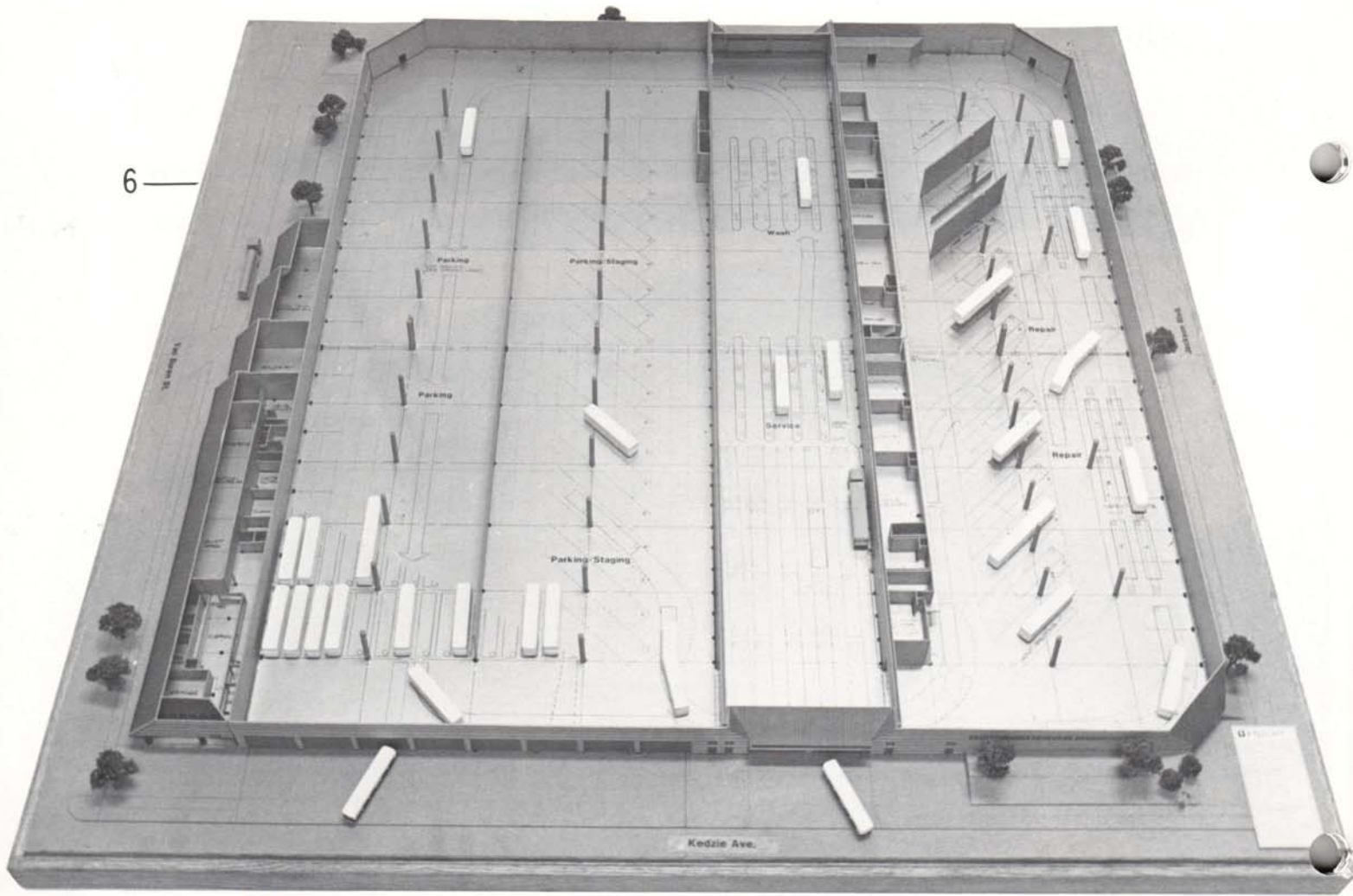


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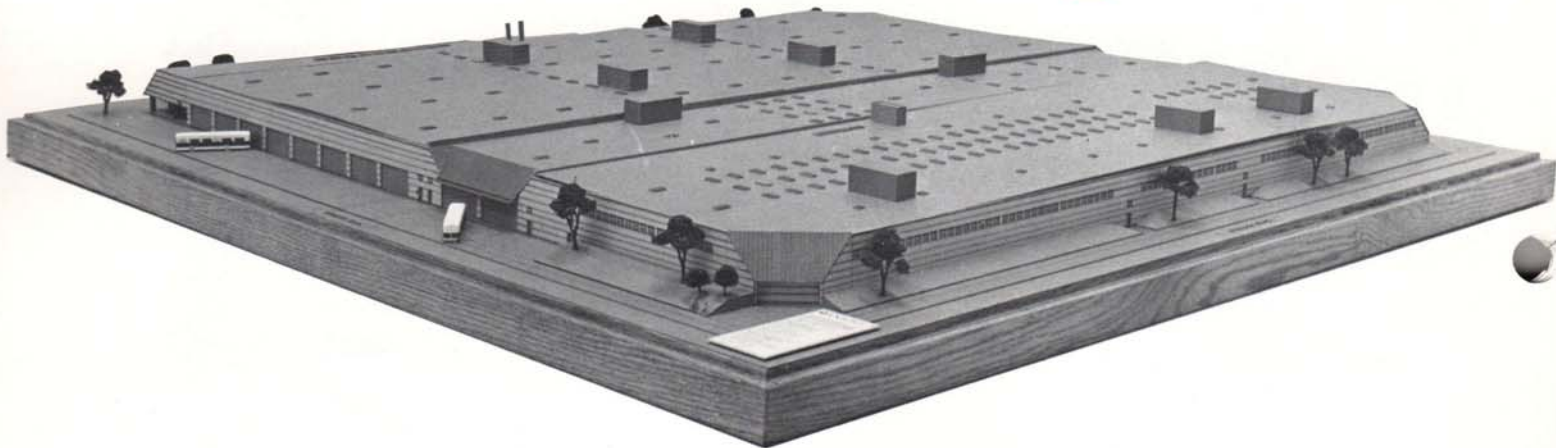
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# CONTINUOUS PATH CONVEYING





# Serpentix Conveyor Installed at Chicago Transit Authority's New Bus Facility



The nation's first closed and containerized refuse collection and removal system will become a reality in July when the Chicago Transit Authority places its new \$17.6 million Kedzie/Van Buren Bus Garage in operation.

Heart of the collection system, which will handle refuse from up to 300 mid-town Chicago buses daily, is a 116-foot three-dimensional, continuous path Serpentix conveyor.

Described as the first of several second generation CTA bus facilities being planned, the Kedzie/Van Buren garage is a brick, steel and glass structure of approximately 308,000 square feet, located on an 8.12 acre site at Kedzie Avenue between Jackson Boulevard and West Van Buren Street.

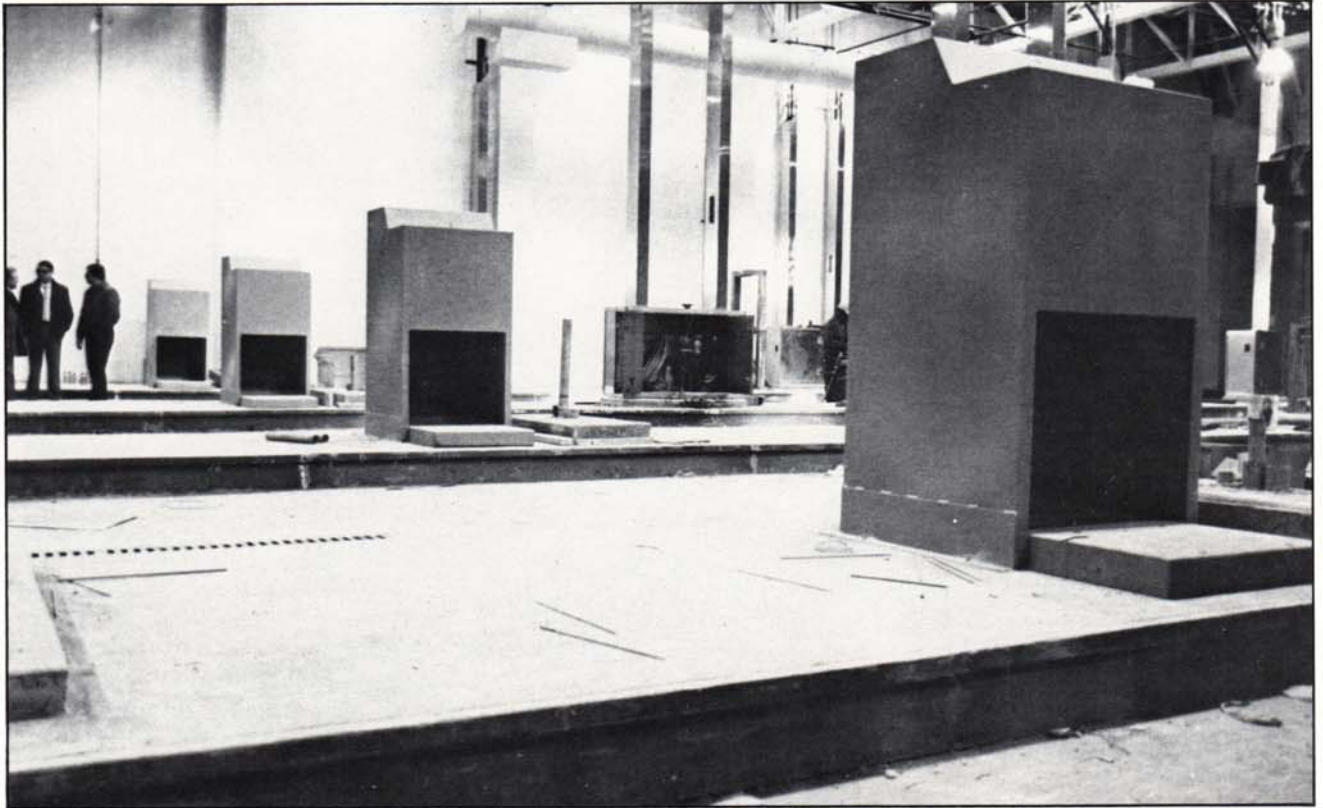
When opened in July, the facility will have a normal capacity for 250 40-foot buses operated by CTA in that area. It is designed to accommodate both 35 and 40-foot standard buses and 55 and 60-foot articulated vehicles in any combination, according to F.H. Petzold, CTA project manager.

One feature of the facility, Petzold explained, is that it will have its own enclosed bus refuse collection system, including compacting and containerized removal of refuse. A vacuum system had originally been designed into the project. However, the high maintenance requirements and energy needs (the vacuum system called for a 75 horsepower motor) prompted CTA engineers to replace that system with the Serpentix conveyor. The 116-foot continuous path Serpentix conveyor, specified by CTA engineers, was an innovative step by the Authority to increase efficiency in the ongoing effort of refuse collection and disposal resulting from fleet bus operations.

The Serpentix system runs in a below grade tunnel, traversing the width of the five lane bus service area. It has a 26-inch wide belt and is powered by a three horsepower motor.



Scale models at left show the new CTA garage. In top model, a bus enters the center bay for start of servicing. At top right, Architect Walter LaBetz inspects the CTA Serpentix. In lower right photo, LaBetz (left) looks over project plans with Project Manager F.H. Petzold.



Trash bins at the five service islands are connected by chutes to a tunnel below. Trash placed in the bins is deposited on the Serpentix conveyor in the tunnel.

Buses entering the garage, make their first stop at one of five service islands in the center bay. Each island has a trash/refuse bin with chutes leading from each to the tunnel below.

There, trash from the buses falls into the service island bins and onto the Serpentix conveyor.

A sixth refuse bin permits collection of trash

from the parking and staging area, located adjacent to the service area. In order to provide trash collection from that bay, it was necessary to slant the refuse collection tunnel,

LaBetz and Petzold (left photo) discuss the sixth chute which carries trash from the first bay in the garage. The chutes from the bins above are shown in photo at lower right.



bays to project out over the convoluted conveyor belt.

Trash deposited on the Serpentix conveyor from the six refuse bins above is transported over a straight path in the tunnel which is approximately 100 feet long. At the end of the tunnel, the conveyor makes a 36.5-degree horizontal curve having a six foot radius, and a 35-degree helical turn which has a six-foot radius and a 22-degree arc.

The helical turn takes the Serpentix through the center bay fire wall, into the third service bay and up through the concrete floor of the garage itself.

Traveling another 11 feet up a 40-degree incline, the conveyor belt flattens at the discharge terminal and the trash is dumped into a hopper for feeding into a refuse-compactor. As the trash is dumped, the compactor's hydraulic ram forces it into an enclosed container.

The container, riding on steel tracks, mates with the open end of the compactor. As each container is filled by the compactor, it is replaced by another and the compacted trash is hauled off for landfill or incineration.

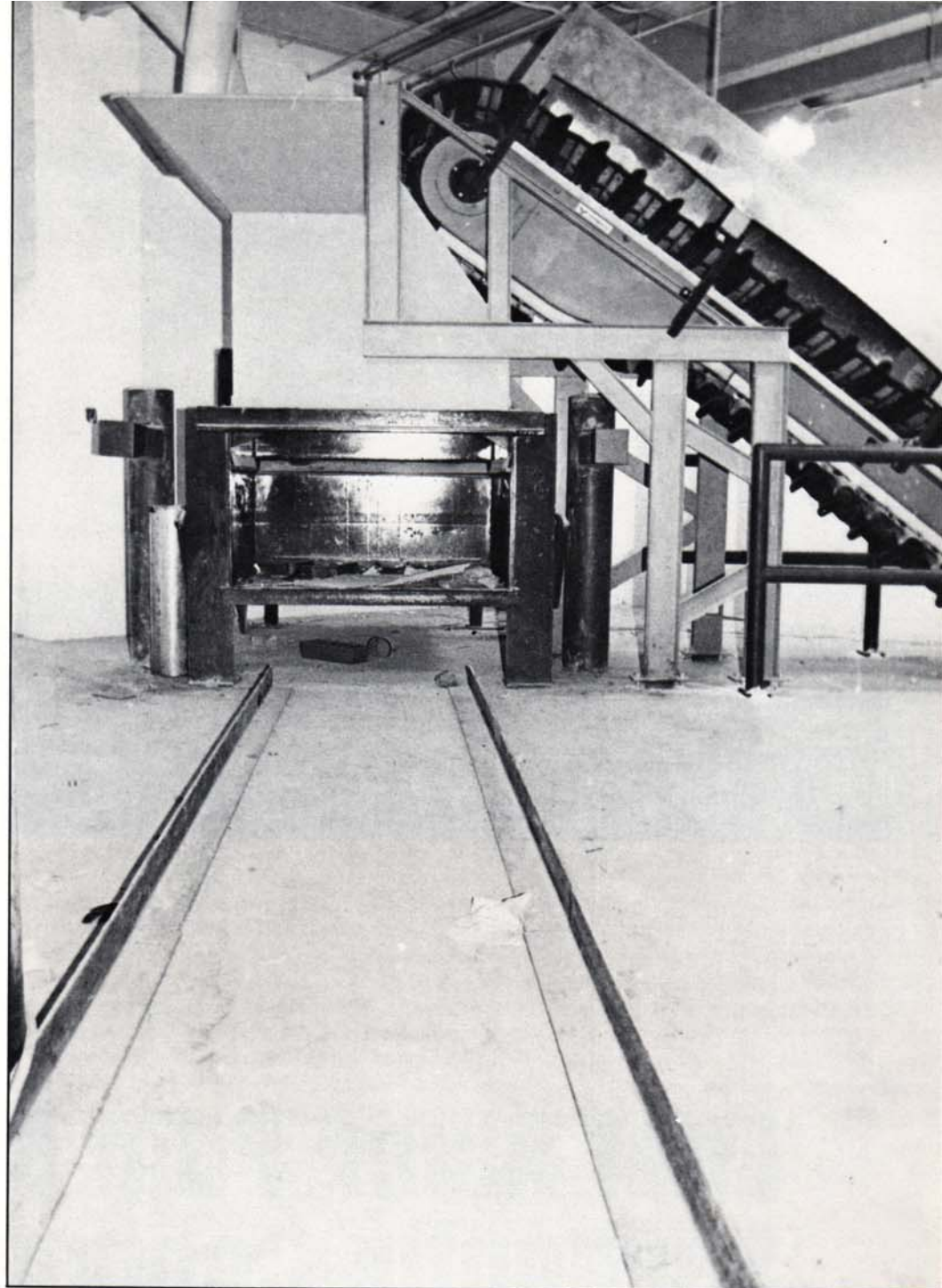
Funding for the Kedzie/Van Buren garage was provided by the Illinois Department of Transportation and the Urban Mass Transportation Administration, according to Petzold. Lester B. Knight and Associates, Inc., of Chicago, were the architects/engineers on the project.

The single-level, 354,000-square-foot structure replaces the old, 210,000 square-foot Kedzie/Van Buren garage which had served streetcar, trolley and motor bus operations in Chicago for approximately 70 years. It was closed in September, 1979 and demolition was completed in July, 1980 to make way for the new building.

The current fleet of 250 buses serviced by the new garage is made up of the 40-foot standard and 55-foot (1% of total) articulated vehicles. Adequate indoor parking space will accommodate the garage's fleet of buses during cold weather months. This will eliminate the costly practice of keeping the vehicles running throughout the night to assure their early morning operation in sub-freezing temperatures.

Parking the buses indoors should substantially reduce fuel consumption, another cost saving factor, Petzold pointed out.

The garage complex also includes a 100,000 gallon, underground diesel fuel storage facility, a building for storing up to 1,000 tons of salt and a building to house utility



vehicles and related equipment.

The Kedzie/Van Buren garage provides complete facilities for the Transportation Department, facilities for inspection, repair and unit exchanges (except major repair/overhaul) for the vehicle maintenance department and facilities for plant, equipment and grounds care for the plant maintenance department.

The five service lanes in the center bay, in addition to the refuse collection equipment, each have provisions for currency removal, fueling and interior cleaning. In the bus washing/water reclamation area, there are also three drive-through units to provide automatic washing of vehicle sides, front, rear and roof — including under chassis spraying. ■

Trash is end loaded into a hopper. It is then compacted and rammed into the container shown below, being inspected by Petzold.

