	45	43	42
Extra Miles to Carpool	(n=87)	(n=184)	(n=239)	(n=108)
50th Percentile	0	0	0	0
Average	1.2	1.4	1.3	1.8
Do Drivers Pick Up Passengers	(n=31)	(n=59)	(n=227)	(n=117)
At Home	52%	41%	83%	70%
At Common Pick-Up Points	48%	59%	17%	30%
Are There Employer Incentives to Carpool	(n=59)	(n=129)	(n=249)	(n=118)
Yes	25%	21%	8%	14%
No	75%	79%	92%	86%

Carpool Staging Points

Slightly less than half of the Katy Transitway carpoolers surveyed in 1985 and almost 60% of those surveyed in 1986 reported that they pick up passengers at common staging points (Table 4). By contrast, 70% of the Gulf Transitway carpoolers and 83% of the Northwest Transitway carpoolers indicated that either the carpool was made up of family members who left from the same house or that they pick up passengers at home.

Employer Incentives to Carpool

Between 21% and 25% of the Katy Transitway carpoolers surveyed reported that their employer provided some sort of incentive for them to carpool. Employers of only 8% of the Northwest Transitway carpoolers and 14% of the Gulf Transitways carpoolers encouraged carpooling (Table 4). The incentives provided typically include: 1) subsidized parking; 2) transportation allowance; 3) company vehicles; and 4) permit flexible working hours.

Northwest and Gulf Transitway carpoolers were also asked questions concerning their average daily out-of-pocket costs for the carpool trip (including parking) and how much they pay for parking at their destination. Their responses are summarized in Table 5.

Table 5.
Cost for Carpool Trip and Parking at Destination
Northwest and Gulf Transitway Carpool Surveys

Cost	Northwest Transitway	Gulf Transitway
Daily Out-of-Pocket Cost To Carpool (Including Parking)	(n=155)	(n=102)
$0.00	18%	19%
$0.01-$1.00	5%	6%
$1.01-$2.00	22%	21%
$2.01-$3.00	18%	18%
$3.01-$4.00	13%	11%
$4.01-$5.00	9%	13%
More than $5.00	15%	12%
Average	$3.25	$2.85
Median	$3.00	$2.88
Monthly Cost of Parking at Destination	(n=239)	(n=117)
$0.00	73%	50%
$0.01-$25.00	10%	13%
$25.01-$50.00	8%	15%
$50.01-$75.00	5%	14%
$75.01-$100.00	2%	7%
More than $100.00	2%	1%
Average	$11.95	$23.59
Median	$00.00	$00.00

On the average, Northwest Transitway carpoolers pay $3.25 per day to carpool (including the cost of parking), while Gulf Transitway carpoolers typically pay $2.85 per day.

The cost of parking at their destination averaged $11.95 per month for Northwest Transitway carpoolers and $23.59 per month for Gulf Transitway carpoolers.

Home Zip Codes

The majority of Katy Transitway carpoolers reside in one of 5 Zip Code areas in west Houston. These are summarized in Table 5 and illustrated in Figure 3.

Table 5.
Home Zip Codes of Carpoolers
Katy Transitway Carpool Surveys

Home Zip Code	1985	1986	Apr 1987	Oct 1987	1988
Home Zip Code	(n=90)	(n=195)	(n=631)	(n=274)	(n=384)
77079	37%	33%	17%	11%	11%
77077	16%	13%	10%	10%	7%
77084	11%	7%	14%	16%	20%
77449	10%	15%	12%	15%	12%
77450	9%	11%	13%	13%	21%
Other	17%	21%	34%	35%	29%

More than three quarters of the Northwest Transitway carpoolers reside in one of 7 Zip Code areas (Table 6, Figure 4). Carpoolers using the Gulf Transitway typically reside in one of 8 Zip Code areas (Table 6, Figure 5).

Table 6.
Home Zip Codes of Carpoolers,
Northwest and Gulf Transitway Carpool Surveys

Home Zip Code	1988
Northwest Transitway	(n=256)
77040	24%
77041	7%
77064	13%
77065	8%
77070	8%
77095	14%
77429	8%
Other	18%
Gulf Transitway	(n=122)
77017	5%
77034	9%
77061	7%
77062	7%
77089	17%
77546	7%
77573	7%
77598	6%
Other	35%

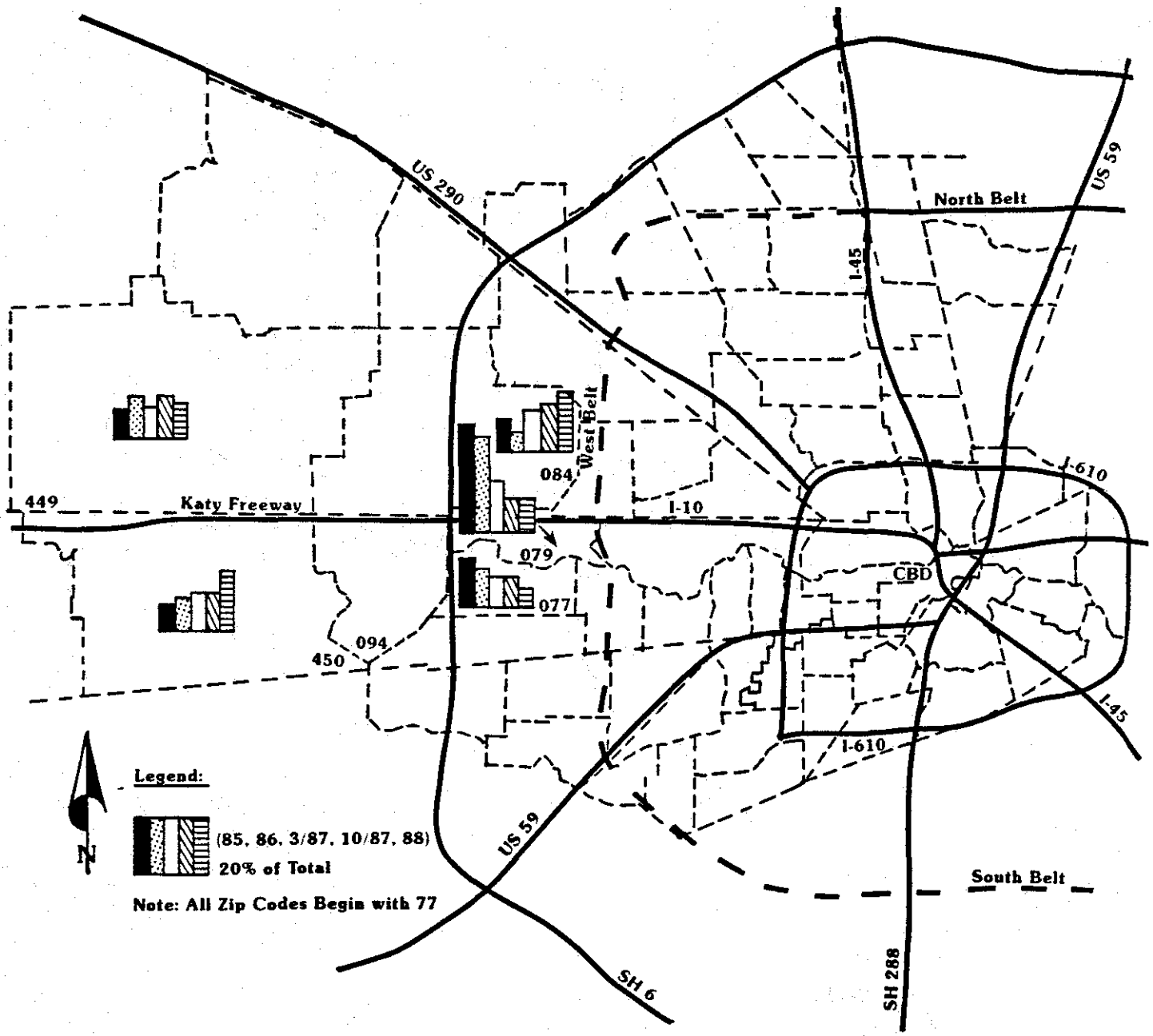
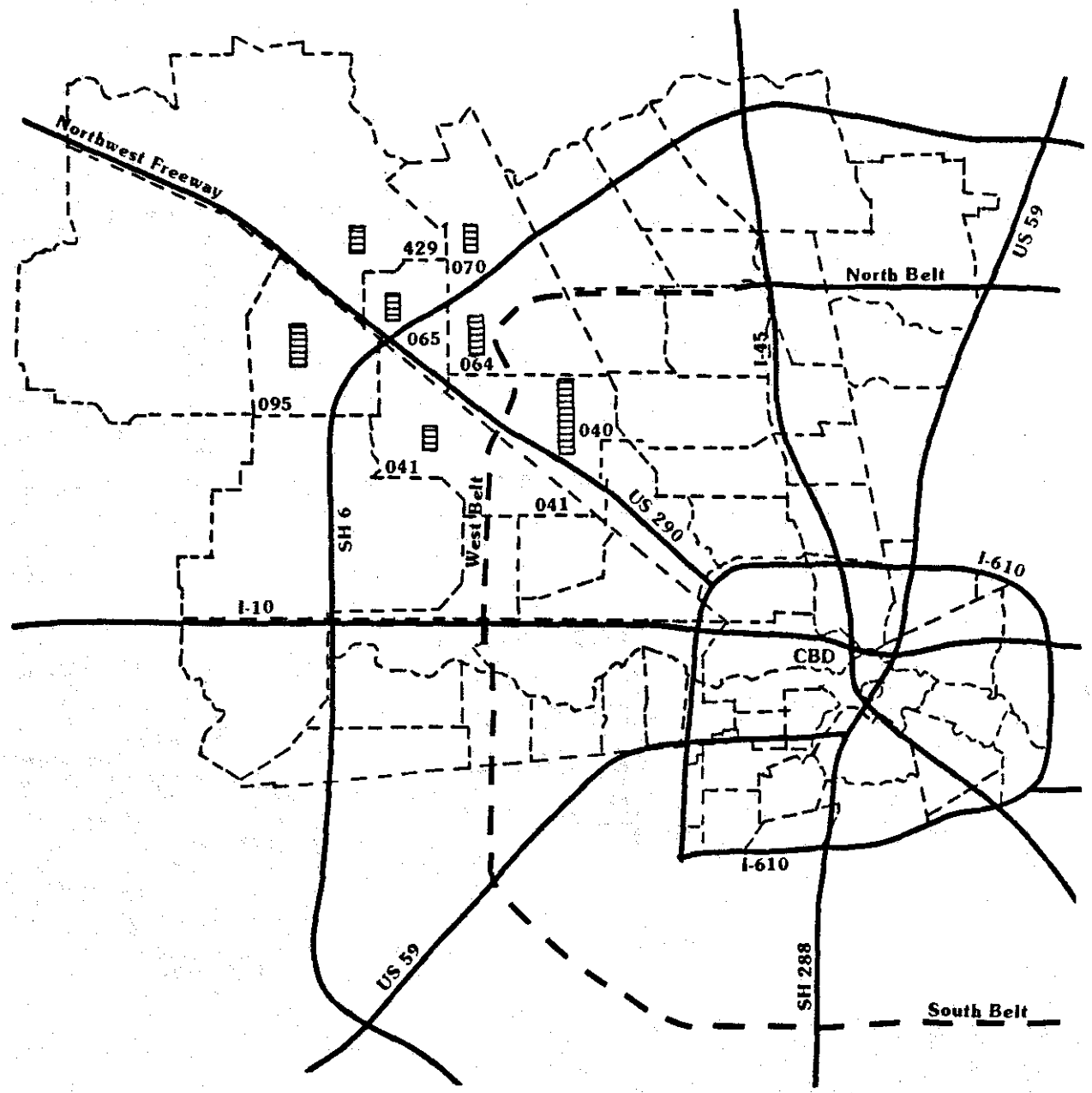


Figure 3.
Home Origins of Katy Transitway Carpoolers



Legend:

1988

20% of Total

Note: All Zip Codes Begin with 77

Figure 4.
Home Origins of Northwest Transitway Carpoolers

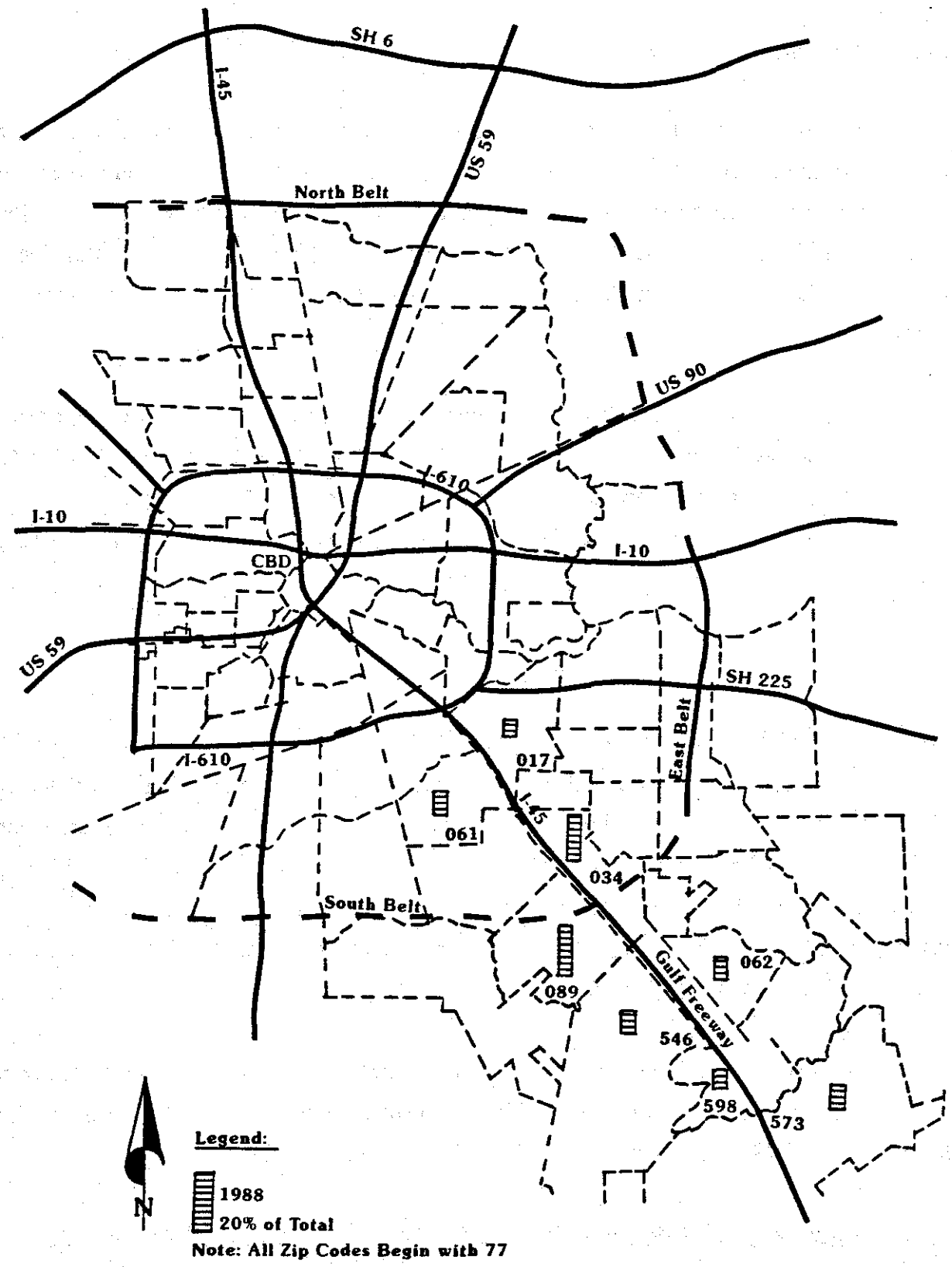


Figure 5.
Home Origins of Gulf Transitway Carpoolers

Transitway Entrance Ramp

Each of the three transitways have three entrances in the inbound direction (for the a.m. operation). Transitway carpoolers were asked which of the three entrances they typically use to access the transitway. Most recent survey results along the Katy Transitway indicate that 52% use the I-10 ramp just west of SH 6, 26% use the flyover ramp located at the Addicks Park-and-Ride Lot, and the remaining 22% enter the transitway via the Gessner slip ramp.

On the Northwest Transitway, 82% reported they used the Little York flyover ramp, 17% enter via the Pinemont flyover ramp, and 1% use the Dacoma entrance. On the Gulf Transitway, 69% enter the transitway via the Broadway ramp and 31% enter from the South Loop (I-610) ramp. None of the Gulf Transitway carpoolers responding to the survey reported using the Eastwood (Lockwood) ramp.

Carpool Occupancies

Katy Transitway. At the time of the 1985 survey, carpool utilization of the Katy Transitway was restricted to authorized carpools carrying 4 or more registered persons. During the 1986 survey, the minimum occupancy for authorized carpools had been lowered to 3 persons. By the time of the 1987 survey, the passenger requirement had been lowered to 2 persons and all authorization procedures were eliminated. Shortly before the 1988 survey, the minimum passenger requirement had been raised from 2 to 3 persons between the hours of 6:45 a.m. and 8:15 a.m.

The actual occupancies of the carpools traveling on the Katy Transitway are shown in Table 7. The average occupancy of Katy Transitway carpools was 3.5 persons in 1985, 3.4 persons in 1986, 2.3 persons in 1987 and 2.5 persons in 1988.

Northwest and Gulf Transitways. At the time of the 1988 surveys along the Northwest and Gulf Transitways, both facilities were open to 2+ carpools; reported carpool occupancies are presented in Table 7. The average occupancy of Northwest and Gulf Transitway carpools is 2.3 persons.

Table 7.
Carpool Occupancies and Trip Destinations
Katy, Northwest and Gulf Transitway Carpool Surveys

	Katy Transitway				Northwest Transitway	Gulf Transitway
Carpool Characteristic	**1985**	**1986**	**1987**	**1988**	**1988**	**1988**
Carpool Occupancy	(n=31)	(n=65)	(n=571)	(n=409)	(n=261)	(n=124)
1	3%	—	1%	—	—	—
2	0%	3%	78%	65%	79%	78%
3	52%	55%	15%	24%	17%	13%
4	39%	39%	4%	9%	3%	6%
5	3%	3%	1%	2%	1%	2%
6	3%	—	1%	0%	—	1%
Trip Destination	(n=31)	(n=65)	(n=573)	(n=404)	(n=268)	(n=123)
Downtown	29%	49%	39%	42%	38%	81%
Galleria/City Post Oak/Uptown	13%	15%	22%	19%	26%	9%
Greenway Plaza	13%	—	6%	3%	4%	3%
Texas Medical Center	3%	3%	6%	5%	4%	—
Other	42%	33%	27%	31%	28%	7%

Carpool Trip Destinations

Most recent survey data show that the downtown area is the single largest attractor of transitway carpool trips (Table 7). In fact, 38% of the carpoolers using the Northwest Transitway, 42% of those using the Katy Transitway and 81% of those using the Gulf Transitway are destined to the downtown area. In addition, carpools have also demonstrated the capability of serving trips to numerous locations other than downtown, as evidenced by the large number of trips to the Galleria, Texas Medical Center, Greenway Plaza and other locations.

Previous Mode of Travel

Prior to carpooling on the transitway, between 45% and 50% of the Katy Transitway carpoolers drove alone. By contrast, 53% of the Gulf Transitway carpoolers and 60% of the Northwest Transitway carpoolers were already carpooling prior to using the transitway (Table 8). Furthermore, when asked to identify their travel mode one year ago, more than 40% of the Northwest and Gulf Transitway carpoolers reported that they were carpooling. Carpoolers on the Northwest Transitway were also asked if they had used the Katy

Transitway on a regular basis prior to using the Northwest Transitway. Approximately 15% of those responding replied "yes."

Table 8.
Previous Travel Mode of Carpoolers
Katy, Northwest and Gulf Transitway Carpool Surveys

	Katy Transitway				Northwest Transitway	Gulf Transitway
Travel Characteristic	**1985**	**1986**	**1987**	**1988**	**1988**	**1988**
Previous Travel Mode	(n=88)	(n=191)	(n=564)	(n=391)	(n=239)	(n=97)
Drove Alone	50%	46%	50%	45%	34%	28%
Carpool	24%	18%	29%	33%	60%	53%
Vanpool	4%	4%	2%	3%	1%	6%
Bus	2%	8%	9%	7%	4%	5%
Didn't Make Trip	20%	24%	10%	12%	1%	8%
Travel Mode One Year Ago	—	—	—	—	(n=253)	(n=123)
Drove Alone	—	—	—	—	38%	32%
Carpool	—	—	—	—	45%	42%
Vanpool	—	—	—	—	1%	6%
Bus	—	—	—	—	2%	5%
Didn't Make Trip	—	—	—	—	14%	15%

Attitudes and Impacts Pertaining to the Transitways

A number of questions were intended to collect information concerning attitudes toward and impacts of implementing the transitways. The responses to these questions can be categorized as follows: 1) impacts of transitway on modal selection; 2) perceived travel time savings as a result of using the transitway versus the regular freeway lanes; and 3) perception of transitway utilization.

Impacts of the Transitway on Mode Choice

A question was asked to determine whether individuals would be carpooling if the transitways had not opened. Responses to this question are summarized in Table 9. Initial surveys performed in each transitway corridor show strong similarities. Between 70% and 75% of the individuals surveyed in the Katy Transitway (in 1985) and the Northwest and Gulf Transitways (in 1988) responded "yes." Results of later surveys performed in the Katy Transitway corridor, however, showed that 25% of those in 1986, 37% of those in 1987 and

35% of those in 1988 said they would not. Thus, it appears that the Katy Transitway has played a greater role in influencing mode choice in its later years of operation.

Table 9.
Perceived Impacts of the Transitway on Mode Choice
Katy, Northwest and Gulf Transitway Carpool Surveys

	Katy Transitway				Northwest Transitway	Gulf Transitway
Impact	**1985**	**1986**	**1987**	**1988**	**1988**	**1988**
Would You Carpool If No Transitway	(n=90)	(n=197)	(n=565)	(n=398)	(n=255)	(n=122)
Yes	70%	59%	50%	54%	70%	75%
No	16%	25%	37%	35%	21%	14%
Not Sure	14%	16%	13%	11%	9%	11%
How Important Was Transitway in Decision to Carpool	(n=90)	(n=197)	—	—	(n=253)	(n=122)
Very Important	47%	56%	—	—	53%	43%
Somewhat Important	10%	8%	—	—	15%	22%
Not Important	43%	36%	—	—	32%	35%

A related question on the 1985 and 1986 Katy Transitway surveys and on the 1988 Northwest and Gulf Transitway surveys asked how important was the transitway in the decision to carpool. While most respondents indicated that they would be carpooling even if the transitway had not opened to carpools, between 57% and 68% of those surveyed said the transitway was either "very important" or "somewhat important" in their decision to carpool (Table 9).

Perceived Transitway Travel Time Savings

Katy Transitway. Frequency distributions of carpooler perceived travel time savings are presented in Figures 6 and 7. Generally speaking, Katy Transitway carpoolers have perceived a greater travel time savings in the afternoon than in the morning (Table 10). As to be expected, perceived travel time savings in 1986 (after the transitway was extended to West Belt) are greater than those in 1985. In addition, perceived travel time savings in 1987 and 1988 (after the transitway was extended to SH 6) are greater yet. Median perceived travel time savings in 1988 were 20 minutes for the a.m. and 22 minutes for the p.m.

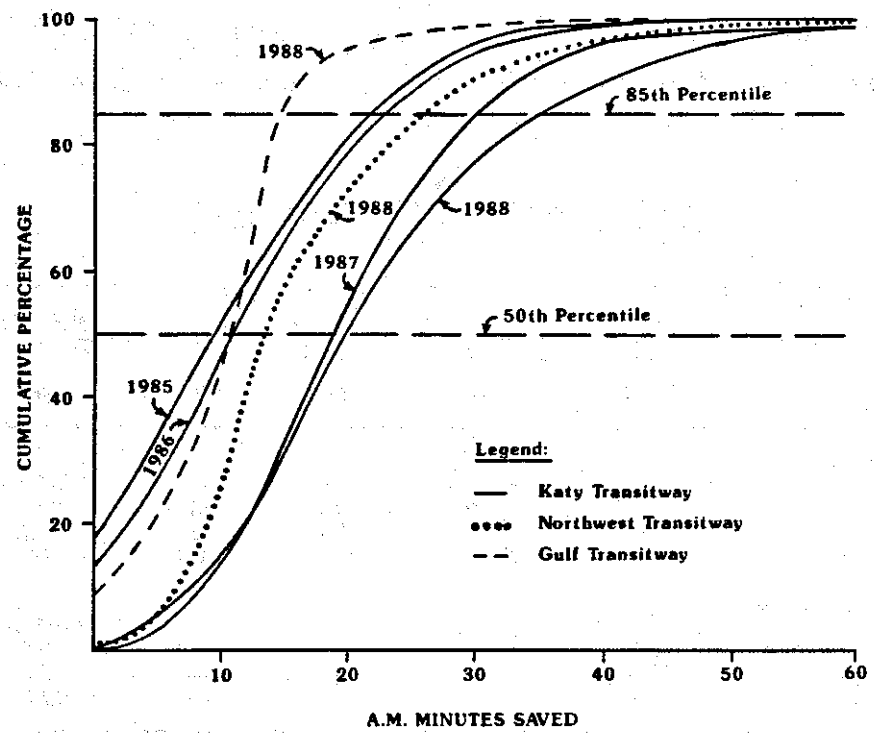


Figure 6.
Perceived Transitway Travel Time Savings -- A.M.

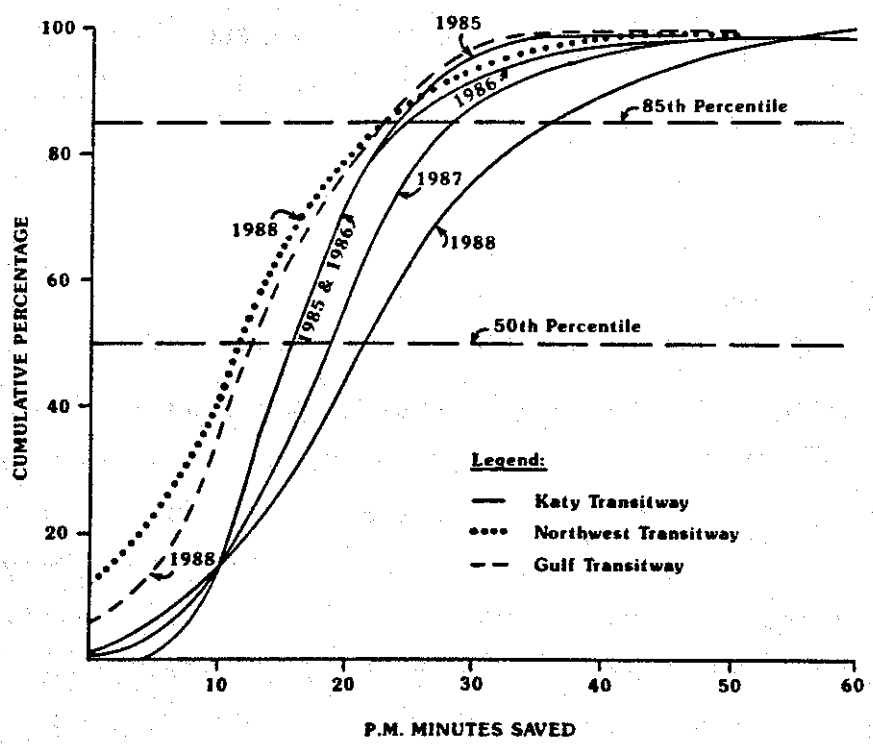


Figure 7.
Perceived Transitway Travel Time Savings -- P.M.

Northwest and Gulf Transitways. On the Northwest and Gulf Transitways, perceived travel time savings in the morning more closely approximate that of the afternoon; median travel time savings perceived by carpoolers on both of these transitways were 15 minutes for both the a.m. and p.m. (Table 10).

Table 10.
Perceived Impacts of the Transitway on Travel Time Savings
Katy, Northwest and Gulf Transitway Carpool Surveys

	Katy Transitway				Northwest Transitway	Gulf Transitway
Impact	**1985**	**1986**	**1987**	**1988**	**1988**	**1988**
Perceived Transitway Travel Time Savings (minutes)	(n=90)	(n=187)	(n=569)	(n=394)	(n=256)	(n=121)
a.m. (50th Percentile)	9	15	20	20	15	15
p.m. (50th Percentile)	17	20	20	22	15	15
Actual Transitway Travel Time Savings (minutes)[1]						
a.m. (6:00-9:30 a.m.)	6.8	3.0	4.4	5.1	3.1	3.3
p.m. (3:30-7:00 p.m.)	5.5	4.0	1.0	2.7	1.3	7.7

[1] *Source: TTI Research Report 484-7 and TTI Travel Time Studies*

Perception of Transitway Utilization

One of the primary reasons for permitting carpools to utilize the transitways is to maximize both the actual and perceived utilization of the facilities. Carpoolers were asked whether they felt the transitway was sufficiently utilized to justify the project. Their responses are summarized in Table 11.

As to be expected, on the Katy Transitway, as actual transitway utilization has increased (1985-1987), so has the perception of utilization. In 1988 (after utilization of the transitway was restricted to 3+ vehicles between 6:45 a.m. and 8:15 a.m.), both the actual and perceived utilization of the transitway declined; less than half of those surveyed in 1988 felt the transitway is sufficiently utilized with the current 3+ restriction.

By contrast, at least 65% of the Northwest and Gulf Transitway carpoolers felt these transitways were sufficiently utilized to justify the project.

Table 11.
Perception of Transitway Utilization
Katy, Northwest and Gulf Transitway Carpool Surveys

	Katy Transitway				Northwest Transitway	Gulf Transitway
Perception	**1985[1]**	**1986[2]**	**1987[3]**	**1988[4]**	**1988[3]**	**1988[3]**
Is the Transitway Sufficiently Utilized to Justify the Project	(n=86)	(n=196)	(n=606)	(n=371)	(n=257)	(n=118)
Yes	34%	45%	82%	47%	69%	65%
No	43%	32%	9%	27%	14%	21%
Not Sure	23%	23%	9%	26%	17%	14%
Transitway A.M. Peak Period Vehicle Volumes[5]	138	256	2412	2032	961	681

1 *Authorized buses and vanpools (before carpools)*
2 *Authorized buses, vanpools and 3+ carpools*
3 *2+ vehicles, no authorization*
4 *3+ vehicles, no authorization between 6:45 a.m. and 8:15 a.m.; 2+ vehicles, no authorization at all other times*
5 *Source: TTI Research Report 484-7 and TTI transitway volumes counts*

Comments

During each survey effort, transitway carpoolers were encouraged to offer additional comments and many did so. Carpooler comments are summarized in Table 12.

Table 12.
Additional Comments
Katy, Northwest and Gulf Transitway Carpool Surveys

	Katy Transitway				Northwest Transitway	Gulf Transitway
Comment	**1985**	**1986**	**1987**	**1988**	**1988**	**1988**
Transitway is great	23%	25%	34%	21%	28%	23%
Extend the transitway	16%	11%	—	—	27%	43%
Transitway is underutilized	8%	8%	0%	3%	—	—
3-person carpools a good move	5%	2%	—	7%	—	—
Reduce carpool passenger requirements	5%	16%	—	—	—	—
Poor transitway entry/exit design	5%	4%	21%	13%	11%	8%
Enforce 55 mph minimum speed	—	—	17%	16%	5%	10%
Keep carpool requirement at 2+	—	—	4%	14%[1]	8%	—
Other	38%	34%	24%	26%	21%	16%

1 *On this survey, the comment was "return carpool passenger requirement to 2+ during all hours of operation"*

CHAPTER 3
CONCLUSIONS

From the results of the transitway carpool surveys, it appears that carpoolers generally perceive they are receiving a number of benefits from being able to use a transitway (saving time, saving money, avoiding freeway traffic and a reliable travel schedule). In fact, 35% of the carpoolers on the Katy Transitway, 21% of those using the Northwest Transitway and 14% of the Gulf Transitway carpoolers stated they would not be carpooling if not for the transitway. In addition, it appears that permitting carpools to use the transitways has proven successful in increasing both the actual and perceived utilization of the facilities without attracting a substantial number of persons away from other high-occupancy vehicles (buses and vanpools).

APPENDIX

Presented in this Appendix is an example survey instrument and cover letter used in the surveys of Katy, Northwest and Gulf Transitway carpoolers.

METRO®

Metropolitan Transit Authority
500 Jefferson Street
P.O. Box 61429
Houston, Texas 77208-1429

713 739-4000

Dear Carpooler/Vanpooler:

Your vehicle was observed traveling on the Northwest Transitway the week of October 31. Since you have first-hand knowledge of the transitway, we need your help in a special study being conducted by the Texas Transportation Institute, a transportation research agency of the Texas A&M University System. Because the Northwest Transitway is one of the first transitways to operate in Texas, it is extremely important that we determine what effect it has had on your travel.

Please take a few minutes to answer the enclosed questionnaire. Your answers will provide valuable information concerning carpooling/vanpooling on the Northwest Transitway. Because of the small number of poolers contacted, your specific reply is essential to ensure the success of the project. All information you provide will remain strictly confidential.

Your cooperation and timely return of the completed questionnaire in the enclosed postage-paid envelope will be greatly appreciated. Thank you for your time and assistance in this important undertaking.

M E T R O

Enclosures

4/23319/068 CO

NORTHWEST TRANSITWAY CARPOOL/VANPOOL SURVEY

Undertaken by the Texas Transportation Institute, The Texas A&M University System,
in cooperation with the Metropolitan Transit Authority of Harris County

1. Is your vehicle a carpool or a vanpool? _____Carpool _____Vanpool

2. What is the primary purpose of your a.m. carpool/vanpool trip?
   _____Work _____School _____Other (specify)_____

3. How many days per week does your carpool/vanpool use the Northwest Transitway? _____

4. Which commuting periods does your carpool/vanpool use the Northwest Transitway? _____a.m. _____p.m.
   If not both a.m. and p.m., why? _____

5. How many members are regularly in your carpool/vanpool (including yourself)? _____

6. How long have you been a regular user of the Northwest Transitway? _____

7. Which transitway entrance did you use to enter the Northwest Transitway for the a.m. trip?
   _____Little York flyover ramp _____Pinemont flyover ramp _____Dacoma entrance

8. What is your carpool/vanpool destination? _____Downtown _____Galleria/City Post Oak/Uptown
   _____Greenway Plaza _____Texas Medical Center _____Other (specify Zip Code)_____

9. When did you join your present carpool/vanpool? Month:_____ Year:_____

10. How important was the opening of the Northwest Transitway in your decision to carpool/vanpool?
    _____Very important _____Somewhat important _____Not important

11. If the Northwest Transitway had not opened to carpools/vanpools, would you be carpooling/vanpooling now?
    _____Yes _____No _____Not sure

12. Prior to carpooling/vanpooling on the Northwest Transitway, how did you normally make this trip?
    _____On the Northwest Freeway general purpose lanes
    _____Bus _____Vanpool _____Carpool _____Drove Alone

    _____On a parallel street or highway (Street Name _____)
    _____Bus _____Vanpool _____Carpool _____Drove Alone

    _____Did not make this trip

    _____Other (please specify)_____

13. Prior to carpooling/vanpooling on the Northwest Transitway, did you use the Katy Transitway on a regular basis? _____Yes _____No

14. How did you normally make this trip one year ago?
    _____Drove alone _____Vanpool _____Did not make this trip one year ago
    _____Carpool _____Bus _____Other (specify)_____

15. How many minutes, if any, do you believe your carpool/vanpool saves by using the Northwest Transitway instead of the regular traffic lanes? _____Minutes in the morning _____Minutes in the evening

(OVER)

16. What are your main reasons for carpooling/vanpooling on the Northwest Transitway? (you may check one or more)

_____No other way available _____Allows someone else to use car
_____Freeway too congested _____No bus service to destination
_____Saves time _____Costs less
_____Reliable travel schedule _____Other (specify)_____

17. Do you feel that the Northwest Transitway is, at present, sufficiently utilized to justify the project?

_____Yes _____No _____Not Sure

18. If you drove alone, how many miles long would your round trip be? _____miles

19. How many miles longer is your round trip as a result of your participation in this carpool/vanpool?

_____miles

20. Do you have a common point (or points) where carpool/vanpool members meet to depart for work each morning?

_____No, I pick up each member at his or her door
_____Yes, I pick up members at the following locations:
(list street intersection or subdivision name below)

_____ Zip Code? _____
_____ Zip Code? _____
_____ Zip Code? _____

21. What is your average daily out-of-pocket cost for your carpool/vanpool trip? (including parking)? $_____

22. How much do you pay for parking at your destination? $_____

23. Does your employer provide any incentives to carpool/vanpool? _____Yes _____No If "yes," what incentives are provided? _____

_____

24. What is your. . . Age? _____ Sex? _____ Occupation? _____

25. What is the last level of school you have completed? _____

26. What is your home Zip Code? _____

We would appreciate your additional comments: _____

_____

_____

_____

THANK YOU FOR YOUR COOPERATION.

Please return this form at your earliest convenience in the postage-paid envelope.