

EASH

Skokie Swift

"The Commuter's Friend"



MASS TRANSPORTATION
DEMONSTRATION PROJECT
FINAL REPORT

SKOKIE SWIFT ROUTE IN RELATION TO CTA RAPID TRANSIT SYSTEM

Other current projects being assisted by federal mass transportation programs



COVER

Like a ray of sunshine through thick clouds, Skokie Swift offers possible answers to some of the problems of living or working at the outer edge of the city

(photo: Stephen L. Meyers)

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* Skokie Swift "The Commuter's Friend"



by Thomas Buck

"Skokie Swift," the high-speed, two-station commuter shuttle, began service as a locally-sponsored mass transportation demonstration project, federally aided by the Department of Housing and Urban Development. The project rehabilitated five miles of abandoned interurban railway extending to the Village of Skokie from main line rapid transit at the Chicago city limits and operated rail transit service over this route. Skokie Swift now continues as a part of the comprehensive mass transportation system of metropolitan Chicago.

This final project report tells how the project determined the effectiveness and economic feasibility of linking a fast-growing, medium density suburban area with the central city by rail rapid transit coordinated with buses and private autos. It also suggests criteria and guidelines useful nationally to public officials, transit operators, planners and others in determining whether service of this type should be provided elsewhere.

* HUD project ILL-MTD-1.

COOPERATING AGENCIES AND THEIR PROJECT REPRESENTATIVES

CHICAGO TRANSIT AUTHORITY

Chicago Transit Board
George L. DeMent, *Chairman*
William W. McKenna
Joseph D. Murphy
Raymond J. Peacock

James R. Quinn
James E. Rutherford
Bernice T. Van der Vries

General Manager

Walter J. McCarter, *prior to October 1964*
Thomas B. O'Connor, *after October 1964*

Skokie Swift Project Manager

George Krambles

VILLAGE OF SKOKIE

Village Board, prior to April 1965:

Myron Greisdorf, *President*
Trustees
Samuel S. Berger
Anthony P. Czarnecki, Jr.
Richard C. Lindberg
John W. Mock
Francis O. Mudd
John Wozniak

Village Board, after April 1965:

Albert J. Smith, *President*
Trustees
John T. Banghart
Walter B. Flintrup
Bernard M. Kaplan
Robert J. Morris
Herman Schmidt
Calvin R. Sutker

Manager

Bernard L. Marsh, *prior to September 1966*

Village Clerk

William Siegel

CHICAGO AREA TRANSPORTATION STUDY

E. Wilson Campbell, *Study Director*

NORTHEASTERN ILLINOIS PLANNING COMMISSION

Matthew L. Rockwell, *Exec. Director*

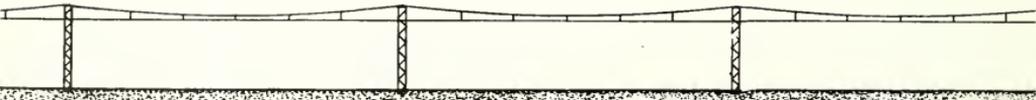
U. S. DEPT. OF HOUSING AND URBAN DEVELOPMENT, prior to July 1968

Robert C. Weaver, *Secretary*
Office of Transportation
John C. Kohl, *Assistant Administrator, prior to 1966*
Urban Transportation Administration
William B. Hurd, *Deputy Director*
Thomas H. Floyd, Jr., *Division of Demonstration Programs*

U. S. DEPARTMENT OF TRANSPORTATION, after July 1968

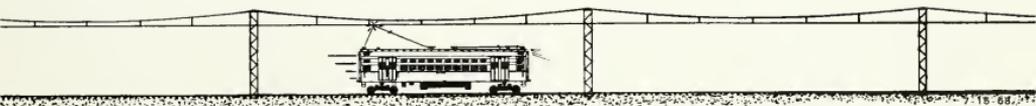
Alan S. Boyd, *Secretary*
Urban Mass Transportation Administration
John E. Robson, *Undersecretary and Administrator*

Effective July 1968 the Urban Transportation Administration, including the Deputy Director and the Division of Demonstration Programs, was transferred from the Department of Housing and Urban Development to the Department of Transportation.



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During the two-year operational phase of the Skokie Swift mass transportation demonstration grant project eight quarterly reports to the U. S. Department of Housing and Urban Development were published by Chicago Transit Authority. These reports, totalling 136 pages of text, tables and photographs, were backed up by seven technical supplements containing 372 pages of underlying data, analyses and procedural explanation.

This total of more than 500 pages dealt in fine detail with almost every aspect of the project. This final report condenses and summarizes the most useful information. It also presents conclusions as drawn from the point of view of the Chicago Transit Authority.

The first chapter is a summary drawing down the salient facts about the project. Subsequent chapters go into more detail, while the final chapter gives the conclusions.

CHICAGO TRANSIT AUTHORITY

chapter 1 the report in brief



Skokie Swift is a rail rapid transit shuttle service that was developed as one of the first transit mass transportation demonstration projects in the United States involving the cooperative sponsorship of the federal government and a transit operator. As a demonstration project authorized by the National Housing Act of 1961, the service was provided on an experimental basis during the two years beginning in April 1964, between the suburb of Skokie, Illinois, and the rapid transit system of the city of Chicago.

The major objective of the Skokie Swift demonstration project was to determine the effectiveness and economic feasibility of linking a growing suburban area of medium density to a central city by means of a rapid transit shuttle. This shuttle service was coordinated with the central city's transit network and with suburban buses.

Further, through surveys and studies, the Skokie Swift project also had the objective of determining guidelines and criteria that could be useful to public officials, planners, transit operators and others in their consideration of service of this type in large metropolitan areas.

Cooperating as sponsors of the demonstration project were the Village Government of Skokie, the Chicago

Transit Authority and the United States Housing and Home Finance Agency. The HHFA subsequently became the Department of Housing and Urban Development.

Five miles of an abandoned electrified rail route were rehabilitated and utilized for the shuttle service, which extended between an existing major rapid transit terminal at the Chicago city limits and a new outer terminal in the suburb of Skokie. Several years previously, the use of this suburban rail route as a rapid transit extension had been recommended by the Chicago Area Transportation Study.

A parking lot with a fee of 25 cents was constructed at the outer terminal in Skokie as a convenience to Skokie Swift riders and as an inducement to motorists to complete their trips to the central city by rapid transit. This Park'n'Ride lot, with spaces for 555 autos, is used to capacity on weekdays and at other times of heavy travel. It includes a Kiss'n'Ride area where transit riders are dropped off and picked up by auto. Space also is provided for the loading and unloading of buses serving as "feeders" to the rapid transit shuttle service.

All of the Skokie Swift trains are of one-man operation. The trains consist of single cars or three-section articulated cars. Either type averages

a speed of 46 miles per hour in the nonstop runs between the Dempster terminal in Skokie and the Howard terminal at the Chicago city limits. Service is provided during weekdays and Saturdays, with the greatest frequency of trains being scheduled during the rush periods of the morning and late afternoon. Some special service is provided on certain Sundays as a convenience to football fans traveling to professional games in Chicago.

The adult fare was 45 cents for a one-way ride on Skokie Swift during the two years of the demonstration project. This fare represented a 20 cent charge for the Skokie Swift service (and a transfer, if desired) in addition to the then-basic Chicago transit fare of 25 cents. During and between rush periods, fares are collected at cashier booths on station platforms, while after about 7 PM fares are collected by fare box on the Skokie Swift trains. At the terminal at the Chicago city limits, there is a free across-the-platform transfer to the rapid transit trains south to downtown Chicago, the south side and north to Evanston and Wilmette.

A special public relations and advertising program was carried out during the months before and after the start of the Skokie Swift service. This promotional program utilized the media of newspapers, radio and television. The use of the "name-train" title of SKOKIE SWIFT for the new rapid transit shuttle service was considered to be especially noteworthy. It caught on quickly with the public. For instance, the name SKOKIE SWIFT soon began to

appear as a promotional feature in real estate ads for that area.

In terms of passenger volume, the sponsors of the Skokie Swift demonstration project believed that the new service was successful from the first day of operations on April 20, 1964. The predecessor commuter interurban service which was abandoned more than a year previously had been patronized by only 1500 riders a day. The planners of the Skokie Swift project believed the new service would possibly generate 1000 riders per day after a few weeks and 1500 riders after six months.

On the first day, however, Skokie Swift was patronized by 3939 riders. Patronage continued to increase, and by the end of the first year, Skokie Swift was averaging 6000 riders per weekday. By the end of the two years of the demonstration project, riding increased to a level of about 7000 riders. Because the sponsors considered the demonstration project to be successful, the Skokie Swift service was continued by the Chicago Transit Authority as a new part of its permanent operations. By the end of the third year, the patronage of Skokie Swift had increased to 7500 riders per weekday, and riding was still increasing.

While transit may hope for major "breakthroughs" in technology, the sponsors of Skokie Swift believed that this demonstration project showed that even a modest undertaking involving the proper application of known means and techniques can be successful in meeting a particular transportation need.

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chapter II

skokie and its transit needs



The Village of Skokie is a near-in Chicago suburb which was settled more than 100 years ago, but which did not undergo great growth until after World War II. This growth has included industrial and commercial construction as well as residential development.

Embracing an area of 10 square miles, Skokie had a population of 65,281 when a special census was made in June, 1962. That was about a year before planning was started for the Skokie Swift demonstration project. By June, 1964, which was about two months after the Skokie Swift service began, the Skokie population had increased to 68,865. The latest census, as of June, 1967, showed a population of 70,178.

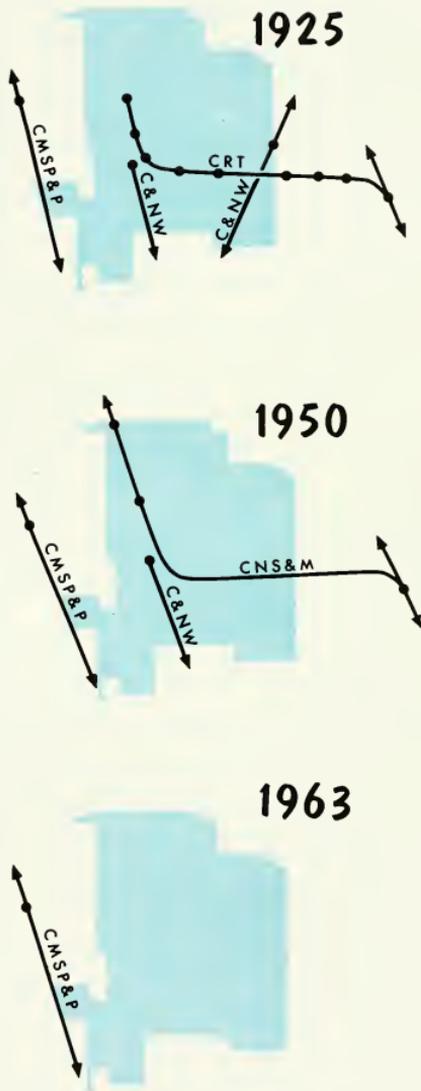
Along with the growth in population, there has been an increase in light industry in Skokie. A census of manufactures in 1958 listed a total of 174 establishments employing 12,524 persons, as compared with 6253 employes in 1954. Many of these establishments were of companies relocating from Chicago into new single-story plants. Two of the first modern shopping centers of the Chicago area also were built in Skokie.

Although Skokie has had considerable industrial development, its proximity to Chicago has shaped much of its development as a dormitory suburb. In 1960, 56% of all workers in Skokie worked in the city of Chicago. The population of Skokie, according to the census of that year,

consisted primarily of middle-income white-collar workers living in single family houses. In 1960, 75% of the employed males were engaged in white-collar occupations, and the median family income was \$9,703. 81% of the 1960 housing units were owner occupied, and 75% were in single family structures. Another 13% of the housing units were in three or four-unit apartment structures.

During the post-World War II growth period, residents of Skokie depended mostly upon private automobiles as the principal means of transportation even though mass transportation facilities to and from the central city of Chicago were available. One indication of this dependency upon the private automobile was the fact that car ownership averaged 1.4 cars per household. Adding to an apparent preference for the private automobile was the fact that Skokie was among the first of the Chicago area suburbs to be linked with Chicago by a modern expressway. The Edens expressway was opened in 1951, providing Skokie and other north suburbs with a new connection to the northwest side of Chicago. Then, in 1960 the expressway connection was extended to downtown Chicago with the opening of the Kennedy expressway.

Skokie had had both rapid transit and interurban commuter service beginning in the mid-1920s. The rapid transit service, which began on March 28, 1925, was provided by the Chicago Rapid Transit Company which was then controlled by a major electric utility company. It subsequently became part of the publicly-owned Chicago Transit Authority. The rapid transit



Rail passenger routes serving Skokie, and their stations.



Skokie (Niles Center) in 1924, looking east from Gross Point Road with Oakton Street at the right. Future route of Skokie Swift lay across the fields and gardens in the background.
(photo: Armond D. King)



The bleakness of flat prairie was all there was to be seen at East Prairie Road in late 1924 - when the Niles Center 'L' was being built.



A small but optimistic group welcomed the opening of 'L' service to Dempster Street on March 28, 1925.



But in 1948 patronage was too low to meet even out-of-pocket costs of the old Toonerville Trolleys, so buses replaced them.

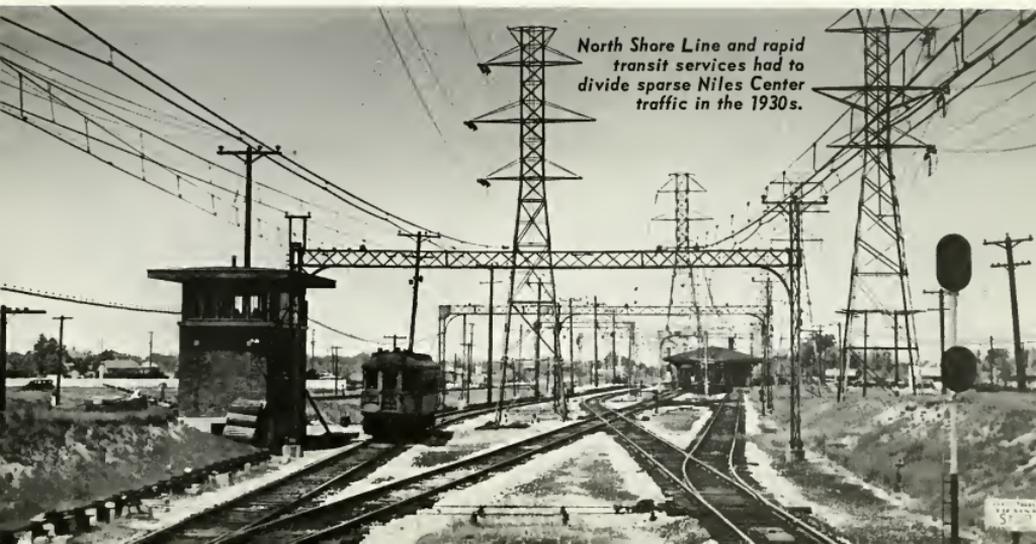
service was provided over a new right-of-way extending five miles from a junction with the Chicago elevated system at the Howard street terminal at the city limits to a suburban terminal at Dempster street, Skokie.

Then, on June 5, 1926, the Chicago North Shore and Milwaukee Railroad, also controlled by the electric utility company, began operating also over the Howard-Dempster right-of-way as part of a new Skokie Valley route for interurban service to Milwaukee.

The rapid transit service to Dempster street was provided largely for the purpose of promoting the residential development of the then sparsely settled area of Skokie. Farm land was subdivided into thousands of lots, but the real estate boom was short-lived because of the economic depression that began in 1929. The rapid transit service, for which there were nine stations, never was successful. In its best year the rapid transit service to Dempster street was patronized by only 700,000 riders.

In March, 1948, the Chicago Transit Authority, which rented trackage rights

in Skokie from the North Shore railroad, ceased the rapid transit service to Dempster as a result of a protracted strike by North Shore Line employees. In place of the rapid transit service, the CTA substituted buses, but the buses were routed to other areas of Skokie where homes had been built. Patronage of the bus route quickly doubled that of the former rapid transit service simply because the buses went where the people were. With a population of less than 14,000, Skokie in 1948 had not yet experienced the largest part of the post-war building boom. The lots close to the rapid transit route, which had been sold first in the real estate boom of the 1920s, had become largely tax delinquent and therefore were not available for construction. No Park'n'Ride facilities had been provided at the rapid transit stations, all of which made the rapid transit service inaccessible to many residents of Skokie. Before it was discontinued, the rapid transit service, operating 24 hours a day from nine stations, was patronized by only 1700 riders a day.



North Shore Line and rapid transit services had to divide sparse Niles Center traffic in the 1930s.

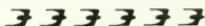


Limited trains of the North Shore Line, some complete with dining facilities, catered primarily to Chicago-Kenosha-Racine-Milwaukee passengers but also served Skokie until 1963.

The North Shore Line continued its commuter interurban service through Skokie and other suburbs, but it, too, began encountering increasing difficulties. Although the populations of Skokie and the other suburbs were increasing, the North Shore incurred increasing losses in both passengers and revenues. The reductions in riding and losses in revenue were attributed by North Shore officials largely to the opening of new expressways. On January 21, 1963, the North Shore Line, after five years of public hearings involving objections by commuters and Skokie and other suburbs, was permitted to cease its interurban service.

By that time, the North Shore Line commuter service was being patronized by only 1500 riders a day, in both directions, in Skokie. The growing population of Skokie then became completely dependent upon the private automobile and a few bus routes.

The Village of Skokie had been one of the most active of the suburbs which had opposed the abandonment by the North Shore Line of its commuter service. After this service was discontinued, the Mayor and Trustees of Skokie began working toward the creation of a new rail service to Dempster street over five miles of the right-of-way abandoned by the North Shore Line.



chapter III the skokie swift plan

The Skokie Mayor and Trustees appealed to the Chicago Transit Authority as the appropriate agency for reviving the rail transit service. In support of the proposal to the CTA, the village board of Skokie also offered to meet part of the cost of the new service.

The CTA Board was sympathetic to the Skokie proposal, especially in view of the willingness of a major suburb not only to work for transit service, but also to offer to pay part of the cost. CTA officials, who were well aware of a general need for expanding and improving transit, re-

called that the revival of rapid transit service to Dempster street had been recommended a few years earlier by the Chicago Area Transportation Study as a worthwhile urban transportation improvement.

The Transit Authority also was in the position of having to acquire 2.7 miles of the abandoned North Shore Line right-of-way regardless of whether service was to be restored. This section of right-of-way, which represented slightly more than half the distance to Dempster street, was needed by the CTA as a permanent connection between the Howard street elevated terminal at the Chicago city limits and its large shops in Skokie for repairing rapid transit cars. Previously, the CTA had used the North Shore Line tracks to and from the repair shops under a rental arrangement with the railroad.

CTA officials also believed that the Skokie proposal offered an opportunity for a fresh working test to determine the traffic potentials of a rapid transit shuttle service in an area of medium population density. The National Housing Act of 1961, with a new provision for federal financial assistance to cities and transit operators for mass transportation demonstration projects, offered a further opportunity for such a test.

Congestion on northbound Kennedy expressway near downtown Chicago in early afternoon is indicative of need for alternatives for travel to north and west.



The planning department of the CTA proposed a plan designed to provide the maximum of rapid transit service with the least number of cars and men and to obtain a maximum utilization of a minimum amount of plant. The objective was to provide a nonstop, high-speed service that would reduce travel time below that of any competitive alternative. The principal features of the plan were as follows:

- Operate a shuttle rapid transit rail service for the five miles between the Howard elevated terminal at the Chicago city limits and a new station at Dempster street, Skokie, on Monday through Friday between the hours of 6 AM and 10 PM only.
- Use prototype high-performance cars, four of which were on the CTA property.
- Have only the two terminal stations. With the station spacing of five miles, the scheduled speed would be 46 miles per hour. The running time between the two terminals would be $6\frac{1}{2}$ minutes.
- Operate single rapid transit cars with one-man crews.
- Build a Park'n'Ride lot at the outer terminal at Dempster street. Such a facility would eliminate a need for intermediate stations, and would encourage more patronage than could be expected from "walk-in" traffic alone. The Park'n'Ride lot would be only $\frac{1}{2}$ mile from a traffic interchange of Edens expressway, from which motorists might be

attracted to the rapid transit shuttle.

- Extend Skokie bus line #97 to "feed" the Dempster terminal from the south and also to connect with a modern shopping center known as Old Orchard, about one mile to the north of the terminal.
- Charge an adult fare of 45 cents for the rapid transit shuttle service. By making a convenient across-the-platform transfer at the Howard terminal, the Skokie Swift rider would be entitled to make a continuous journey to virtually all parts of the CTA network of bus and rapid transit routes. The child fare (under 12 years) for the rapid transit shuttle service would be 29 cents. The adult and child fares would be the same as those for using the existing CTA Skokie bus line #97 in conjunction with rapid transit or bus service south of Howard street.
- Pre-collect the fares with cashiers on the station platforms in rush periods. At other times collect on the rapid transit cars by fare box.
- Charge a modest fee of 25 cents for each use of the Park'n'Ride lot at the Dempster terminal.

On December 20, 1963, the Chicago Transit Authority announced that a formal request had been filed with HUD (then HHFA) for a federal grant of \$349,217 to pay two-thirds of the estimated \$523,825 net cost of a two-year demonstration project providing rapid transit service to Dempster street in Skokie. The remaining \$174,609 of

"Downtown" Skokie, at Oakton Street and Niles Center Road is the hub of village administrative activity. It is served by buses of CTA and Evanston Bus Company.



the net cost would be split, \$137,415 (26.23%) being borne by the CTA, and \$37,193 (7.10%) by the Village of Skokie.

As stated in the application to HUD, the project had these two major objectives:

1. "To determine the effectiveness and economic feasibility of linking a fast-growing, medium-density suburban area with the central city by means of a high-speed rail rapid transit

extension coordinated with suburban buses and with the central city's extensive transit network.

2. "To develop through surveys and studies criteria and guidelines useful nationally to public officials, planners, transit operators, and others in determining whether service of this type should and can be provided in large metropolitan areas." **3 3 3 3 3 3**

It was estimated that the net cost would be \$523,825 for the two years of the demonstration project. The estimate of the net cost included rehabilitation, improvements, interest, depreciation, promotion, studies, and operation and maintenance, less revenues from fares, which were allocated to the project at a rate of 20 cents per rider, and less all of the receipts from the Park'n'Ride lot.

Federal legislation at that time did not permit HHFA (HUD) to participate in the capital outlay of acquisition of the right-of-way. The CTA purchased from the North Shore Line the five miles of right-of-way, signals, track, cables, buildings and other appurtenances in an "as-is" condition from the junction at the Howard 'L' terminal to the south building line at Dempster street for a net price of \$1.7 million.

Rail operating and maintenance costs for the project were to be charged to the project at the average cost per revenue car mile of the CTA's system-wide rapid transit operations. The project also was to pay all costs of operating and maintaining the Park'n'Ride lot, including the services of traffic policemen at the driveways in rush periods. Also set forth as

project costs were a special promotional program and comprehensive studies to assess the results of the demonstration project.

The net price of \$1.7 million was computed after the sale of certain permanent easement rights for electrical power lines to Commonwealth Edison Company, the owner of adjacent right-of-way. Depreciation reserve funds of the Transit Authority were used for this purchase.

The fixed plant and cars were made available by the CTA to the project. Instead of rent for these facilities, the CTA would receive interest on the investment. For the fixed plant, such as the right-of-way, this interest payment would be prorated for the project to cover only the 2.7 mile portion between the Skokie rapid transit repair shops and the Dempster terminal. A minimal program of rehabilitation, including construction of the station platforms and the Park'n'Ride lot at the Dempster terminal, was designated as an expense of the project. Another project expense set forth was the fitting of the rapid transit cars with special devices peculiar to the Skokie Swift operation.

Here is the budget as submitted with the projection application. Five revisions were requested over the project life to keep abreast of its service requirement growth.

SERVICE IMPROVEMENT COSTS	
Operation of Skokie Swift train service and Park'n'Ride lot	\$42,253
CONSTRUCTION OR RENTAL CONTRACTS	
Rehabilitation of Skokie line	190,800
Interest in lieu of rental of right-of-way and equipment	80,132
Construction of Park'n'Ride lot	<u>67,875</u>
	338,807
OTHER PROJECT COSTS	
Data collection, analysis and reporting	
Skokie	17,075
NIPC	29,010
Promotional Activities	<u>41,880</u>
Total	87,965
Contingencies	54,800
TOTAL PROJECT BUDGET	<u>\$523,825</u>

The initial budget request was put together from revenue estimates based on traffic carried on the predecessor rail service in 1962, when it last operated. In October 1962 it had served about 700 riders each way at Dempster station and about 500 more each way at Harmswoods and Glenview, the next two stations north of Dempster. This had been a decline of perhaps 20% from the December 1958 level, a drop probably largely due to the diversionary impact on train riding of the completion of Edens-Kennedy expressway system between northern suburbs and the center of Chicago.

Although absence of rail service in Skokie for more than a year had given time for non-rail travel habits to harden, it seemed reasonable that the demonstration project service would generate 731,000 riders in two years: about 1000 riders per day for the first quarter, 1200 per day the

second quarter and 1500 or more thereafter.

Park'n'Ride receipts were estimated on the basis of 75% to 85% occupancy of 380 spaces on weekdays.

Operating expenses were based on requiring about 255,000 car miles of single-car train service to serve the anticipated load. Depreciation and equipment costs assumed that a four-car fleet would be adequate.

Rehabilitation costs were based on visual appraisal of the condition of an old property which, as previously mentioned, had not been operated for more than a year. They were also based on the presumption that there would be a relatively light schedule of 50 round trips per day, five days per week.

Revenues and costs as actually run and budget changes to reflect the development of the project are discussed in Chapter IX.

Old Orchard, modern regional shopping center, one mile (and no extra charge) by feeder bus from Dempster Skokie Swift terminal.

Old Orchard



On January 27, 1964, HUD approved plans for the demonstration project and authorized the federal grant. Participation in the net cost was divided as follows:

- U. S. Department of Housing and Urban Development...66.67%
- Chicago Transit Authority...26.23%
- Village of Skokie.....7.10%

The Chicago Transit Authority was designated the grantee and manager of the project. The CTA also was responsible for rehabilitation, maintenance and operation of the rail line and the rapid transit shuttle service. Skokie was assigned to construct, maintain and operate the Park'n'Ride

lot. The ridership promotional program was handled jointly by the CTA and Skokie. The study program was divided among the CTA, the Northeastern Illinois Planning Commission and the Chicago Area Transportation Study, the latter of which contributed its services at no cost to the project.

To expedite the demonstration project, HUD made an important suggestion — that one person be given the assignment of Project Manager, with responsibility and authority for getting the project ready for operation and managing its operation, promotion and the study program. **3 3 3 3 3 3**

chapter V

right-of-way and rehabilitation



The five miles of right-of-way for the Skokie Swift rapid transit service consisted of a combination of one mile of deep "open cut," beginning at the Howard terminal; two miles of high embankment, and two miles at surface or grade level as the approach to the Dempster street terminal. In 1924, the North Shore Line spent approximately \$6 million in creating this five miles of right-of-way. To assemble and create such a right-of-way today, it probably would cost more than twice that amount, or at least \$15 million. The construction of the right-of-way by the North Shore Line involved especially heavy work, including the construction of a steel viaduct 820 feet long and the handling

of more than 360,000 cubic yards of earth. As explained previously, the net purchase price of the right-of-way by the CTA was \$1.7 million.

Although it represented a bargain to the CTA, the right-of-way was not without fault from the standpoint of an ideal route for rail rapid transit operations. For one thing, half of the right-of-way was electrified with the third rail, while the other half had overhead trolley wires. Instead of being completely grade-separated, the right-of-way has seven grade crossings for streets in the two-mile section at surface level.

Preparations for the Skokie Swift service were carried out as quickly as possible. All of the work was done



*Upper left -
Condition of station facilities
at Dempster at the start of
rehabilitation in February 1964.*

*Upper right -
Similar derelict state of tracks
and signals after more than a
year of abandonment.*



*Center -
Rehabilitation continued after
operation began even though
the work then had to be done
on Sundays when trains were
not operated. Here the track
and pavement is being renewed
at Main street.*

*Lower left -
This shows the completed
appearance of a similar
rehabilitation job at East
Prairie Road.*



As on a main line railroad, automatic crossing gates, with interconnected motorman's signal lights, give priority to train passengers at the seven grade crossings. Rehabilitation work included installation of fifteen new gates like these at Niles Center Road.



by the CTA except for the development of the Park'n'Ride lot, which was assigned to the Village of Skokie.

A specially designed remote control pan trolley was developed by the CTA to permit the operator of a Skokie Swift train to make the transition between trolley and third rail while proceeding at full speed.

A line car, which was prepared in advance of the project grant, was used for the necessary construction and modification of the trolley wires. In general, the abandoned North Shore Line tracks were in good condition. The rehabilitation consisted of rail surface grinding, debris cleanup and tightening of planking at grade crossings. A spring-and-return switch was installed at the Dempster terminal to form a turnback, which was provided with a bumping post at the end of the tail track. Unused track and switches were removed to eliminate possible sources of vandalism.

The signal system had proved to be especially vulnerable to vandalism since the abandonment of the North Shore operations a year before. Most signal and switch stand lenses and lamps had to be replaced, as well as some relays. Other work involved fencing and drainage and the reconditioning of a substation, feeders and the third rail. Automatic crossing gates at seven grade crossings were reconditioned and activated. Later, the automatic gate equipment, which was 30 years old, was replaced at six crossings.

A completely new station was built at the Dempster street terminal to provide high level platforms for the rapid transit cars. Two platforms were built, one for arriving trains and the other for departing trains. A new design was developed to provide windbreaks and canopy coverings utilizing formed H-beams and corrugated fiberglass. The platforms were

made of creosoted timber. A portion of the outbound platform provided a shelter with quartz-tube electric radiant heaters overhead. A self-service push button was installed to provide five minutes of heat upon demand. The platforms were lighted with fluorescent fixtures, and the footwalks with mercury-vapor lights.

A general contract of approximately \$100,000 for building the Park'n'Ride lot was the largest contract in the preparations for the Skokie Swift service. An old 100-space parking area, with coarse crushed stone, was situated immediately to the east of the rail right-of-way and just to the south of Dempster street. This area

was enlarged into a new 385-car lot designed to modern standards. The area was graded and paved with asphalt. It was lighted by mercury-vapor fixtures. Steel bumper guards were provided to delineate parking spaces, and concrete aprons and curbing were installed at entrances and exits. Automatic electric gates were installed to provide free entrance at two points, and two other such gates, activated upon the payment of the fee of 25 cents, were installed for the exit. The Park'n'Ride lot was later twice enlarged during the two years of the demonstration project to its final capacity of 555 cars.



By March 1964, the Park'n'Ride lot contractor had completed rough grading and was installing the drainage system. Early spring snow then made paving work impossible for several weeks.



Only a week from opening day paving got under way with the first break in weather on April 11.



The completed lot as it appeared at 10 AM on opening day, April 20, 1964.



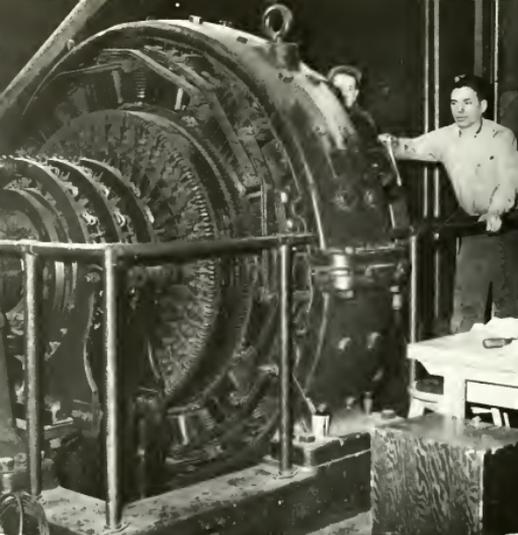
Enlargement work was undertaken within a few days and then repeated once. On May 4, 1964, when this photo was made, the need was so urgent that parking was permitted in this extension area even before construction was completed. Park'n'Ride space at this writing continues in short supply.

It was recognized that the maximum momentum of enthusiasm and support for the project could be gained by getting it into service quickly once the grant was authorized. Therefore, rehabilitation and construction work was separated into that which had to be done before operations could begin and that which could be carried out under traffic or during the normal night and weekend service gaps. The first class of work was completed in about ten weeks, a rather substantial task, especially in winter weather.

The remainder of the planned rehabilitation work was completed within a few additional weeks but there then appeared additional classes of contingency work related

to the unexpectedly rapid rate of growth of traffic on the line. Additional capacity had to be provided quickly. This required, for example, adaptation of more cars for the special requirements of the Skokie Swift line. It similarly required enlargement of the station platforms and of the Park'n'Ride lot.

At the same time service was more than doubled over planned levels to accommodate the unexpected demand. This intense use quickly revealed the need for additional rehabilitation work which might have been avoided under lighter traffic. In this category were such jobs as crossing gate replacement, grade crossing rebuilding and signal cable renewal.



*Upper left -
Overhauling the rotary
converter at Skokie substation,
February 11, 1964.*

*Upper right -
Installing turnout for reversing
trains at Dempster terminal,
March 10, 1964.*



*Center -
Installing trolley wires in
bitter cold kept two expert
work crews busy in late
March 1964.*

*Lower left -
Building station platforms
carried on right through spring
snow on March 30, 1964.*

As a result of the combination of these requirements, construction and rehabilitation jobs of one kind or another were in progress on Skokie Swift over the entire project life. They have also continued beyond the project to the time of this report. A sign of the vitality of the Skokie Swift is that the process of change and improvement should continue in the future.

A representative sampling of the rehabilitation and construction work involved in the project is illustrated by the spread of photographs accompanying this chapter. A plan and profile of the route together with a table summarizing the work done by location follows. The cost of rehabilitation and construction work is detailed in chapter IX, Financial Results. 3 3 3 3 3

Signal, communication and station lighting cables were being installed while the first test run of car #1 through to Dempster was being made on March 30, 1964.



By April 10, training trips were being made to qualify men for train operation, and platform construction was nearing completion at Dempster. The arriving platform is at left; the southbound platform, at right.



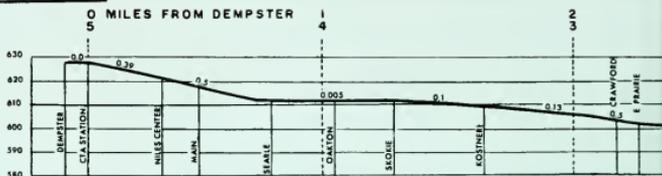
Overhead electric radiant heat is provided on a portion of the southbound platform.

In the fall of 1964, the platforms were extended to accommodate the use of 88-foot-long articulated cars. All of the platform work was done with simple materials and plain design, in keeping with the minimal budget approach of a test project.



Principal features of the track alignment of the route and construction and rehabilitation work accomplished during the project are summarized on these pages.

PROFILE



WORK DONE BY (or in connection with) THE PROJECT

DEMPSTER PARK 'N' RIDE LOT

Cleared land, graded and installed complete paved Park'n'Ride lot, with electric parking gates, for 419 cars and 2 buses. Expanded lot twice to a total of 555 cars and 2 buses. Installed shelter at bus stop. Installed promotional electric sign at driveway entrance.

DEMPSTER STATION

Rearranged track layout. Built two new platforms and later lengthened both platforms. Installed fare collection booth and later changed to two agent booth. Installed self service radiant heat on platform. Installed newsstand. Installed new catenary trolley.

NILES CENTER ROAD

Replaced crossing gates.

MAIN

Demolished unused station. Replaced crossing gates. Overhauled and modified substation.

SEARLE

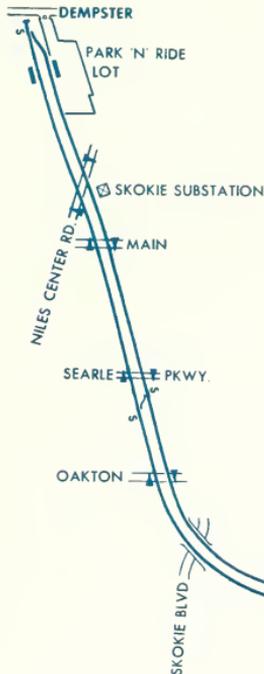
Grooved pavement through crossing. Installed crossing gates. Removed turnout.

OAKTON

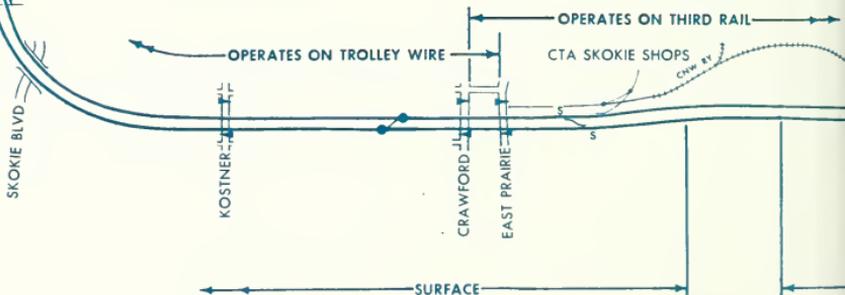
Removed unused turnout. Replaced and relocated crossing gates. Demolished unused station. Replaced signal cable.

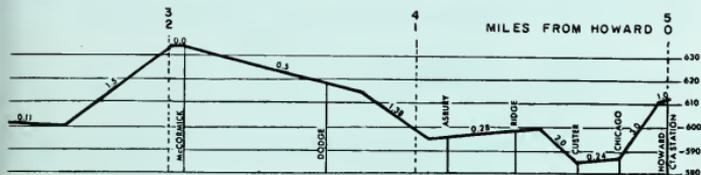
KOSTNER

Demolished unused station. Replaced crossing gates. Installed sidewalks. Removed unused turnouts. Modified catenary trolley around curve.



TRACK MAP





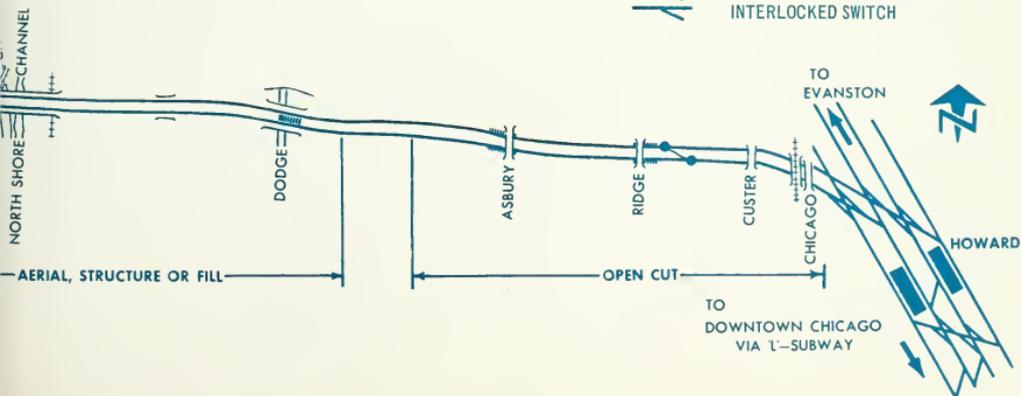
- CRAWFORD** Demolished unused station. Removed unused trolley wire. Replaced crossing gates. Removed unused turnouts. Renewed track and pavement through grade crossing.
- EAST PRAIRIE** Replaced crossing gates. Removed unused crossover. Modified trolley wire construction. Renewed track and pavement through grade crossing.
- SKOKIE SHOP to SEARLE** Graded right-of-way to facilitate weed removal.
- HAMLIN** Installed electric switch heaters.
- SKOKIE SHOPS** Removed unused trolley wires.
- DODGE** Installed chain link fence both sides of right-of-way. Removed gauntlet track on westbound (October 1966).
- CHICAGO to CUSTER** Renewed ties and reballasted track.
- HOWARD STATION** Rearranged space on northbound platform to increase capacity for Skokie Swift passengers.

MILEAGE TABLE

DIRECTION	STATION TO STATION	Feet	Miles
Northbound		25,998	4.92
Southbound		26,245	4.97
Round Trip, including Turnbacks		53,754	10.18

LEGEND

- CROSSING GATE
- PLATFORM (UNUSED)
- OTHER RAILROADS
- RIGID SWITCH
- SPRING AND RETURN SWITCH
- INTERLOCKED SWITCH





Good community relations and safety of operation, important objectives of Skokie Swift, were both improved by the demolition, in June 1964, of four abandoned station buildings between the tracks adjacent to grade crossings.

Last used for passengers some sixteen years previously, these shabby buildings were out-of-tune with the fine suburban atmosphere of Skokie. The view of trains, vehicles and pedestrians was badly impaired by these buildings.

Notice in the photo upper left, taken from a train approaching Ookton street, there is an auto barely visible in the crossing. The lower photo shows the visibility improvement at the same location after demolition of the old building.



Neat chain link fence was installed to control trespassing along Skokie Swift tracks near new homes at Dodge avenue in Evanston.



chapter VI car equipment

Although car development was not included as an objective of the Skokie Swift mass transportation demonstration grant project, it is an important part of the story. CTA, in its own research program, has carried forward the basic development of high performance car equipment continuously from 1947. Its efforts, intensified in 1960, led to the manufacture of four prototype cars which were to be the basis of Skokie Swift car service. The high traffic results of the project led, of course, to equipment shortage and other problems reviewed in this chapter.

CTA recognized from the beginning of its operations in 1947 that retaining present riders and gaining new ones for its rapid transit system would be dependent in a large way upon its ability to improve the speed of operation. The average transportation

customer spends his dollars to save time not to spend time on transit. Dependability, convenience, comfort and safety are other extremely important requirements of successful service. Speed, however, more than the others can also be made to contribute another essential quality: increased productivity of manpower and equipment.

Each principal design of cars built under CTA's administration has incorporated performance improvements leading to decreased running times. The first all-electric PCC (President's Conference Committee) cars of 1947 and 1948 provided improved accelerating rate, top speed and braking rate and achieved running time reductions of up to 20% compared to prior cars. These first cars, CTA's 5000-series, were 3-compartment articulated cars.



First all-electric PCC rapid transit cars for Chicago underwent their trial runs in 1948. They represent the first of a series of steps leading to the high-performance cars of 1968.

Backbone of CTA's rapid transit fleet, the 6000-series cars were built over the decade 1950-1959. Here are some of the first delivered, photographed during performance tests in October 1950.



Although there were only four of them, they immediately proved the practicality of the all-electric PCC car in rapid transit applications. They were followed by 770 PCC cars bought in several lots between 1950 and 1960.

This second type, CTA's 6000-series, was built in two-car permanently-coupled sets. Quarter-point doors and corresponding seating arrangements provided further slight improvement in running time performance by minimizing station standing (dwell) time. An interesting side light about the 6000-series is that some 520 of them were built from salvage components of PCC street cars that had become unacceptable (through no fault of their own) by the

increase in city street traffic resulting from the nearly four-fold increase in automobile registration in Chicago that followed the war.

The third type of PCC car in Chicago is the 1-50 series, which is similar to the 6000-series but with double-end car bodies arranged for either one-man operation as single cars or motorman/conductor operation when made into multiple-unit trains of any length. These cars were also built from the salvage of street cars.

In 1955 it became apparent that performance capabilities of PCC components would need to be exceeded in future designs. Two two-car units of the 6000-series were equipped with high-speed motors and controls.

Cars 6127 to 6130 were reequipped in the 1955 test program for 75 mph. They are shown here in extra-fare Evanston service during September 1965.





Custom built cars 1-4 as they appeared during 1960 qualification tests. At the time a specified location for using these cars in regular service had not yet been determined.

Although they can deliver 100 hp each, all the motors were dimensionally the same as the 55 hp motor used in the PCC cars. Where the 300 volt DC PCC motors were permanently connected two in series, the 100 hp motor pairs of two in series were further switched two pairs in series to start, then in parallel for extended high acceleration and top speeds up to 75 mph. This combination of motors and control extended the desired 3 mile-per-hour-per-second accelerating rate up to 30 mph from the 15 mph top speed for straight-line acceleration of the PCC car.

For these cars, wheel diameter of 28" and gear ratio of 6.14:1 was

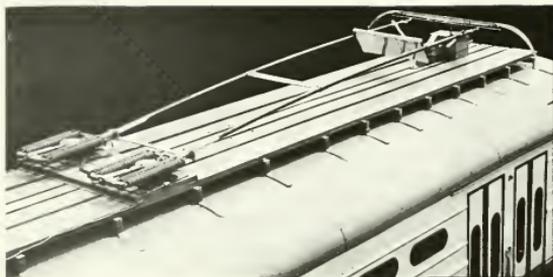
adopted, compared to 26" and 7.17:1 for the standard PCC car.

Extensive test operation with these modified 6000-series cars, including a period of assignment to a regularly scheduled Evanston "Shoppers Special" service, indicated the need for further development and test of alternates.

Therefore, high performance motors and controls, further refined from the 1955 test, were ordered on cars numbered 1 through 4 of the 1960 order. It was also decided to test new truck designs at the same time, and each of these cars was provided with trucks of a different design. The accompanying table details some principal comparisons of the cars.

Some comparative specifications of cars used on Skokie Swift as they were during most of the project life. Continuing developmental work has since yielded further changes in some particulars.

Type of car	Other Skokie Swift Cars					
	1	2	3	4	25, 26, 29, 30	51-54
Type of car	Double-end Single Car Unit	Double-end Articulated Unit				
Type of truck	B-20	G.S.C.C.	Budd	B-30	B-3	B-4
Seats	46	46	46	46	46	96
Length	48'-0"	48'-0"	48'-0"	48'-0"	48'-0"	88'-7½"
Truck centers	33'-8"	33'-8"	33'-1"	33'-1"	33'-8"	24'-4" & 25'-10"
Width (at floor)	8'-8"	8'-8"	8'-8"	8'-8"	8'-8"	8'-8"
Width (at belt rail)	9'-4"	9'-4"	9'-4"	9'-4"	9'-4"	9'-4"
Height over roof	11'-10"	11'-10"	11'-10"	11'-10"	11'-10"	12'-2"
Weight - car body	27,401 lb.	27,461 lb.	28,221 lb.	26,600 lb.	28,200 lb.	55,500 lb.
- trucks	24,096 lb.	23,696 lb.	21,996 lb.	23,536 lb.	18,300 lb.	37,500 lb.
- total	51,497 lb.	51,157 lb.	50,217 lb.	50,136 lb.	46,500 lb.	93,000 lb.
Motor Type	GE1250-K1	GE1250-K1	GE1454-J	GE1454-J	WH1432-LK	WH1432-LK
Motor H.P.	100	100	100	100	55	55
Truck wheel base	6'-6"	6'-6"	6'-10"	6'-10"	6'-0"	6'-0"
Wheel Diameter	28"	28"	28"	28"	26"	28"
Gear ratio	6.125:1	6.125:1	5.875:1	5.875:1	7.17:1	7.17:1
Max field shunting series parallel	65% 0%	65% 0%	69% 4%	69% 4%	67% 0%	67% 0%
Control	GE-MCM	GE-MCM	WH-XDA-152	WH-XDA-152	WH-XDA-1G	XDA-1



Two views of the remote-control pan trolley developed so that one-man cars could operate, without stopping, between sections of line powered by third rail and overhead trolley. Note airfoil below collector shoe, which serves to maintain pressure against trolley wire needed to collect current at speed.



When the Skokie Swift plan was conceived, these cars were the logical choice for it. In addition to having high performance capability, they were adaptable to one-man operation. The only significant work that was required to modify them for the project was to equip them to operate from overhead trolley as well as third rail and to add registering fare boxes for on-train revenue collection.

One of the first problems to be solved was that of the trolley power collector. Since the project was to feature non-stop operation with one-man cars, a new way had to be found to change from the third rail with which the line was powered east of Crawford to the overhead trolley west of East Prairie. North Shore Line had used ordinary trolley poles, but raising or lowering them was a manual job that had to be done from the rear of a car.

As an alternate, a pan trolley was developed in the CTA's shop. It resembles in a general way the bow trolley occasionally found on European or Japanese tramways.

The device consists of two standard trolley poles with spring bases, mounted parallel and joined by a light frame supporting a pantograph bow. A motor-driver retriever controls the trolley rope, and a solenoid latch holds the pandown. The tendency of wind pressure to blow the pan from the wire at speeds in excess of 35 miles per hour is offset by the lift of an airfoil attached between the poles. CTA had to design this special remote control pan trolley because available pantographs did not meet the combined requirements for a 22-foot high wire, low car roof, and a light weight limit on the car roofs. One suitable pantograph, which was made to order in Germany, was placed in use in the final three months of the project.

Pushbutton controls for the trolley devices were also provided so that a Skokie Swift operator can conveniently make the changeover at Crawford-East Prairie without interrupting train movement. The controls include automatic changeover contactors to transfer the car electrical load to the live power source and overriding automatic trolley pull-down when a car runs from trolley to third rail.

The traffic burden, as described in this report, proved to be far more than possible to serve with four cars. Two additional cars had to be committed to the project within its first ten days of operation, and two more immediately thereafter.



New panel of push buttons and pilot light at eye-height on operator's left provides complete control of pan trolleys.

High performance car number 1 near Kostner Avenue on a test run, March 11, 1964.





Coupled into one train to bring the inaugural party to dedication day ceremonies, April 18, 1964, car numbers 1 thru 4 made this portrait. In regular service, Skokie Swift operates only single-car trains.

This second group of four cars assigned to Skokie Swift were numbers 25, 26, 29 and 30 and are practically identical in appearance and arrangement to cars numbered 1 to 4. However, they were built with standard PCC equipment which provided a top speed of about 50 mph. Therefore, to make them reasonably compatible with the first group of Skokie Swift

cars, field shunting was increased to give a speed of about 58 mph. Although the motors work harder at this higher speed, it has proved practical. In this instance the net heating burden was tolerable, it seems, because the 5-mile station spacing imposes less heating from accelerating and braking than is experienced in typical service on other routes.

One of four standard cars hastily diverted from other routes to Skokie Swift to serve traffic increases, car 25 is shown here as it appeared May 25, 1964.



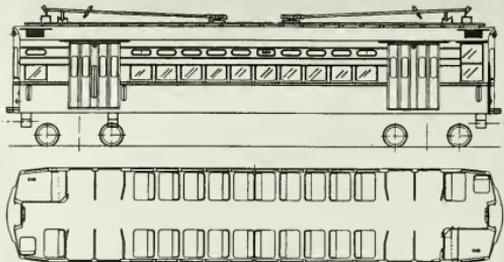


One of the four 96-seat articulated cars added to bolster passenger capacity. Like the small standard cars, these are all electric. The main service brake is dynamic, with spring applied, solenoid released, drum parking brakes. Magnetic track brakes and track sanders are also provided for additional control in event of marginal rail surface conditions.

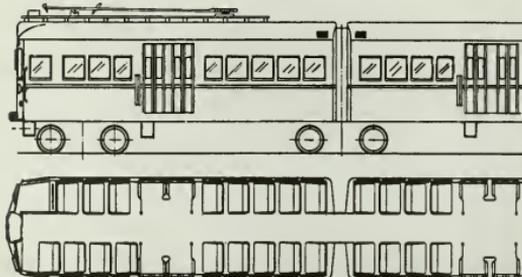
As Skokie Swift traffic continued its growth during the spring and summer of 1964 and again throughout the remainder of the project, the problem of supplying additional capacity on the trains continued. For several reasons it was important to solve this without increasing the number of trains simultaneously on the line in the peak beyond a total of seven. Were more trains introduced "in the circuit," the running time would have to be increased sharply from the $6\frac{1}{2}$ minute schedule because of signal spacing and following distance limitations at normal speeds. Greater frequency of trains would leave very little clear time for auto traffic at the seven grade crossings

in Skokie. Train congestion at Howard terminal, where tracks must be shared with two other routes, would become critical.

For the solution CTA reached back to the 3-compartment articulated units built in 1947-1948 as its first all-electric cars. One by one they were completely overhauled and rebuilt from stem to stern before introduction into Skokie Swift service. Modifications for the special requirements of the route (pan trolleys and extended field shunting, for example) were paid for by the project, but the remainder of the overhaul and painting cost was handled by CTA as a normal operating expense.



51-54



Series	Builder	Length	Width	Height	Seats	Weight	No. of Cars
1-50	St. Louis	48'-0"	9'-4"	11'-10"	46	43,500#	8
51-52	Pullman	88'-7 $\frac{1}{2}$ "	9'-4"	13'-2"	96	93,000#	4
53-54	St. Louis						

The articulated cars proved extremely effective in handling peak period traffic. Like all Skokie Swift trains, they are operated with one-man crews, but they are not used at times when fares must be collected in the car. In such periods and in all non-rush hours, the small standard car is used.

After two of the articulated cars became available (each of them with capacity exceeding that of two small standard cars) it became possible to resume engineering tests and improvements on the prototype high-performance cars. By this time, their intensive use in Skokie Swift service had revealed desirable changes. One at a time, as traffic conditions permitted, they were withdrawn for such research and development work. During periods when any of these cars were not available for service by reason of such tests or changes, the project was relieved of the corresponding interest and depreciation charges. Similarly, the work done on these cars was not a project cost.

Above:
Plan and elevation diagrams of the various cars used on Skokie Swift.

Right:
Interior of articulated car number 53. Note that passengers may walk to any part of the car by passing through the diaphragm-enclosed archways which connect the three compartments.

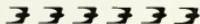




Toward the end of 1965, in each rush hour four standard and three articulated cars were in service.

Subsequent to the close of the project operating phase in April 1966, cars numbered 23 and 24 were modified to correspond to 25 and 26 and were placed in Skokie Swift service. This permitted the withdrawal of cars numbered 3 and 4 for further research work on propulsion and braking systems. The West German-built pantograph formerly on Car 4 has been relocated to Car 24.

All cars for the Skokie Swift project were made available by diversion from other CTA routes. The shortages which would have otherwise resulted on these routes were made up when, during 1964, CTA purchased 180 air-conditioned high-performance cars. Many design criteria of these cars were established in part through experience with the prototype cars on Skokie Swift.



CHARACTERISTICS OF SKOKIE SWIFT CARS that differ from those of cars assigned to other CTA routes

Top speed is extended to 50 mph or more.

Remote control pan trolley, with automatic retrieve and automatic changeover switches, are provided for operation on either trolley or third rail.

Headlight is automatically lighted at front end of train only.

Windshield washers are provided.

Double electric horns, with whistle cord extending around bottom and both sides of front cab window, are provided.

Corner post coupling springs are omitted.

One train door chain (instead of three) is provided.

Control is arranged to cause a full service (instead of emergency) brake application when cineston handle is released.

Four sets of third rail sleet cutters (instead of two) per car are provided.

Train name is displayed on dash plates.

chapter VII

service and riding



The Skokie Swift demonstration project was dedicated officially at a ceremony on the morning of Saturday, April 18, 1964. During the remainder of that day, more than 3100 persons took free rides as part of the advance promotion for the service.

Regular service began at 6 AM on Monday, April 20. The surge of patronage was such that the CTA had to scrap its planned schedule within half an hour. Two cars had been scheduled for the new shuttle service, but by 8 AM five cars were in operation. The CTA had anticipated no more than 1000 riders for the first day, but the day produced a total of 3939 riders.

Fifty trips for the Skokie Swift trains had been scheduled for the first day, but the actual first day operations totaled 75 trips, or 50% more than anticipated. The next day the Skokie Swift operation was increased to 84 trips; the following day, to 92 trips, and by the next

week, to 94 trips per day. Ultimately, the Skokie Swift service was increased to 115 trips per weekday.

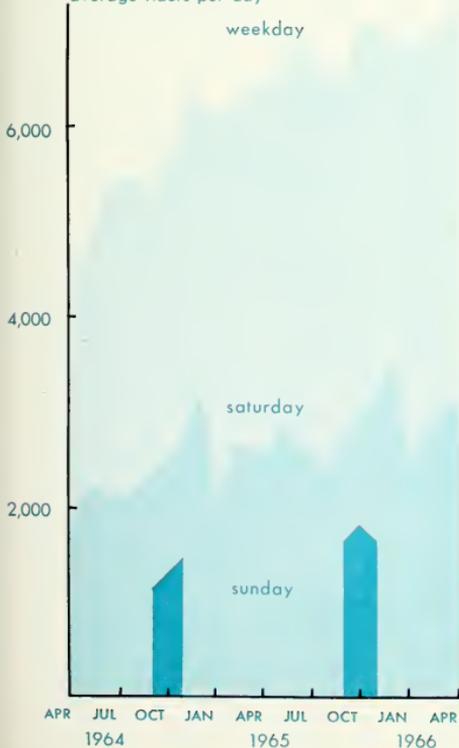
Originally, the weekday service was planned for between 6 AM and 10 PM, but this period was soon extended to 11 PM because of the apparent demand. The first immediate change had been to double the service in rush periods of weekdays by reducing train headways to five minutes from an original interval of ten minutes. Service in the mid-day period also was doubled by reducing the headways of trains to 15 minutes from 30 minutes as originally planned.

Substantial gains in weekday riding were made during the first four months. By the end of the first week, riding totaled 4500. Slightly more than a month later, at the end of May, the daily volume was up to 5000 riders. Another month later, at the end of June, it reached 5700. By the end of July, the weekday riding was up to 6000.

The first three days of heavy weekday patronage prompted the CTA to extend the service to Saturday. On the first Saturday, 25 trips were given. Later, as increasing service proved useful, the number of trips built up to 62 per Saturday with headways of 12 minutes in peak travel periods and 15 minutes at other times. The Saturday service period, which initially was 7 AM to 7 PM, was soon extended to cover 7 AM to 11 PM.

Ridership continued to climb, but at a slower rate. In October 1965, the daily volume of riders reached 7000. By the end of the demonstration period on April 19, 1966, Skokie Swift

average riders per day

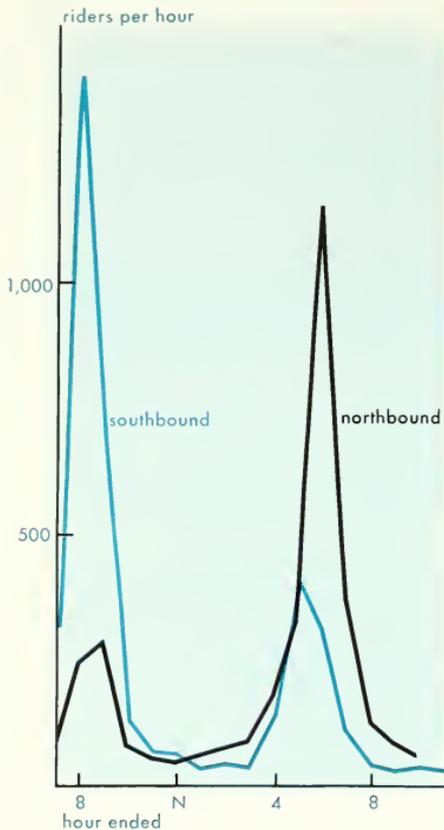


Date	Round Trips per day	46-seat cars	96-seat cars
WEEKDAY			
<u>1964</u>			
Project proposal	50	2	-
April 20	75	5	-
April 24	85	5	-
April 27	96	5	-
August 3	98	6	-
October 15	98	4	2
<u>1965</u>			
March 29	101	3	3
August 30	109	5	2
December 6	115	4	3
<u>1966</u>			
April 15	115	3	4
SATURDAY			
<u>1964</u>			
Project proposal	no service		
April 25	25	1	-
May 2	49	2	-
May 18	57	2	-
<u>1965</u>			
March 29	62	2*	*

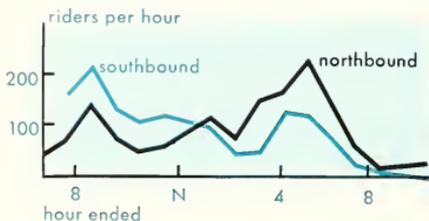
*96-seat cars used on peak shopping days in Christmas season.

patronage amounted to approximately 7100 riders per weekday and 3000 per Saturday. (Since the demonstration project period, Skokie Swift riding has continued to increase. In April 1967, the end of the third year, the weekday average was about 7500 riders).

In the fall of 1964, CTA began providing the Skokie Swift service on Sunday as an accommodation to fans attending the home games of the Chicago Bears professional football team. These special trains operated only on days when home games were played and then only between 11:30 AM and 1 PM (prior to the game), and between 3:30 and 5 PM (after the game). This special service was patronized by an average of approximately 1300 riders on each of six Sundays in 1964 and by an average of more than 1750 riders on seven Sundays in 1965.



About one-third of Skokie Swift riders travel in the peak hour in each direction on weekdays. The lightest hour of midday travel yields less than 1% of the day's total. Data is as of March 1966.

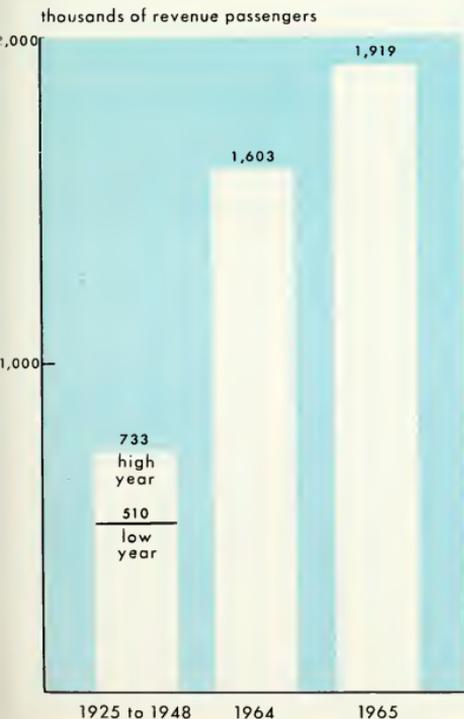


Saturday traffic is considerably more evenly spread out through the day, with about 15% of the traffic riding in the peak hour and 3 to 5% in each of the lightest midday hours.



The buildup of passenger volume before a Sunday football game of the Chicago Bears approaches weekday rush hour intensity. A previous train had left not more than four minutes before this picture was taken on October 10, 1965.

The chart below compares total passengers served by conventional rapid transit in 1925 to 1948 with each of the two years of the project. Additional growth occurred in both 1966 and 1967.



The highest record for a weekday was a total of 7765 riders on October 15, 1965. The highest Saturday total was 4914 on December 5, 1964. The highest Sunday for the football fan service was 2022 on November 7, 1965. The highest week was the week ended November 6, 1965, when 41,500 riders were carried. The highest month was December 1965, when there were 175,000 riders. And the highest year of the two-year demonstration period was the second year ended April 19, 1966, when 1,900,000 riders were carried. A total of 3,521,845 riders was carried for the two years of the demonstration project. **3 3 3 3 3 3**

chapter VIII promotional effort

If you live in the northern
suburbs, you can ride the
Skokie Swift daily and...

relax in traffic

read the newspaper

doze

read a book

get to work on time

think about the week-end

read a magazine

have an extra
cup of coffee

read

Ride the new Skokie Swift between Dempster Street, Skokie, and the Howard "L" subway station, Chicago. Takes just 6½ minutes! Nonstop every 4 to 6 minutes during weekday rush periods—15 minute intervals most other times. Operates between 6 a.m. and 11 p.m. Monday through Friday, 7 a.m. to 11 p.m. on Saturdays. Full transfer privileges. "Free Kiss 'n ride" area for drop-off and pick-up at station. Let the CTA be your second car!

Skokie Swift 

One of the series of newspaper ads in the fall campaign of 1964 which subtly attacked the frustrations of driving to work.

A promotional program for the new rapid transit shuttle service was begun several months before the start of operations, and was continued on an intensive basis throughout the first year of the two-year demonstration period. A budget of \$70,000 was provided for this promotional and advertising campaign. This budget was equivalent to 20% of the

anticipated gross revenues. Such an amount could be considered unusual in the transit industry, which, in general, is known for its low expenditures for advertising and promotion. It is not unusual in the transit industry that as little as one-tenth to three-tenths of 1% of gross revenues is spent for this purpose.

A feature of the promotional program was the naming of the new service Skokie Swift. This proved to be a catchy name that quickly became well known throughout the Chicago area, far beyond the area served. In Skokie, realtors began mentioning "Skokie Swift" or the phrase "Near Swift" in ads of houses and apartments

for sale and for rent near the new rapid transit route.

Chicago's four major newspapers, which long had supported transit improvement projects, carried frequent news stories relating to the project before and after the Skokie Swift service began, as did community newspapers in that suburban area.

Promotional effort began in earnest February 12, 1964 with a press inspection of a portion of the route and a view of rehabilitation work getting underway.



The Niles Township Hi Band, a gathering of dignitaries and hundreds of people turned out for pre-inaugural ceremonies on April 18, 1964.



Following the ribbon-cutting ceremony, there were free rides for all comers. In a 5½ hour period, 43 round trips were made for 3,100 riders.



Skokie Swift



JOINTLY FINANCED DEMONSTRATION PROJECT

Inauguration of this five-mile rail rapid transit extension is no historical event in Chicago metropolitan area transportation. It marks the first time that the Federal government, a suburban community, and the area's major transit operators have joined forces to finance the establishment and operation of a rapid transit extension. Conceivably this demonstration project could set a pattern for future extensions of rapid transit in the Chicago metropolitan area.

Net cost of the project is estimated at \$523,825. This is the anticipated amount by which revenues will fall to meet the costs of providing the physical facilities and operating the service for a two-year period.

To defray the \$523,825 net cost, the Housing and Home Finance Agency is contributing \$569,217. CTA's contribution is \$137,415 in cash and services; Skokie's is \$37,193, also in cash and services.

Not included in CTA's contribution, however, are the cost of the right-of-way from Howard station, Chicago, to Dempster station, Skokie, and the cost of the four high-capacity cars assigned to the project.

CTA bought the right-of-way and related operating fixtures from the defunct North Shore Interurban for \$2,005,000. However, the Commonwealth Edison company is paying CTA \$300,000 for a prepayment agreement to

use part of the right-of-way, thus reducing the right-of-way cost to \$1,705,000. Commonwealth Edison is also paying a rental of \$16,000 for a two-year period which is being credited to project income. Cost of the four high-capacity cars assigned to the service is \$353,604.

For its own purposes, CTA needed to purchase only the right-of-way from Howard station to East Prairie Road, Skokie, for access to and from its rapid transit shops, but when the demonstration project was proposed CTA consented to buying the stretch from East Prairie Road to the Dempster station terminal in Skokie.

Studies are already underway to evaluate the benefits derived from the project. These include effects of the new service on land use, rents, employment, building construction, traffic accidents, and traffic congestion in the project's sphere of influence; on rider usage, the number of persons driven from automobiles, and the effect of the service on raising mass transportation facilities in the area.

Participating with CTA and Skokie in these studies are the Chicago Area Transportation Study, the Northeastern Illinois Metropolitan Area Planning Commission, the Department of City Planning, City of Chicago, and the highway agencies of Cook County and the State of Illinois.



HIGH SPEED RAPID TRANSIT

BETWEEN
DEMPSTER STATION, SKOKIE
and HOWARD STATION, CHICAGO

WEEKDAYS
Effective
Monday April 20

TIME TABLE No. 1
CHICAGO TRANSIT AUTHORITY
4-13-64

SKOKIE SWIFT SERVICE			
SOUTHBOUND		NORTHBOUND	
LEAVE	ARRIVE	LEAVE	ARRIVE
DEMPSTER	HOWARD	HOWARD	DEMPSTER
6:00	6:06	6:10	6:16
6:30	6:36	6:40	6:46
7:00	7:06	7:10	7:16
7:30	7:36	7:40	7:46
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The promotional effort for the Skokie Swift project included paid advertising by press and radio, posters throughout the CTA system and, of course, the public timetables. A total of 447,000 lines of advertising space were purchased in area newspapers. Local radio stations as well as certain Chicago stations with recognized metropolitan coverage were utilized for about 3,000 one-minute spots about Skokie Swift. Samples of the text of these commercials are shown at right.

In December 1965 the timetable shown in part below was published. This was the final issue during the project period. Skokie Swift then became a regular part of the CTA system. Only minor timetable changes have been required subsequently up to the date of this report.

Skokie Swift

"The Commuter's Friend"



RADIO

CLIENT: CHICAGO TRANSIT AUTHORITY
 PRODUCT: "Skokie Swift"
 DATE TYPED: November 23, 1965

A-6521-B
 Marc L. Brown

CONTR. NO. CTA-78-62R
 LENGTH: 60"
 TITLE: "Skokie"
 RECD: 10-18-65

(MUSIC, PAUSE -- POSSIBLY STACCATO -- TO ALTERNATE WITH ACTOR'S VOICE AT INTERVARS.)

ANN: Good idea, riding the Skokie Swift during the day . . . when the staccato to the city is over.
 More new apartments going up. (GROANING) Pretty soon Chicago will be a suburb of Skokie!
 No parking worries, for a change.
 I think I'll buy something frilly today. Like . . . please for lunch. (LAUGHING)

ANN: During non-rush hours -- and on Saturdays -- the CTA's Skokie Swift comes every 15 minutes. Try it . . . even if your husband leaves the car at home.

RADIO

CLIENT: CHICAGO TRANSIT AUTHORITY
 PRODUCT: "Skokie Swift"
 DATE TYPED: November 23, 1965

A-6521-B
 R. W. Adams
 J. Kaufman

CONTR. NO. CTA-80-62R
 LENGTH: 60"
 TITLE: "Skokie"
 RECD: 10-15-65

(MUSIC, ALMOST TYPICAL, TO ALTERNATE WITH ACTOR'S VOICE AT INTERVARS.)

ANN: Ride the Skokie Swift once . . . and you wonder why you waited so long to try it.
 Hey, a river!

Four tunnels . . . hey, I've got to take Joey for a ride on this, on Saturday. Look at that. Zip! And you're at Howard Street.

ANN: Ride the Skokie Swift . . . 96 minutes from Dempster to the Howard "L" . . . the ride anywhere in Chicago on the CTA. It's really nice.

SOUTHBOUND

Skokie Swift

NORTHBOUND

Leaves Dempster St., Skokie

Leaves Howard Station

MONDAY thru FRIDAY

6:00 AM First Train
 6:22 AM
 6:30 AM - 8:50 AM Every 2½ to 7½ minutes
 9:00 AM - 3:30 PM 00, 15, 30, 45 minutes
 after the hour
 3:40 PM - 4:30 PM Every 10 minutes
 4:37 PM - 6:52 PM Every 2½ to 7 minutes
 after the hour
 7:00 PM - 10:00 PM 00, 15, 30, 45 minutes
 after the hour
 10:30 PM
 11:00 PM Last Train

SATURDAY ONLY

7:00 AM First Train
 7:15 AM
 7:27 AM - 9:15 AM 03, 15, 27, 39, 51 minutes
 after the hour
 9:30 AM - 4:00 PM 00, 15, 30, 45 minutes
 after the hour
 4:13 PM - 6:01 PM 01, 13, 25, 37, 49 minutes
 after the hour
 6:15 PM - 7:15 PM Every 15 minutes
 7:30 PM - 11:00 PM On the hour and half-hour
 11:00 PM Last Train

Skokie #97 bus operates between Howard Station and Dempster Terminal 24 hours daily, 7 days a week.

MONDAY thru FRIDAY

6:40 AM First Train
 6:10 AM - 8:45 AM Every 2½ to 7½ minutes
 8:55 AM - 3:25 PM 10, 25, 40, 55 minutes
 after the hour
 3:35 PM - 4:15 PM Every 10 minutes
 4:22 PM - 6:45 PM Every 2½ to 7 minutes
 after the hour
 6:55 PM - 9:25 PM 10, 25, 40, 55 minutes
 after the hour
 9:45 PM
 10:15 PM
 10:46 PM Last Train

SATURDAY ONLY

6:40 AM First Train
 6:56 AM
 7:11 AM
 7:26 AM - 9:26 AM 02, 14, 26, 38, 50 minutes
 after the hour
 9:40 AM - 4:25 PM 10, 25, 40, 55 minutes
 after the hour
 4:37 PM - 6:25 PM 01, 13, 25, 37, 49 minutes
 after the hour
 6:40 PM
 6:55 PM
 7:15 PM - 10:45 PM 15, 45 minutes after
 the hour
 10:45 PM Last Train

PROCEDURE FOR PAYING FARE

NORTHBOUND (Adult): Customer riding Evanston Express to Howard pays 20¢ to trainman and receives transfer for ride to Skokie. Arriving at Howard on an "L" subway train customer pays 20¢ to agent at the Skokie Swift boarding area on the northbound platform. Only 15¢ is paid, however, when a valid transfer is presented to the Evanston Express trainman or to the platform agent at Howard.
Boarding the Skokie Swift train at Howard, customer surrenders transfer to the operator, and receives another transfer if continuing trip on Skokie bus.
SOUTHBOUND (Adult): Customer originating in Skokie pays 45¢ and obtains transfer, if needed, for continuation ride in the Middle Zone or Evanston.

Rapid Transit connections across-the-platform at Howard to Loop, Englewood and Jackson Park via subway; to Loop via Evanston Express "L" (Monday-Friday rush periods), and to Evanston and Wilmot via "L". Bus connections at Dempster with #97 Skokie route south to downtown Skokie and north to Old Orchard, and with United bus for DesPlaines. Connections at Howard with CTA, Evanston and United buses.

The first period of radio advertising began on March 30, 1964, about three weeks before the start of the Skokie Swift service. Other periods of radio advertising began on October 14, 1964, and on January 18, 1965. The final period of radio advertising extended from November 2, 1965, to January 20, 1966. Spot commercials were broadcast on several area-wide stations and several stations serving Skokie and that vicinity. The CTA also gave over some of its regular radio spot commercial time to promoting Skokie Swift.



Public interest in the project was sustained in part through recognition of milestones along the way. Examples were the "500,000th Rider" ceremony on August 24, 1964 (above) and the first anniversary celebration April 20, 1965 (left).



World wide interest in the project brings many visitors to see Skokie Swift. This group from Stockholm inspected the line on October 1, 1965.



This is the internally illuminated sign which marks the entrance driveways at Dempster street.

As a "thank you" for their support of the project and in celebration of the decision to continue Skokie Swift as a regular CTA service, each rider received a souvenir pen on April 20, 1966.



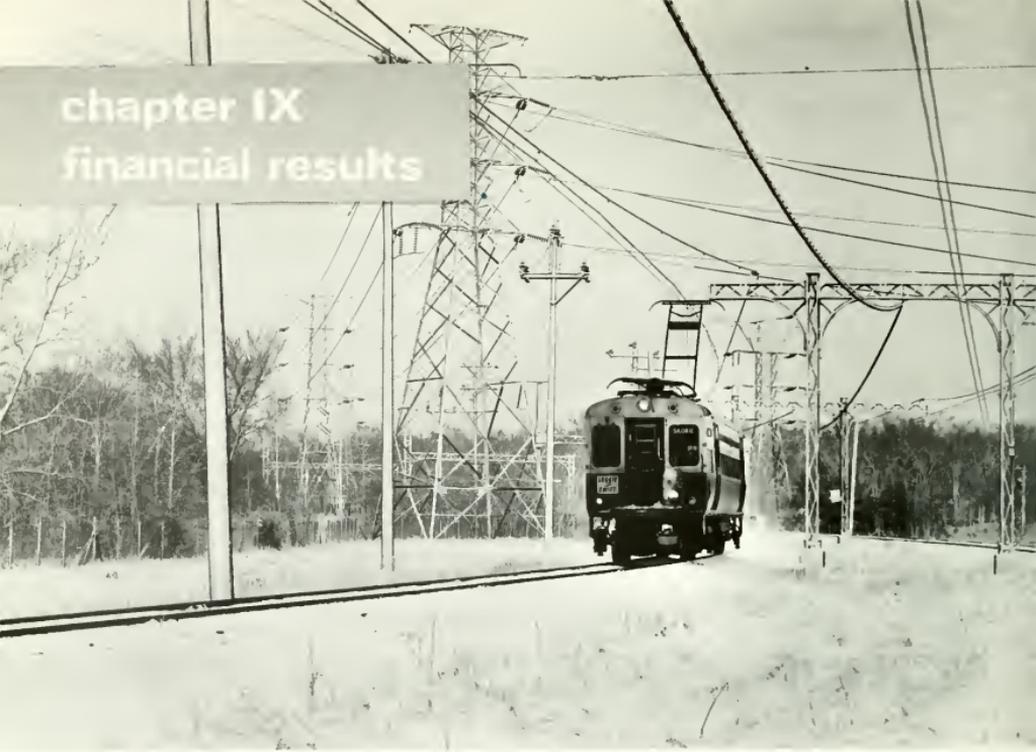
On appropriate occasions, the CTA expressed special gratitude to Skokie Swift riders for their patronage. Cards conveying thanks for rider support and season's greetings were distributed about a week before Christmas of 1964 and again in 1965.

Posters, signs and timetables also were used for ridership promotion.

Increases in service prompted by growing ridership necessitated the issuance of 13 revised timetables during the two years of the demonstration project. A large internally lighted sign, with the name "Skokie Swift" and the emblem of the bow and arrow shape of a swift in flight, was installed at the Dempster terminal.



chapter IX financial results



Everything included, the net project cost, originally estimated to be \$524,000, ended at \$485,000. Of this, \$483,000 represents construction and improvements. Another \$117,000 represents study costs and promotional expenses, neither of which would be carried at such an intensive level in ordinary transit operations. These were partially offset by service improvement costs (the net revenue after operating expense), which ended at \$217,000 credit. Interest in lieu of rental of right-of-way and equipment ended at \$102,000.

After CTA reimburses HUD for the unamortized value of its contribution toward project improvements, the net

cost to HUD will be about \$83,000. Skokie will have spent about \$34,500. CTA will have expended about \$127,000 on net project costs, \$241,000 for unamortized project plant, and it will have committed about \$2.9 million on right-of-way and rolling stock investment. Since the gross investment which Skokie Swift earnings must carry is about \$3.4 million, it should earn about \$170,000 net per year to break even.

However, assuming joint local and federal participation in the capital costs of future similar rapid transit lines, Skokie Swift has proved that fares collected could meet all costs of operation. **3 3 3 3 3 3**

Principal financial data as of December 31, 1967 are shown opposite. The budget shown is the final one, requested March 1967. For the initial budget request, please refer to chapter IV, page 12-13.

	<u>Budget</u>	<u>Actual</u>
SERVICE IMPROVEMENT COSTS		
Operation of Skokie Swift train service and Park 'n' Ride lot	\$(216,717)	\$(216,717.24)
CONSTRUCTION OR RENTAL CONTRACTS		
Rehabilitation of Skokie line	340,332	340,331.87
Interest in lieu of rental of right-of-way and equipment	101,798	101,798.42
Construction of Park 'n' Ride lot	143,455	143,454.51
	585,585	585,584.80
OTHER PROJECT COSTS		
Data collection, analysis and reporting		
Skokie	4,079	4,079.25
NIPC	23,897	23,897.45
Public Audit	6,000	* 5,050.00
Promotional Activities	67,541	67,541.49
Printing project report	15,000	* 13,529.88
Total	\$116,517	*\$114,098.07

Summary of all project expenditures

These figures do not include costs incurred by Chicago Area Transportation Study which were paid for out of funds set up for CATS research.

() Denotes Red Figures.

* Not including certain additional costs yet to be expended at date of this report, expected to fall within budget.

Detail of service improvement costs

	Project life - April 20, 1964 to April 19, 1966			
	<u>Budget</u>	<u>Train Service Actual</u>	<u>Park 'n' Ride Actual</u>	<u>Total Actual</u>
Revenues				
Passenger	\$75,902	\$704,416.00	\$71,486.00	\$775,902.00
Rental of easement	16,800	16,800.00		16,800.00
Other	4,581	4,581.00		4,581.00
	797,283	725,797.00	71,486.00	797,283.00
Expenses				
Operating	523,650	479,354.00	44,296.00	523,650.00
Depreciation on cars	56,916	56,916.00		56,916.00
	580,566	536,270.00	44,296.00	580,566.00
Net Operating Revenues	<u>\$216,717</u>	<u>\$189,527.00</u>	<u>\$27,190.00</u>	<u>\$216,717.00</u>

Passenger operations commenced April 20, 1964; rehabilitation of transportation facilities, construction of Park 'n' Ride lot, studies, etc., began February 1, 1964.

Detail of rehabilitation budget and expenditures

	<u>Budget</u>	<u>Actual</u>
Signals and crossing protection	\$117,692	\$117,670.40
Telephones	2,926	2,926.02
Line supervision	3,430	3,430.01
Train phones	4,630	4,630.04
Overhead trolley	32,127	32,127.06
Substation	10,431	10,430.60
Bumping post	244	244.12
Turnout	8,187	8,186.81
Other track and grade crossing work	43,663	43,663.13
Snow melters	1,387	1,387.25
Right-of-way fencing	5,513	5,512.55
Raze four stations	16,974	16,973.51
Dempster station	41,654	41,653.73
Modify cars	51,474	51,473.56
Total	<u>\$340,332</u>	<u>\$340,331.87</u>

chapter X

findings of studies

Bus and rapid transit routes as they were in Skokie in 1966.



A series of in-depth surveys were made throughout the two years of the demonstration project to determine the characteristics of the riders of Skokie Swift. Riders were surveyed by return reply postcard and direct checks. Non-riders were surveyed through home interview by approved sampling techniques.

Here are some highlights of the findings — First: Skokie Swift in a sense "bearded the lion in its den," for Skokie was and is thoroughly oriented to the automobile.

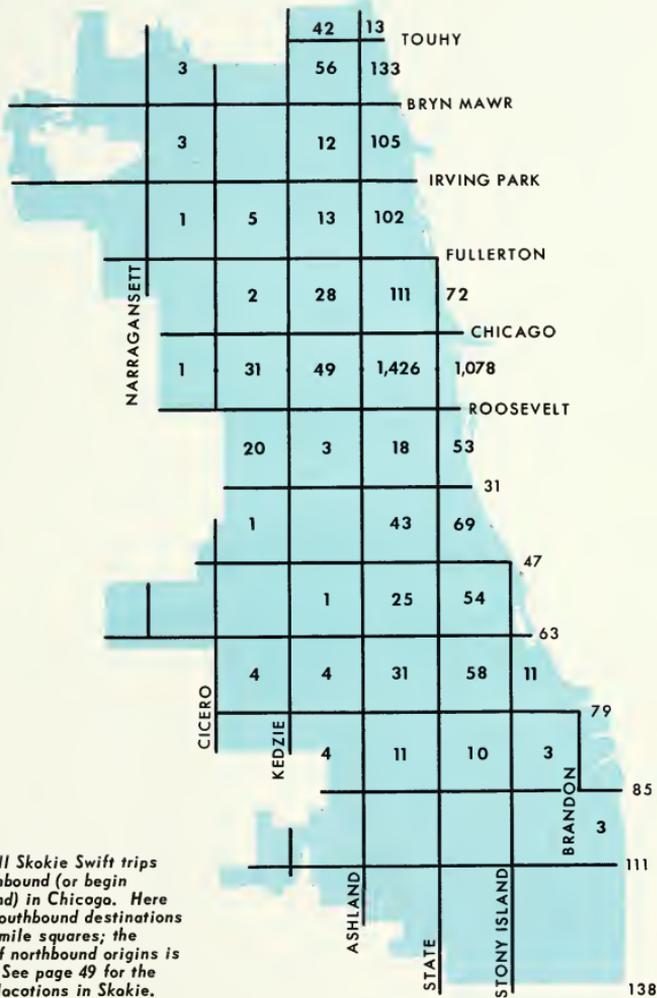
- With a median income in the \$9,000 - \$10,000 range, car ownership averages 1.4 cars per household here.
- Autos are the primary mode of transportation in the study area. Of the 238,000 person

trips made on a typical week-day, 86% are by auto.

- Of the public transportation trips, 66% are to and from school.

From this kind of market here is what Skokie Swift was able to do:

- It now provides 20% of the trips between the survey area and the Chicago loop.
- 70% of Swift riders have one end of their journey in the four central square miles of Chicago, ten miles from the Howard terminal.
- About 20% of Skokie Swift riders switched from auto.
- Around 30% represent new journeys not made at all before the Swift.
- More than 40% are new to public mass transit.



Almost all Skokie Swift trips end southbound (or begin northbound) in Chicago. Here are the southbound destinations by 2 x 2 mile squares; the pattern of northbound origins is similar. See page 49 for the trip end locations in Skokie.

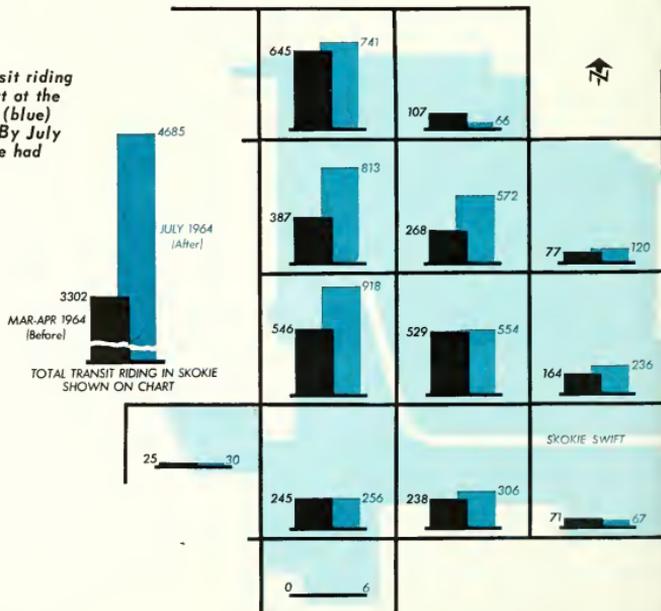
Regarding origins and destinations:

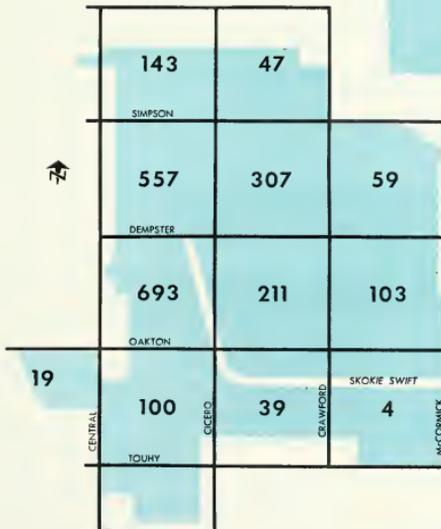
- Some riders have north end of their trip 25 miles or more beyond Dempster, but the significant service area is within 2 miles. At a radius of $\frac{1}{2}$ miles it attracts 60% of all the trips to the loop; at 1 mile it attracts 35%, and at 2 miles 19%.
- 23% walk to the service (compared to 87% of predecessor bus passengers).
- 30% drive autos into Dempster.
- 28% ride autos into Dempster as non-drivers.
- 17% arrive at Dempster by bus.
- 86% are from households with one or more autos. About a third are from households with 2 or more autos. Half said they used the Swift even

though an auto was available to them, indicating 2000 more rides might be made by auto if there were no Swift.

- Journey time comparison of Swift to auto has a strong effect on the rider's selection of mode; therefore minimization of overall rail travel time is quite important.
- The predecessor CTA bus route lost to the Swift half its passengers within a mile of Dempster terminal. However, since many bus passengers in this area were not seeking Chicago destinations and because of traffic developed feeding Skokie Swift, the overall impact has not been critical, and the route has resumed growing.

Skokie Swift service stimulated all transit riding (including buses) in the area. The chart at the right shows the before (black) and after (blue) riding in Skokie by mile square areas. By July 1964, transit riding originating in Skokie had increased 42% over pre-Swift levels.





About 60% of all trips begin southbound (or end northbound) in Skokie. Here are the southbound origins by mile squares; the pattern of northbound destinations is similar. Chicago trip end locations are shown on page 47.



Questionnaires were distributed on all Skokie buses on March 10, 1964 as part of the "before" series of surveys. Similar surveys were repeated for comparison in March 1966.



Similar surveys were made of Skokie Swift passengers in June 1964 and in March 1966. In all cases, excellent passenger cooperation indicated recognition by passengers of the importance of the project to them.



After coding the postcard returns, punch card runs were made by the Chicago Area Transportation Study to extract the study results reported here.

Passengers traveling out toward Skokie in the morning and inward by evening represent 27% of the flow moving in the opposite directions. Most are traveling to work in Skokie from home in Chicago and do not have autos available to them. Origin scatter maps of these riders indicate that without rapid transit their journey would exceed two hours each way and

this would undoubtedly preclude their working in Skokie. The predecessor rail line provided only 70 such rides per day; Skokie Swift now provides 1365. Several hundred job opportunities in the Skokie valley area have, therefore, been made accessible by the Swift to the worker population of Chicago.

SOUTHBOUND SURVEY						
To help determine the future of 'SKOKIE SWIFT' after federal aid ends in April, kindly complete this card						
MAIL IT—POSTAGE FREE — OR GIVE TO C.T.A EMPLOYEE						
CARD NO.	DEPARTURE TIME				DATE	
438						
Where did your trip begin? (Starting point -not CTA Sta.)	What time did you leave starting point?	How did you travel to the "Skokie Swift" station?	If you drove: Where did you park?	How did you make this trip before the "Skokie Swift" service began?	Will you or did you use the "Skokie Swift" at some other time today?	
Please give exact address: Number and street City	..... ..... .....	Auto Driver..... <input type="checkbox"/> Auto Pass..... <input type="checkbox"/> Walk..... <input type="checkbox"/> Ride Bus..... <input type="checkbox"/> Other (specify)	CTA Skokie Lot..... <input type="checkbox"/> Other Paid Lot..... <input type="checkbox"/> Free Lot..... <input type="checkbox"/> Street..... <input type="checkbox"/> Other (specify)	Drove Auto to "EI"..... <input type="checkbox"/> Drove Auto Only..... <input type="checkbox"/> Auto Pass. to "EI"..... <input type="checkbox"/> Auto Pass. Only..... <input type="checkbox"/> Rode Bus to "EI"..... <input type="checkbox"/> Rode Bus Only..... <input type="checkbox"/> Suburban R. R. <input type="checkbox"/> Did not make this trip before..... <input type="checkbox"/> Other (Specify)	Yes..... <input type="checkbox"/> No..... <input type="checkbox"/>	
.....
Where will your trip end? (Final destination - not CTA Station)	At what station will you leave the Rapid-Transit System?	By what means will you travel after leaving the Rapid-Transit System? (Check one)	What time do you estimate arrival at your final destination?	What is the purpose of this trip?	How many autos are owned by members of your household?	Was an auto available to you for this trip?
Please give exact address: Number and Street City	..... ..... .....	Auto Pass..... <input type="checkbox"/> Walk..... <input type="checkbox"/> Ride Bus..... <input type="checkbox"/> Other (specify) .....	.....	To Work..... <input type="checkbox"/> To Shop..... <input type="checkbox"/> To School..... <input type="checkbox"/> To Home..... <input type="checkbox"/> Other (specify)	None..... <input type="checkbox"/> One..... <input type="checkbox"/> Two..... <input type="checkbox"/> Three or more..... <input type="checkbox"/>	Yes..... <input type="checkbox"/> No..... <input type="checkbox"/>
.....

Origin and destination survey reply postcard used to study Skokie Swift passenger needs. Similar cards were prepared for the survey on suburban bus routes in the project area.

A number of studies on the relationship of Skokie Swift to zoning changes, land values, apartment rentals, labor supply and similar subjects were made by the Northeastern Illinois Planning Commission and the Department of Community Development of Skokie. In such matters as zoning and land values, the two-year period of the demonstration project appeared to be too short for effects of Skokie Swift to become pronounced.

Studies pertaining to the effects of Skokie Swift on land use were indeterminate. Changes in such factors evidently occur too slowly to be related to a demonstration project of only two years, especially in a community as dynamic as Skokie, having so many other influences simultaneously at work. In other instances, however, the new rapid transit service was found to be a factor of considerable impact.

Station wagons and private buses bring apartment residents to trains. Others distribute workers to plants and industrial parks.



Skokie Swift, it was found, opened up a broader and more stable labor supply for many new plants that had been built in that suburban area. Like many other parts of the Chicago metropolitan area, Skokie and its vicinity in recent years had gained new industrial plants and offices, largely because of the general prosperity, but partly because of a tendency by some Chicago companies to relocate their operations to new sites in the suburbs. One of the Skokie Swift studies pointed out that the employment problem of the Chicago area during the 1960s has not been a shortage of either jobs or workers, but rather an unequal and uneven distribution of both. Furthermore, while much of the increase in job opportunities has occurred in suburbs such as Skokie, a large part of the labor supply has remained in Chicago where less expensive housing is available. For many of these factory workers and office employes, good public transportation is a basic need because they cannot afford to

drive an automobile to and from work.

A majority of firms surveyed in Skokie and nearby Morton Grove reported that at least one of four types of workers — women, nonwhite, skilled blue collar, and unskilled workers — had become more available to them as a result of Skokie Swift.* The new rapid transit service, it was found, had especially opened job opportunities in these suburbs to non-white workers living in Chicago.

One study showed that firms with relatively easy access to the Skokie Swift service had lower turnover rates of employes than did plants far removed from the Dempster terminal. Both the "new-hire" and "quit" rates were the lowest for firms with access to Skokie Swift.**

To take the fullest advantage of the Skokie Swift service, some companies provided special bus service for their employes to and from the Dempster terminal. Many of the firms said they always mentioned the Skokie Swift service in interviewing prospective employes.

* Non-white workers were cited most often and blue-collar workers least often.

** Twenty-seven firms in Skokie and Morton Grove reported the following average percentages of growth in "new-hire" and "quit" rates for the period 1963-1965:

GROWTH IN	NEW HIRE RATE	QUIT RATE
5 firms with access to Swift	72	2
18 firms with access to other transit only	92	72
4 firms with no access to transit	101	164



Multi-modal coordination of rail, bus and auto is an essential factor in solving Skokie travel problems.

The telephone survey respondents also were asked how they first learned of the Skokie Swift service. There were 520 persons interviewed, but there were 563 answers to this question because some of those interviewed said they learned about the service through more than one way.

Of those interviewed, 290 said they first learned about Skokie Swift through suburban newspapers, while 105 said they read about it in the major Chicago newspapers. Twenty-four persons said they first heard about the service over Chicago radio stations; 17 persons from Chicago television stations, and two persons from suburban radio. The remaining 125 persons interviewed reported learning about Skokie Swift through other media or from friends.

A study of data collected by the project was independently made by Thomas E. Lisco in a doctoral dissertation* at the University of Chicago, department of economics. Lisco concludes that the actual comfort provided by the transit vehicle can be very important in contributing to commuter satisfaction. He finds that commuters make modal choice decisions rationally on the basis of alternatives available to them, placing a value of \$2.50 - \$2.70 per hour on their commuting time and an extra value of \$2.00 per day for the difference in "comfort" between driving and using CTA rapid transit. This leads to his conclusion that the 45¢ Skokie Swift fare plays a smaller part in the commuters' selection of transportation mode than either comfort or time differential. **3 3 3**

* *The Value of Commuters' Travel Time - A Study in Urban Transportation*, (June 1967)

Skokie Swift hauls more than its predecessors because it is different in a combination of many modest ways: frequency, speed, relatively new equipment and convenience for Park'n'Ride users, to name a few. A very significant factor also was the participation in all phases of the project by the community most directly affected — Skokie. This participation provided motivation to solve the many problems which inevitably accompany a project having an important impact on the people.

The public itself, as a result of an unusually intensive and effective promotional campaign, added immeasurably to the Swift's acceptance. To make Skokie Swift click, the service needed was provided, and this project made certain that the customer knew it.

From the Skokie Swift demonstration project the following principal conclusions are drawn:

- That a medium-density suburban area can be linked effectively with the central city by a high-speed rail rapid transit extension on an economically feasible basis.
- That a public investment is necessary to provide the right-of-way, equipment and other facilities for creating the rapid transit service.
- That, under certain conditions, many stations, long trains and direct through service from a suburb into the central area of the city are not necessary or even desirable in providing a viable rapid transit service.
- That, if a high degree of productivity can be maintained in the operation, fare collections can cover all operating and maintenance costs.
- That a significant number of motorists in a metropolitan area will switch from their automobiles in favor of mass transportation if the alternative, such as Skokie Swift, provides them with a convenient, reliable and time-saving service.
- That a Park'n'Ride facility which provides easy access from highways at an outlying terminal of a rapid transit extension is highly important to the success of the rapid transit service.



More than half of Skokie Swift riders arrive at Dempster by automobile about equally as Kiss 'n' Ride passengers (non drivers) and as drivers

That a rapid transit extension into a suburban area can open up many job opportunities, a point of special importance to less advantaged residents of an inner city who cannot afford automobiles to travel to new suburban plants.

That the utilization of existing railroad right-of-way can result in substantial savings in the public investment in creating new rapid transit services, as compared with costs of providing a completely new right-of-way.

That a relatively modest public investment and the application of conventional rapid transit technology can bring about a new transportation service for a medium-density suburban area when such service is properly planned.

In the past, transit planners have recommended only buses for loads up to about 5000 people per maximum hour and think in terms of 10,000 to 40,000 per hour for rapid transit. This has been commonly accepted to limit rail transit application to a few dense travel corridors in cities of a million or more people. But people

in less populated areas are also seeking choices in addition to driving. Such alternatives must be attractive, in tune with modern standards of speed, convenience and dependability. The Skokie Swift "junior rapid transit," with a peak hour load of about 1500 appears able to support a far higher quality of service than a bus. The question of whether buses could move the volume seems unimportant if they do not generate it, as was the case of the bus service available in the Skokie corridor before the Swift was started.

While transit strives for major "breakthroughs" in technology, Skokie Swift has shown that a modest improvement in each of several aspects of conventional rail transit service can also be effective in producing success.

Guidelines for traffic estimating, station spacing and special operating techniques gained through Skokie Swift have already been applied at Chicago in planning the Kennedy and Dan Ryan Extensions. The Northwest Passage project will further test improved linkage between city and suburb by providing a convenient interchange between a commuter rail terminal and Loop 'L' service.



appendix



APPENDIX A

In the tables, the following abbreviations are used:
NB - Northbound
SB - Southbound

GROUP	DESCRIPTION	TOTALS
1.	all surveyed passengers - "after"	6080
2.	all surveyed passengers - "before"	3770
3.	surveyed bus passengers - "after"	2930
4.	Skokie Swift passengers - "after"	3150
5.	newly surveyed passengers - bus	210
6.	"before" bus passengers staying on bus	2720
7.	"before" bus passengers changing to Swift	1050
8.	newly surveyed passengers - Swift	2100
9.	all newly surveyed transit passengers	2310
10. (= 8)	newly surveyed passengers - Swift	2100
11.	former mode - auto driver to 'L'	510
12.	former mode - auto driver only	460
13.	former mode - auto passenger to 'L'	270
14.	former mode - auto passenger only	90
15.	former mode - bus only	220
16.	former mode - suburban railroad	320
17.	trips not made before the Swift	230
18.	new mass transit trips	780
19.	new CTA trips	1320
20.	vehicle trips no longer made	970

FIGURE 1 TRANSIT RIDING IN SKOKIE BEFORE AND AFTER THE SKOKIE SWIFT

Sources: "Before" surveys - March 19 and April 9, 1964
 "After" surveys - Skokie Swift - June 11, 1964
 Bus lines July 16 and 23, 1964

ORIGIN AND DESTINATION STUDIES

A series of five origin and destination surveys of transit users in Skokie was conducted to determine the pattern of transit ridership in the area and the changes which resulted from the addition of rapid transit to the range of available modal choice. The following surveys were conducted on the bus routes passing through Skokie and on the Skokie Swift at three different times in order to test the effects of the project:

1. Southbound bus riders before Skokie Swift began;
2. Southbound Skokie Swift riders shortly after Skokie Swift service began;

3. Southbound bus riders shortly after Skokie Swift service began;
4. Southbound Skokie Swift riders approximately two years after Skokie Swift service began;
5. Northbound Skokie Swift riders approximately two years after Skokie Swift service began.

Table 1 summarizes the post card return data from these surveys. The proportion responding to the Skokie Swift questionnaire is markedly higher than that responding to the bus surveys. Interpretation of the bus data must, therefore, be undertaken with some care to allow for the proposal of biased results. The higher proportion of cards returned by Skokie Swift users may be partly the reaction to a major improvement in service.

TABLE 1—POSTCARD RETURN DATA

Survey	Route No.*	Cards Distributed	Cards Returned	Codable Cards	% of Distr. Returned	% of Distr. Codable	% of Ret. Codable
Bus 1 ¹	1	1,633	577	518	35.9	31.7	89.9
	2	866	177	138	20.4	15.9	78.0
	3	636	199	144	31.3	22.6	72.4
	4	383	127	107	33.1	27.0	84.3
	Total	3,518	1,080	907	30.8	25.8	84.0
Bus 2 ²	1	939	297	281	31.6	29.9	94.6
	2	799	155	147	19.4	19.4	94.8
	3	553	151	136	27.3	24.6	90.1
	4	406	106	103	26.1	25.4	97.2
	Total	2,697	709	667	26.3	24.7	94.1
6/64—SB ³	—	2,887	1,448	1,414	50.2	49.0	97.8
3/66—SB ⁴	—	3,708	2,465	2,380	66.5	64.2	96.6
3/66—NB ⁵	—	3,254	2,166	2,057	66.6	63.2	95.0

¹Conducted on March 19 and April 9, 1964.

²Conducted on July 16 and July 23, 1964.

³Conducted on June 11, 1964.

⁴Conducted on March 29, 1966.

⁵Conducted on March 31, 1966.

*Bus Route:

1—CTA No. 97

2—Evanston No. 10

3—Evanston No. 11

4—United No. 50-60

The returns from all surveys were expanded to represent the total number of trips in the survey time period. Separate factors were applied for each transit line. In addition, transit varied by hour of the day, as determined by return rates.

The "before" bus survey was taken to obtain a comparative basis for the analysis in changes in transit ridership occurring with the commencement of Skokie Swift rapid transit service, and is, therefore, not analyzed separately in this report.

"BEFORE" AND "AFTER" THE SKOKIE SWIFT

"Before" bus routes servicing the area which were surveyed are CTA Skokie Route No. 97, Evanston Bus Company Route Nos. 10 and 11 and United Motor Coach Route No. 50-60. Before Skokie Swift service began, 3,770 southeastbound passengers per day were observed on the four bus lines surveyed. After the new service began, 2,930 bus passengers and 3,150 Skokie Swift passengers were observed. The combined "after" total of 6,080 passengers represents an increase of 2,310 or 61% above "before" total.

Figure 1 is a graphic presentation illustrating the change that had taken place in transit usage by the time of the first Skokie Swift survey. Table 2 itemizes the changes in riding by bus route.

TABLE 2—CHANGES IN RIDING BY BUS ROUTE

Bus Route	"Before" Totals	Lost to Skokie Swift (Group 7)*	New Riders Gained (Group 5)*	Net Change (After — Before)
CTA No. 97	1,680	870	150	-720
Evanston No. 10	1,020	110	50	-60
Evanston No. 11	670	50	-30	-80
United No. 50-60	400	20	40	-20
Total	3,770	1,050	210	-880

*Group numbers refer to those in Figure 1.

The CTA Skokie No. 97 bus route lost half of its "before" riders in the surveyed area to the Skokie Swift. Few passengers were diverted from the other three bus lines, but 210 new passengers were fairly evenly distributed among all bus routes except Evanston Route No. 11. This latter route lost more riders than those who changed to the Swift. On the other hand, the net

change in riders for United Route No. 50-60 was positive, in agreement with the prediction that this line would serve as a feeder to the Swift.

SKOKIE SWIFT CHANGES TRAVEL CHARACTERISTICS

Trip origins of the rapid transit passengers (Table 3) are more widely dispersed than those "before" bus passengers. About 31% of Skokie Swift passengers began their trips in communities other than Skokie and Morton Grove. While only about 13% "before" bus passengers came from outside these two communities. Of Skokie Swift passengers, 60% are from Skokie; 16% from Morton Grove. This compares with 87% and 4%, respectively, "before" bus passengers with these origins.

TABLE 3—CITY OF ORIGIN

	Southbound Bus Surveys		March-1964		July-1964	
	No. of Riders	% Total	No. of Riders	% Total	No. of Riders	% Total
Skokie	3,294	87.3	2,494	85.2		
Morton Grove	140	3.7	143	4.9		
Glenview-Golf	—	—	6	0.2		
Niles	75	2.0	38	1.3		
Northbrook	—	—	—	—		
Wilmette-Kenilworth	26	0.7	3	0.1		
Northfield	—	—	—	—		
Evanston	11	0.3	—	—		
Chicago	23	0.6	3	0.1		
Lincnlnwood	8	0.2	3	0.1		
Des Plaines	na**	na	na	na		
Mt. Prospect	na	na	na	na		
Highland Park	na	na	na	na		
Deerfield	na	na	na	na		
Park Ridge	na	na	na	na		
Other	196	5.2	237	8.1		
Total Trips	3,773	100.0	2,927	100.0		

Skokie Swift Surveys

	Southbound June-1964		Southbound March-1966		Northbound March-1966 *	
	No. of Riders	% Total	No. of Riders	% Total	No. of Riders	Total
Skokie	2,185	69.3	2,288	60.4	1,972	60.0
Morton Grove	366	11.6	563	14.9	518	15.7
Glenview-Golf	158	5.0	217	5.7	181	5.5
Niles	98	3.1	196	5.2	198	6.0
Northbrook	54	1.7	51	1.3	48	1.5
Wilmette-Kenilworth	38	1.2	96	2.5	32	1.0
Northfield	25	0.8	25	0.7	29	0.9
Evanston	16	0.5	16	0.4	5	0.2
Chicago	3	0.1	11	0.3	12	0.4
Lincnlnwood	6	0.2	8	0.2	2	0.1
Des Plaines	na	na	175	4.6	146	4.5
Mt. Prospect	na	na	1	0.1	32	1.0
Highland Park	na	na	21	0.5	23	0.7
Deerfield	na	na	20	0.5	17	0.5
Park Ridge	na	na	22	0.6	14	0.4
Other	205	6.5	81	2.1	54	1.6
Total Trips	3,154	100.0	3,791	100.0	3,283	100.0

*City of Destination

**Not Available

While Skokie Swift attracts riders from a much larger area than would the bus service, it has also attracted more passengers from the area surrounding Dempster street terminal than the four bus lines formerly carried (Table 4).

TABLE 4—ORIGIN DATA

	Number of Users with Origin of Trip		
	At Old Orchard	Within 1/2 Mile of Dempster Terminal	Within 1 Mile of Dempster Terminal
Bus 1	609	513	1,266
Bus 2	552	189	688
6/64—SB	114	855	1,624
3/66—SB	128	833	1,585
3/66—NB*	—	—	1,232

* Destination

Table 5 also illustrates the widening influence of the Swift. Of Skokie Swift passengers, more than half travel by automobile to the transit route. Only about 8% "before" bus passengers travel by automobile. On the other hand, about 87% "before" bus passengers walked to the transit, while this figure for Swift passengers is 29%.

TABLE 5—MODE TO TRANSIT LINE

Survey	Route No.	Per Cent of Users Whose Mode Was				
		Auto Driver	Auto Passenger	Walker	Other Means	Unknown
Bus 1	1	2.6	7.9	87.3	1.8	0.4
	2	1.5	5.2	86.5	4.7	2.1
	3	1.4	3.5	92.0	2.1	1.0
	4	4.7	7.6	76.0	11.1	0.6
	Total	2.3	6.4	86.7	3.6	1.0
Bus 2	1	3.5	2.4	89.5	1.8	2.8
	2	—	4.6	84.8	8.0	2.6
	3	—	3.7	91.8	4.7	0.8
	4	3.6	14.8	77.4	3.4	0.8
	Total	1.6	5.1	86.5	4.6	2.2
6/64—SB	—	25.6	28.8	29.4	16.0 ¹	0.2
3/66—SB	—	30.0	28.2	22.6	18.8 ²	0.5
3/66—NB*	—	32.7	20.0	22.8	24.3 ⁴	0.2
Bus	1	2	4			
Other	14.8%	16.3%	21.5%			
	1.2%	2.5%	2.8%			
	16.0%	18.8%	24.3%	*Mode from Transit Line		

Almost all Skokie Swift passengers travel to or from points in Chicago on the 'L'-subway system (Table 6). Approximately 70% have destinations in the four central square miles of Chicago. Only 73% "before" bus passengers travel to Chicago and only 30% to the central area.

Table 7 summarizes the "next mode" reported by riders. The "next mode" reported for Skokie Swift users is the means of transportation used after leaving the 'L'-subway system, not necessarily the next used after leaving Skokie Swift. Therefore, this study does not give statistics which allow direct comparison of "before" bus surveys and the Skokie Swift surveys. The data do, however, indicate the difference in trip types between bus and Swift. Most of the "before" bus passengers did not transfer to the 'L'-subway system. About 47% walked to their destinations after leaving the bus and another 21% used modes other than the 'L'-subway or walking. Most of this 21% transferred to other buses. By contrast, over 95% of Skokie Swift users transfer to the 'L'-subway system and end their trips in Chicago.

TABLE 6—CITY OF DESTINATION

Survey	Route No.	Per Cent Total with Destination of Trip				
		West of Skokie	Skokie	Evanston	Chicago	Other
Bus 1	1	—	2.7	2.7	93.8	0.8
	2	—	12.8	6.1	78.7	2.4
	3	—	36.3	18.4	49.3	—
	4	21.7	11.1	46.2	15.4	5.6
Total		2.3	12.3	10.3	73.5	1.6
Bus 2	1	0.6	1.6	5.0	92.2	0.6
	2	—	23.7	7.4	66.7	2.2
	3	2.1	41.8	16.5	39.6	—
	4	22.5	13.8	50.8	11.7	1.2
Total		3.9	18.7	14.6	61.7	1.1
6/64—SB	—	—	—	0.4	99.5	0.1
3/66—SB	—	—	—	1.0	98.5	0.4
3/66—NB*	—	—	—	0.6	98.8	0.6

*City of Origin

TABLE 7—NEXT MODE DATA

Survey	Route No.	Per Cent of Users Whose Mode Was					
		Auto Passenger	Walker	Bus Passenger	'L'-Sub. Passenger	Other	Unknown
Bus 1	1	0.1	8.3	12.2	79.4	—	—
	2	0.3	27.3	25.3	47.1	—	—
	3	0.4	63.6	14.5	19.3	2.2	—
	4	1.5	73.8	11.4	12.3	1.0	—
	Total		0.4	30.1	16.1	52.9	0.5
Bus 2	1	1.0	24.8	26.5	47.7	—	—
	2	2.7	44.6	14.0	38.7	—	—
	3	0.4	72.6	12.5	13.2	0.8	0.8
	4	2.2	70.3	17.2	7.2	3.1	—
Total		1.6	47.4	18.2	32.0	0.6	0.2
6/64—SB	—	2.8	82.5	13.2	—	0.6	0.9
3/66—SB	—	2.2	77.3	17.8	—	1.5	1.2
3/66—NB*	—	2.1	77.0	18.5	—	2.4	—

*Mode to Transit line

Of the "before" bus passengers, 51% were traveling to work, whereas 77% of southbound Swift passengers reported traveling to work (Table 8).

TABLE 8—TRIP PURPOSE DATA

Survey	Route No.	Per Cent of Users Whose Trip Purpose Was					
		Work	Home	School	Shopping	Other	Unknown
Bus 1	1	63.8	—	8.5	4.1	22.9	0.7
	2	37.1	—	6.1	20.5	36.0	0.3
	3	40.8	—	18.5	17.2	21.4	2.1
	4	47.0	—	4.8	5.8	38.9	3.5
	Total		50.6	—	9.3	11.1	27.9	1.1
Bus 2	1	66.8	—	4.9	9.0	18.3	1.0
	2	60.4	—	3.3	15.3	21.0	—
	3	44.3	—	12.8	21.0	21.1	0.8
	4	72.8	—	11.8	1.6	12.2	1.6
	Total		61.0	—	7.0	12.4	18.9	0.7
6/64—SB	—	77.0	—	3.9	6.0	12.6	0.5
3/66—SB	—	73.8	—	9.8	2.6	13.4	0.4
3/66—NB	—	29.6	64.8	1.7	1.1	2.8	—

Few Skokie Swift passengers are members of households with no automobile (Table 9). About 86% are from households with one or more automobiles. One out of four Skokie Swift riders is from a household owning two or more automobiles.

TABLE 9—AUTO OWNERSHIP DATA

Per Cent of Users Whose Households Own						
Survey	Route No.	No Auto	1 Auto	2 Autos	3 or More Autos	Unknown
Bus 1	1	25.6	60.7	12.0	1.7	—
	2	35.5	57.5	5.8	1.2	—
	3	22.6	64.0	13.0	0.4	—
	4	23.5	54.0	17.4	2.0	3.0
	Total	27.5	59.7	11.1	1.4	0.3
Bus 2	1	26.4	57.3	12.7	1.6	2.0
	2	22.6	45.9	29.8	1.3	0.4
	3	21.4	58.5	15.5	3.3	1.3
	4	16.4	60.9	21.3	1.4	—
	Total	22.7	54.3	20.2	1.8	1.0
6/64—SB	—	13.3	55.9	24.6	2.9	3.3
3/66—SB	—	14.0	53.3	27.1	4.3	1.2
3/66—NB	—	16.4	51.2	26.8	3.9	1.7

Table 10 summarizes riders' reports as to whether the family automobile was or was not available at the time their transit trip was taken. Almost 60% of Skokie Swift passengers versus about 16% of the "before" bus passengers reported that an automobile was available for their trip.

TABLE 10—AUTO AVAILABILITY DATA

Per Cent of Trips Where Auto				
Survey	Route No.	Was Available	Was Not Available	Unknown
Bus 1	1	23.2	76.6	0.2
	2	15.9	83.8	0.3
	3	15.3	83.7	1.0
	4	22.2	75.8	2.0
	Total	19.7	79.7	0.6
Bus 2	1	19.2	79.6	1.2
	2	10.1	89.9	—
	3	13.5	86.5	—
	4	23.0	76.2	0.8
	Total	15.6	83.9	0.5
6/64—SB	—	57.8	40.6	1.6
3/66—SB	—	57.6	41.2	1.3
3/66—NB	—	51.3	46.4	2.3

A question was included in the final Skokie Swift surveys whether they had or would again that day be riding the Skokie Swift (Table 11). Almost 30% reported they would not be using the Swift for their return trip. This figure coincides fairly well with actual passenger traffic data shown in Table 12.

Northbound Skokie Swift passengers consistently averaged 85%-90% of the southbound traffic "after" the first seven months of operation.

TABLE 11—RETURN TRIP DATA (IN PER CENT)

	3/66—SB	3/66—NB
Yes	70.1	73.1
No	28.8	26.3
Unknown	1.1	0.6

TABLE 12 - MONTHLY TRAFFIC BY DIRECTION

Month	Northbound	Passengers Southbound	Total	NB as % of SB Riders
1964				
April (10 days)	19,696	20,849	40,545	94.4
May	53,372	56,149	109,521	95.0
June	61,676	64,300	125,976	95.9
July	64,923	66,659	131,582	97.3
August	61,594	64,311	125,905	95.7
September	59,982	63,308	123,290	94.7
October	68,343	73,358	141,701	93.1
November	64,226	70,685	134,911	90.8
December	73,694	83,481	157,175	88.2
1965				
January	61,761	70,099	131,860	88.1
February	60,987	71,202	132,189	85.6
March	72,743	83,459	156,202	87.1
April	70,802	81,084	151,886	87.3
May	68,343	76,686	145,029	89.1
June	76,726	85,751	162,477	89.4
July	74,289	82,680	157,169	89.6
August	72,574	81,381	153,955	89.1
September	69,691	78,850	148,541	88.3
October	78,897	88,538	167,435	89.1
November	78,620	88,108	166,728	89.2
December	81,612	93,166	174,778	87.6
1966				
January	71,969	84,572	156,541	85.1
February	70,233	81,081	151,314	86.6
March	80,748	92,395	173,143	87.4
April (11 days)	47,430	54,562	101,992	86.9

In the Skokie Swift survey riders were asked how they made the trip before Skokie Swift service began. The results, summarized in Table 13, show that in the first survey about 25% were new mass transit users and about 7% would not make the trip before Skokie Swift service began. In the surveys taken near the close of the second test period almost 28% of the southbound riders and 34% of the northbound riders reported new journeys not made before Skokie Swift began. Although some of these riders may be new Skokie residents, the substantial size of the change indicates that the Swift, by adding to the range of modal choice, has increased the movement of people between Skokie and Chicago. It has allowed people to make trips which were not feasible before.

TABLE 13 - PREVIOUS MODE DATA
MODE USED BEFORE SKOKIE SWIFT SERVICE BEGAN

Percent of users whose former mode was	Survey Date and Direction		
	6/64—SB	3/66—SB	3/66—NB
Auto Driver to 'L'	15.9	11.2	} 19.4
Auto Driver Only	14.2	12.3	
Auto Passenger to 'L'	8.5	3.0	} 3.8
Auto Passenger Only	2.8	2.4	
Bus to 'L'	32.8	20.8	} 28.7
Bus Only	6.7	7.7	
Railroad	10.1	9.4	8.7
No Trip	7.2	27.7	33.6
Other	—	2.7	2.6
Unknown	1.8	2.6	3.2

Skokie Swift passenger volumes have almost doubled in the two years since service began, but changes in ridership patterns have been of limited magnitude. Origins and destinations are more dispersed and as a consequence automobile and bus trips on either end of the rapid transit trip have increased more rapidly than "walk-in trips".

APPENDIX B HOME INTERVIEW STUDY



PURPOSE AND PROCEDURES

The second major study is the home interview survey. This was a survey of households in Skokie and that part of Morton Grove east of Harlem Avenue. This study compared users of Skokie

Swift with non-users in an effort to identify characteristics of the individual, of the household, of the occupational group, of the trip itself, which significantly affect the choice an individual will make about his mode of transportation.

Chicago Area Transportation Study prepared more than 125 pages of instructions detailing the sampling procedures. These were reproduced in their entirety in the special appendix to Skokie Swift Progress Report No. 5. Approximately 2,000 interviews were conducted between September and November, 1964. The sample included one in 22 households in Skokie and one in 11 households in Morton Grove. In addition, approximately 300 Skokie Swift rider households were interviewed in order to provide statistically more reliable data on their characteristics. This gave a total of 2,487 interviews from all sources, of which 2,205 were completed, giving 21,727 person trips.

Expansion factors were applied to the data in accordance with the sampling rate and then adjusted for non-interviews. As in other surveys of this type, it was found that trips with a social recreation purpose were understated. Therefore, an additional expansion factor was applied to such trips. This factor was derived from control data from CATS and other transportation studies for areas having selected characteristics similar to those of the study area.

HOUSEHOLDS CHARACTERISTICS IN THE SURVEY AREA

The final results of the home survey show that Skokie is a predominantly single-family dwelling unit area. Over 70% of the families are in single-family structures, and 12% of these families are in structures built since 1960.

The average household contains 3.5 persons. Of the heads of households, 50% are professional or technical workers, managers, and proprietors. The median income per household is in the \$9,000-\$10,000 range. Car ownership averages 1.4 cars per household, ranging from one car in households with income below \$7,000 to 1.7 cars in those above \$12,000.

Each household makes 9.7 person trips on the average day. Of these trips, 38% are by some mode other than driving an automobile.

CHARACTERISTICS OF WEEKDAY TRIPS BY SURVEY AREA RESIDENTS

Just over 238,000 person trips were made by residents of the survey area on an average weekday in the autumn of 1964. Of these, 14% were by public transportation. Of the trips by public transportation, 66% were children riding school buses. Various trip characteristics have been determined and compared with similar information obtained from data collected in Skokie in the CATS 1956 home interview survey.

Although the average number of persons per occupied dwelling unit has remained the same, increases have occurred in automobile ownership rates and in tripmaking rates. Auto ownership per dwelling unit has increased 17%. Person trips per dwelling unit have increased 3%. The increase in the automobile trip rate was 9%.

While the percentage of automobile driver trips has increased 16% and auto passenger trips slightly, public transportation modes have not retained their former share of total trips. The percentage of trips decreased 79% and rail transit trips 25%.

The data indicate that a smaller percentage of trips was made for the purpose of going home, to work, or for personal business. Per cent of trips for shopping, social, and recreation purposes increased. The fact that fewer trips are home-related indicates that more people tend to make stops at two or more places between their departures from and returns to home.

Travel by time of day was shown to vary greatly. Public transportation in particular shows extreme peaking. Auto driver trips have the lowest peaks and are fairly evenly spread between the hours of 8 a.m. and 8 p.m.

CHARACTERISTICS OF WEEKDAY SKOKIE SWIFT TRIPS BY SURVEY AREA RESIDENTS

During the period of the home interview, survey area residents

made an average of 3,230 trips per weekday on the Skokie Swift. As has been noted in passenger counts, there has been an imbalance between inbound and outbound trips. Examination of the interviews reporting a southbound but not a northbound Skokie Swift trip indicates that some southbound Skokie Swift riders going to work ride home with a fellow worker in his auto and also that a very few southbound riders return too late to ride the Swift, which makes its last trip back to Skokie at 10:45 p.m.

The number of Skokie Swift trips per household, calculated for the Skokie area only, is 0.15. The rate is, however, strongly affected by distance from the Dempster street terminal.

Some Swift riders have north origin or destination 25 miles or more beyond Dempster terminal, but the significant service area is within two miles of it. For example, the Swift captures about 60% of the person trips to the Loop having their north end within a radius of 1/4-mile of Dempster. At a radius of one mile it attracts 35% of such trips and at two miles, 10%.

EFFECTS OF THE SKOKIE SWIFT ON THE TRAVEL HABITS OF SKOKIE AREA RESIDENTS

Skokie Swift trips originating in the survey area make up just over 1% of all trips originating in the area. On the other hand, a total of 6,950 weekday trips were made between the survey area and the Loop. The Swift accounts for 20% of these trips.

Trips between the survey area and the corridor within a mile of the North-South rapid transit line totalled 9,220, of which the Swift serves 2%.

TRIPS DIVERTED TO THE SKOKIE SWIFT

Results of an analysis of travel time differences and ratios indicate that users of the Skokie Swift have a good idea of alternate travel times by mode. Of the modes considered, the greatest decreases in average travel time and the smallest travel time ratios were evidenced by former bus and other rapid transit users.

Travel cost differences and ratios were computed for the data. However, the results of the analysis indicated no apparent relationship between cost and modal choice existed.

The third variable considered was travel distance. Using the travel distance difference measure, it was found that for Loop-bound trips the greatest increase in average travel distance was incurred by former bus users (2.5 miles) and by former automobile passengers (2.1 miles). Slight increases were shown by former railroad and other rapid transit users (0.1 and 0.3 miles, respectively). Former automobile drivers increased their average trip length by 1.4 miles when they switched to the Skokie Swift. The travel distance ratio analysis showed basically the same results.

TRIPS NOT DIVERTED TO THE SKOKIE SWIFT

In this section of the analysis two characteristics of trips not diverted to the Skokie Swift—travel time and travel distance—and the hypothetical characteristics of these trips if they had been diverted to the Skokie Swift were compared with trips which were diverted. Hypothesized times and distances were based on the actual portal-to-portal trip. That is, the individual was hypothetically directed to the Skokie Swift and any modes necessary for the individual to connect his origin with his destination preceding or succeeding the Skokie Swift were included in the calculations. As in the section dealing with the trips diverted to the Skokie Swift, the measures of time and distance used as the basis of analysis were differences and ratios.

Using both difference and ratio measures, the analysis of travel time indicates that as Skokie Swift time approaches time by alternate mode, there is a rapid rate of substitution, indicating that people are quite rational about their choice of mode. For the most part, diversion to the Swift from other modes takes place when the Swift time is less than that of the alternate mode. Diversion begins later for automobile trips than for rapid transit trips. That is, the point on the time difference scale (hypothesized Swift time minus actual time) where Swift ridership first becomes less than 100% of total ridership is negative and absolutely greater for automobile trips than for rapid transit trips.

Analysis of distance differences and ratios leads to the same

sorts of conclusions reached using measures of time.

Although time or distance might be used as a predictor of modal split, distance is generally not the primary criterion people use in making their choice of mode. It appears more likely that the choice is contingent on the relative elapsed times of the modes under consideration and that the regular and predictable shapes of the distance curves are based on a close, direct relationship between time and distance.

MODAL DISTRIBUTION BASED ON SELECTED VARIABLES

A number of household and individual characteristics of trip-makers has been found in other studies to be important in explaining and predicting travel patterns.

Absolute elapsed time and distance by mode do not appear to be as highly correlated as one might expect. For example, although Skokie Swift trips are concentrated at the longer distances, they fall into an intermediate time range. This disagrees with the commonly held opinion that some distance measure can be substituted for elapsed time or some other measure of relative location in predictive models, such as those used in estimating modal split.

Whereas more than 55 per cent of the males who can drive make their trips as automobile drivers, only 30 per cent of women drivers do so. Females, both drivers and nondrivers, in general tend to use modes of public transportation. Male nondrivers travel for the most part as automobile passengers or on the Skokie Swift.

People in the 25-44 year old age brackets make most of their trips as auto drivers. In each of the three age classes included in this range, the proportion of persons who drive is between 50 and 60 per cent. People over 65 make use mostly of public transportation. It is interesting to note that the percentages of persons choosing the Skokie Swift, and to a lesser extent other forms of public transportation, do not vary markedly between age groups.

As expected, the proportion of persons choosing to drive increase with increasing household income, and as income decreases the percentage choosing some form of rapid transit increases concomitantly. The one exception to the latter statement is the Skokie Swift. The proportion of Swift users is fairly constant through all the income brackets.

Considering trips by occupation and industry classifications of the trip-maker, concentrations by mode are evident. Over 50 per cent of the trips made by managers and proprietors, sales people, craftsmen, operatives, and service workers are auto-driver trips. Housewives make more than 50 per cent of their trips as auto passengers. Between 20 and 30 per cent of the trips made by professional-technical and clerical persons are by Skokie Swift. People in construction, nondurable manufacturing, retail sales, wholesale sales, and in business, repair, and entertainment show the greatest propensity to drive. Persons under the other industrial classifications generally use the various forms of public transportation.

Automobile ownership appears to be a good predictor of modal choice. As automobile ownership increases, so does the proportion of auto-driver trips. The reverse is true of rapid transit trips. This latter trend is less pronounced for Skokie Swift trips than for other rapid transit trips.

Automobile availability, too, is a good predictor of mode. About 67% of all persons having an automobile available to them for any given trip choose to drive. Of those who do not choose to drive, most (17.8% of those with an automobile available) choose the Skokie Swift. Fifty per cent of the persons who have no automobile available, but who can drive, choose the Skokie Swift and 35% choose other transit. Non-drivers (most children) are usually automobile passengers (52.2%) and rapid transit users (39.9%).

From this consideration of selected socio-economic variables, it is apparent that any modal split analysis must employ a number of characteristics not only of the trip in question but also of the trip-makers and of their households.

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