

CTT Clearwater Transit Times

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Value engineers examine Renton predesign work

A team of experts led by Lewis and Zimmerman Associates is helping make sure Metro designs the best, most cost-effective facilities for the Renton Improvement Program.

The program includes enlarging the Renton Treatment Plant from the current 36-million-gallon-per-day capacity to 72 mgd, adding solids handling facilities and constructing an effluent transfer system to carry treated wastewater from the plant to Puget Sound.

On Dec. 6 Larry Zimmerman, a sanitary engineer, began the second of six "value engineering" workshops scheduled during the predesign and final design phases of the Renton Improvement Program. The week-long session focused on predesign work completed on the effluent transfer system.

Workshop teams—led by Zimmerman, a certified value engineering specialist—will evaluate ongoing work in an attempt to identify different approaches to designs that may be more cost-effective than those recommended by the principal design consultants.

BROWN AND CALDWELL is the lead consultant for the treatment plant enlargement project. The URS Co. is the design firm for the effluent transfer system.

Team members will study the project and associated capital investment, energy and operation-cost estimates to determine the "life-cycle cost" of the proposed project.

They will also evaluate other factors relating to environmental impacts on water quality, permit requirements

and long-term technical and functional requirements.

Using this information, value engineers will try to determine whether other, more cost-effective alternatives can be implemented.

In January an additional workshop is scheduled on the technical and economic aspects of the Renton effluent transfer system alternatives presented by Citizens to Save Puget Sound.

CSPS OPPOSES the Metro-Council-approved plan to discharge treated effluent from the Renton plant to Puget Sound near Seahurst Park.

The CSPS preferred alternative calls for Metro to transfer effluent from the Renton plant to Puget Sound through an 89-inch force main that

would run along the Duwamish River to an outfall off Duwamish Head. Under the plan, a parallel force main would be constructed to meet future flows to the plant.

Workshop participants are recognized experts in wastewater processes, mechanical and electrical systems, energy, structural engineering, hydraulics, oceanography, tunnel construction and cost estimating.

Representatives from Metro and the state Department of Ecology and CSPS are expected to participate in the workshops.

At the end of each session, the value engineering team will present its findings to Metro and the agency's consultants. The Metro Council's Water Quality Committee will then get briefings on the value engineering results.

Savings plan draws interest

With the economy on shaky ground, Metro employees—like most people these days—are eager for financial advice on investments, savings plans and other money matters.

Response to the agency's new voluntary deferred compensation plan has been high, according to accounting manager Jim Munson.

Representatives from the National Plan Coordinators—the firm administering Metro's new deferred compensation plan—conducted information sessions around the agency during the last two weeks. Three sessions in the Exchange Building on Dec. 6 drew good crowds.

The deferred compensation plan allows part-time and full-time employees to set aside part of their income each year and delay paying current federal income taxes on the deferred amounts or earnings.

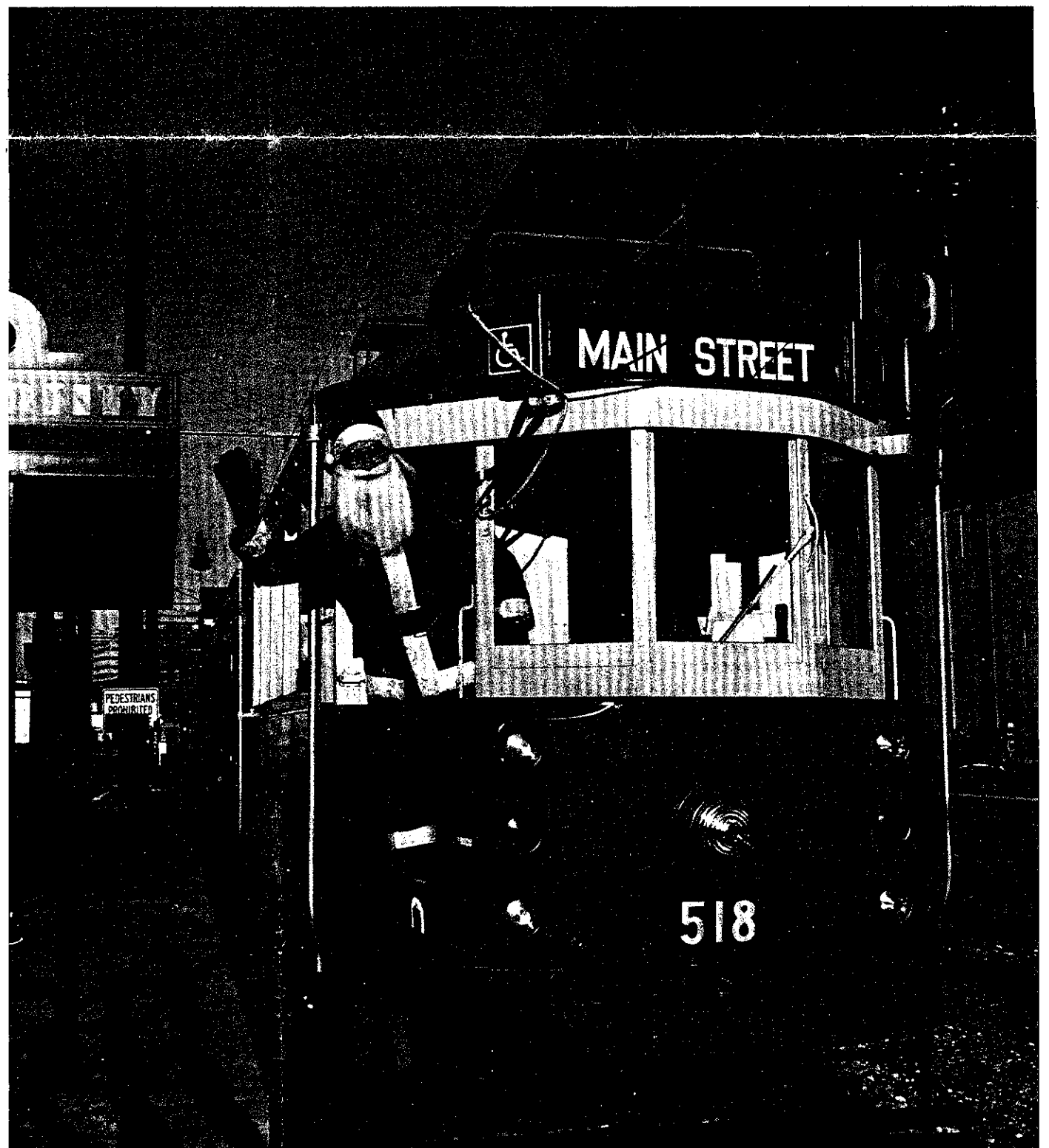
Taxes are paid when income is received by employees—presumably at retirement when participants usually are in lower tax brackets. So employees can reduce their current tax liability while saving for their retirement.

Employees can invest their deferred income in one or more of the following options:

- a certificate of deposit with Rainier Bank earning 9 percent (guaranteed for two years).
- a fixed annuity with Great Northern Insured Annuity Corp. earning 13 percent.
- mutual funds at various interest rates offered by Fidelity Management and Research Co.

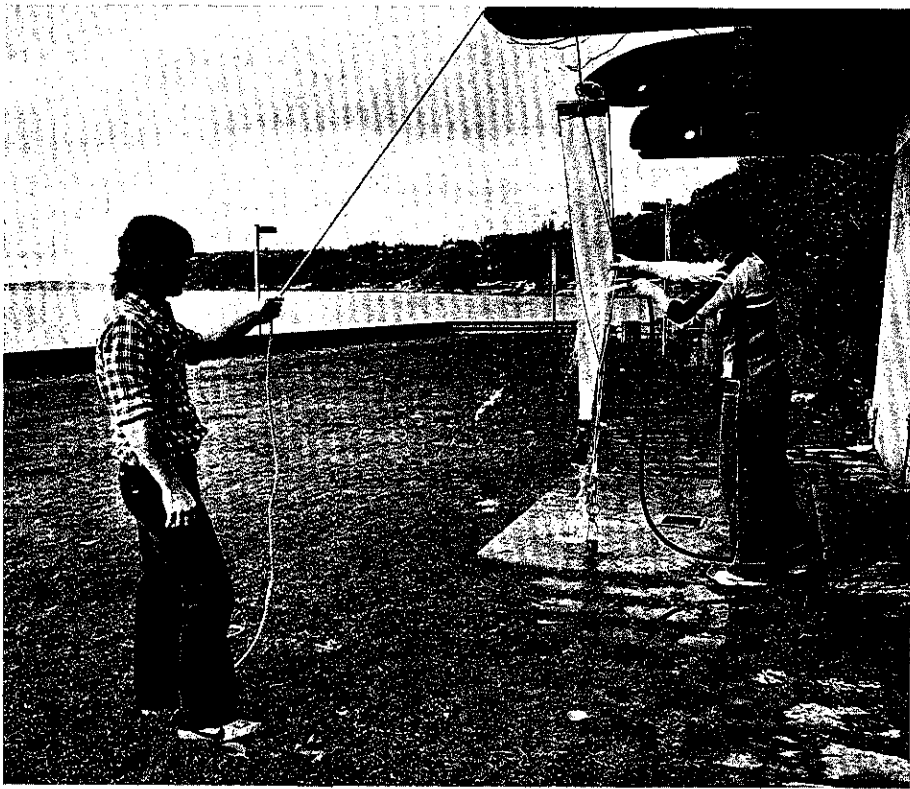
The deferred compensation plan is not for everyone. A long-range savings plan, it should not be used by people without adequate funds for emergencies.

For more information, contact payroll at Ext. 6380. A special video program explaining the plan will be available soon.



Streetcar decked out for holiday

Waterfront Streetcar operator Eldo Kanikkeberg dons a Santa suit to help his passengers get into the holiday spirit.



Seniors Rick Adlum, left, Kennedy High School, and Cory Miller, Tyee High School, collect zooplankton samples at the marine technology lab at Seahurst Park.

Students get feet wet in Sound study

By Valerie Munzlinger
Communications Intern

High school students enrolled in a special marine technology program are helping University of Washington scientists conduct a Metro-funded baseline study in the Seahurst area.

The three-year baseline study, now in the predesign stage, will help Metro prepare a water quality monitoring program for the Renton Improvement Program.

Lauren Rice, marine technology program instructor, said the high school seniors take daily water and plankton samples from Seahurst near-shore and offshore sites. Students also measure water temperature and salinity.

Metro has been involved in the marine technology program as an advising agency since 1968 when the program was created.

GLEN FARRIS, RETIRING manager of Metro's analysis and field services division, served on the original committee of advising agencies that helped design the program.

Other advisory committee members include commercial fishermen and representatives from the Marine Engineers Union, state Department of Fisheries and the U.S. Navy and Coast Guard.

Twice a year the advisory committee recommends how to tailor the program's curriculum to match the changing marine industry.

"The program was designed to offer students a chance to learn about the field of marine technology and to develop job skills," Farris said.

Tim Sample, a Metro water quality

technician, affirmed the program's value. A participant in the program during his senior year in high school, Sample believes that what he learned provided a good scientific foundation to build on.

"**THE PROGRAM FUELED** my interest in the marine sciences," Sample said. "And was a good way for me to get my feet wet and understand what was going on in the field."

Students enrolled in the marine program periodically tour Metro's water quality laboratory.

"We take them out on a sampling boat once in awhile too," said Ray Dalseg, supervisor of Metro's metals and conventional pollutants laboratory and an eight-year member of the marine technology program's advisory committee.

Going out on a boat in stormy weather gives students a chance to see if marine science is really what they would like to do, Dalseg added.

Brake device helps retard high maintenance costs

Beginning next year brakes on Flyer buses numbered 1600 to 1884 will last longer and provide improved safety, thanks to a device called an electromagnetic brake retarder. The device is made by the Telma Co. of France.

The Telma electromagnetic brake retarder augments the regular, air-actuated, drum-type friction brakes used on Metro coaches. Electromagnets in the retarder—powered by the coach's regular electrical system—resist the rotation of the final drive assembly, causing the vehicle to brake.

"The unit is applied automatically when the driver steps on the brake treadle," said Emmett Heath, management analyst. "In no way does the unit affect the application or braking performance of the regular air brakes."

In fact, Heath said, the brake retarder improves safety by providing an auxiliary brake system. But the primary benefit of the brake retarder is improved brake life.

A test unit installed on a Metro AM General bus in 1979 showed that the retarder can extend the life of brake linings up to 300 percent. Longer brake life means fewer brake relines, which means less money spent on maintenance.

The Telma retarder is not a new device. More than 200,000 units are in service throughout the world.

Water resources section eyes clean water goal

Metro has consolidated its water quality enhancement and water quality monitoring and analysis sections to help fulfill the agency's mission of protecting regional water quality.

The new unit, called the water resources section, has two main goals: management of the freshwater monitoring programs to maintain and enhance regional water quality; and management of a laboratory and field support group.

Carrying out these goals are five programs supervised by Bob Swartz. His staff also relies heavily on the monitoring, analysis and special projects section at 410 West Harrison.

TO FOCUS ATTENTION on water bodies in greatest need of maintenance or improvement, the water resources section categorized rivers, lakes and streams into waters of major and minor concern.

Planners used the ability of selected streams and lakes to support coho salmon as the critical indicator of good water quality.

The streams and rivers monitoring program, coordinated by Dale Anderson, monitors streams and rivers throughout King County.

"We've cut our routine monitoring program from 80 sites down to 44," Swartz said. "We feel we're now giving attention to streams that need it most."

The streams and rivers group also coordinates trouble calls to answer citizen concerns, assists in the sludge program, researches beneficial uses for area waters and supports the Salmon Enhancement Program.

The lakes monitoring program is coordinated by Joanne Davis. Staff used to monitor 30 small regional lakes, but now is concentrating on the near-shore areas of Lake Washington and main body of Lake Sammamish.

THE GROUP ALSO SUPPORTS the sludge program, aquatic plant survey and control work and assists

in special investigations. These special projects include the saltwater intrusion problem in Lake Washington last summer and recent transit development activities.

The estuaries and Puget Sound program staff, coordinated by Tom Hubbard, is developing a plan to maintain and improve the Duwamish River. The group is working with local agencies, citizens, private industry and special interest groups to develop and implement a plan agreeable to all concerned.

Dennis Wilson handles interagency coordination for all water resource section projects and provides support for the Salmon Enhancement Program. Wilson also is responsible for educating the public about Metro's water quality efforts.

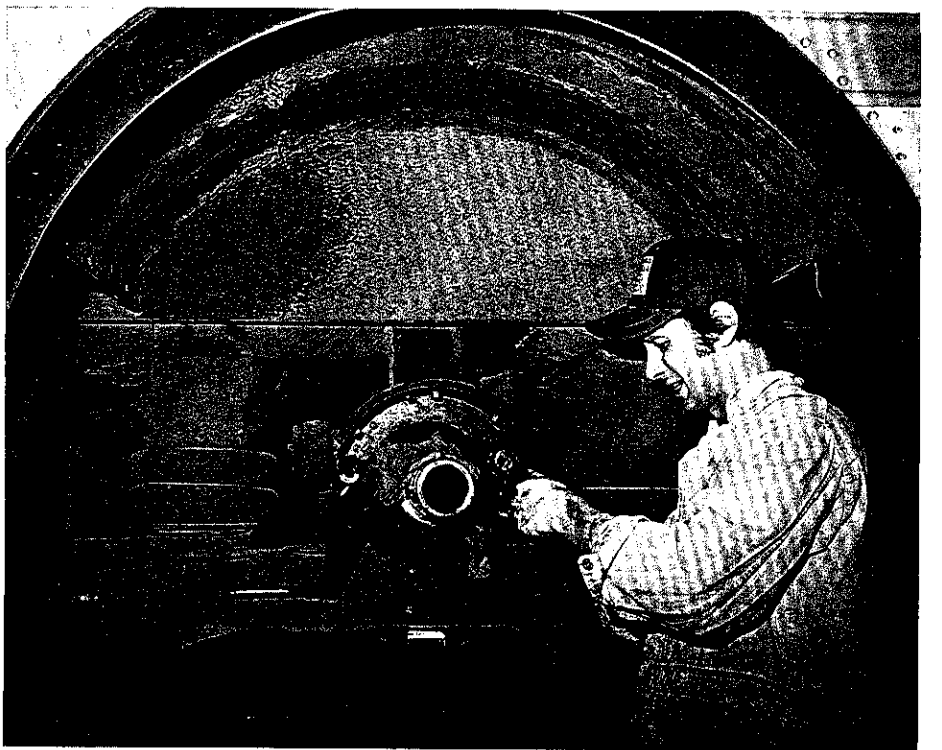
"Wilson's job is key to gaining the interest and awareness needed outside the agency," Swartz said.

THE ENVIRONMENTAL microbiology lab and public health functions are coordinated by Rip Heyward. The microbiology lab at North Seattle Community College provides field and laboratory support to several projects that monitor bacteria, viruses and parasites.

About 75 percent of that support is currently devoted to the sludge program. Staff is also developing a "tagged bacteria system" to trace pollutants through the environment. Further, staff members provide guidance for the University of Washington's baseline study and Metro's Puget Sound facility study.

Swartz believes the new water resources section improves the water quality division's planning, monitoring and analytical capabilities.

"Before, the two sections were physically separated," Swartz said. "Now everyone is consolidated, allowing us to optimize our efforts toward fulfilling the agency's mission of providing clean waters for the Seattle/King County region."



Mechanic Michael Hampshire pulls the brake shoes off a Metro coach at south base. Metro hopes to reduce such maintenance jobs next year when brake retarders are installed on Flyer buses.

Several European manufacturers of transit vehicles and heavy trucks install the retarder on their assembly lines. And some European countries require coaches driving on mountain roads to be equipped with brake retarders.

Heath estimates a cost of about \$2

million to buy and install the brake retarders on 259 Metro buses. Installation is scheduled to begin in February.

"We expect the brake retarders on the Flyer coaches to save nearly \$300,000 a year in maintenance costs," Heath said.

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At Snoqualmie Pass Scan Manufacturing factory representative Russel Bryant, right, packs snow in front of a Metro bus to test how an automatic snow chain system

works in icy weather. Larry Farrell, Metro safety development coordinator, supervises.

Snow chain ready 'On the Spot'

Imagine the convenience of chaining your tires automatically during icy weather from the warmth and comfort of your car.

It sounds impossible, but Metro is testing a revolutionary tire chain system that activates a snow chain at the push of a button. The system, called On-the-Spot Chain, is made by Scan Manufacturing of British Columbia, Canada.

Conventional tire chains now used on Metro buses have several drawbacks. It takes time to outfit the bus fleet with snow chains during snowy conditions. And once chains are installed they must remain on during the entire run or until maintenance crews remove them.

"SAY IT'S SNOWING like a son of a gun before buses go into service at 3 a.m. and a decision is made to chain the coaches," said Scotty Conyne, North Seattle Base supervisor. "If

conditions improve later in the day, those chained buses have to run on bare pavement. That's when chain damage occurs."

THE REVERSE SITUATION is also possible. A snow storm could hit the area after buses go into service. Then drivers must operate without chains in icy conditions.

The On-the-Spot system could eliminate that danger. Chains would be ready when needed.

Here's how the system works. When the driver pushes an electric button inside the vehicle, air flows into cylinders mounted inside each wheel of the rear drive axle. That extends air cylinder rods, which lower the chain wheels.

Each 7-inch diameter chain wheel, made of hard rubber and steel, has six lengths of chain fastened to its outside edge. The chain wheel works much like a generator on a bicycle. Once it

comes in contact with the moving tire it rotates, spinning the chains underneath the tire.

When chains are no longer needed, the driver simply releases the button and the chain wheels return to their original positions.

"Tests on bare pavement show that if the chain breaks, the broken link stays on the ground and doesn't fly off to the side," Conyne said.

Metro also has tested the unit in the snow at Ski Acres on Snoqualmie Pass. Conyne said the unit showed "great potential" in compact snow or ice, but the system did not perform well in snow six to eight inches deep.

It cost \$1,200 to install the On-the-Spot system on the demonstration coach. More tests will take place, Conyne said, before Metro considers trying the On-the-Spot system in actual service. If tests prove favorable, the system's performance would be weighed against the cost of fitting out the bus fleet.

Transit operators of the month have been named for October. Honored are **David Rochon**, central base, five-year safety award in 6½ years of service; **Leslie Joyner**, east base, three-year safety award in 3½ years of service; **Mayo Iverson**, North Seattle base, 16-year safety award in 19 years of service; **Stu Neuman**, Ryerson base, four-year safety award in 15 years of service; and **Bernt Hanson**, 18-year safety award in five years of service at Metro.

The communications division has created a new publication called the *Metro Report*. The November/December issue is now available on bus timetable racks. The newsletter, similar in format to the popular *Rider Report* published from 1972 to 1979, covers both transit and water quality items. *Metro Report* will be available monthly beginning in January.

Joanne Davis, senior project coordinator, and **Terra Prodan**, water quality planner, took part in the North American Lake Management Society's annual conference Oct. 27-29 in Vancouver, B.C. Davis discussed how to predict the effect of increased urban development on small lakes. Prodan reviewed Metro's milfoil control program.

Jane Bogle, public services department project administrator, was one of 12 King County volunteers who attended a Train the Trainers institute this fall sponsored by the Kellogg Institute and United Way's volunteer services department. During the three-day session, Bogle learned how to conduct workshops aimed at helping voluntary, non-profit agency executives and board presidents improve their decision-making and problem-solving skills and develop better board/staff relationships. Bogle has conducted two workshops since completing the program.

Bev Anderson, south base auto machinist, discussed non-traditional jobs for women with students at South Seattle Community College on Dec. 10. Anderson, who also is trained to work on AM General electronic propulsion systems, was invited by the college's Women's Employment Network. Students were scheduled to tour Metro's central base maintenance facility on Dec. 16 to learn what type of environment a transit auto machinist works in.

In the news

Some big issues remain to be resolved, but officials still hope a new transit mall will open in 1986 for buses that will run exclusively on two downtown Seattle streets.

—Seattle Times

Following 13 exasperating years of fruitless negotiations, the United States and Canada may be within two weeks of reaching agreement on sharing the West Coast salmon fishery.

—Seattle Post-Intelligencer

The number of riders on Metro buses and trolleys declined nearly 2 million during the first 10 months of 1982.

Transit director Ron Tober attributed the decline mainly to high un-

employment and lower gasoline prices—the latter presumably prompting more people to drive to work instead of taking the bus.

—Seattle Times

PORTLAND, Ore. — Native fish runs in the Northwest—long depleted by hydroelectric dams—would be enhanced by a \$160 million annual plan adopted as the first step in forming a long-term regional energy plan.

The Northwest Power Planning Council's fish plan calls for increasing the amount of spring streamflow available for salmon and steelhead runs, thus reducing the basic energy supply to the region by about 550 megawatts a year.

—Seattle Post-Intelligencer

Advertisers have a lot riding on Metro

As any observant bus rider knows, Metro coaches provide more than transportation. They serve as rolling billboards promoting everything from social service agencies to fast-food restaurants.

For 29 years Washington Transit Advertising has leased all interior and exterior advertising space on Seattle Transit and Metro buses. On Nov. 18 the Metro Council approved a new three-year contract with the Seattle firm.

Under the previous agreement, Metro received a flat 51 percent of gross sales from WTA. The new contract provides higher annual guarantees and higher percentages of gross sales if total revenue reaches certain levels.

"A survey of 39 major transit sys-

tems showed Metro leads the nation with annual advertising revenue of \$736 per vehicle, compared with a national average of \$417 per vehicle," said Bob Shoemaker, marketing services chief.

WTA employees install ads on Metro buses, doing much of the work between 10 p.m. and 2 a.m., when most coaches are idle. "Signs may stay up for several weeks, a few months or until somebody steals them," Shoemaker joked.

Promoters find bus advertisements a good investment. Exterior signs are highly visible and travel all across King County. Metro's ridership demographics—plus the fact that transit offers a captive audience—makes interior bus cards a good investment.

Light shines in missing person case; Popp flies to the rescue



Transit operators Larry Popp, left, and Don Licht ham it up before a Metro Council meeting where they received recognition for "actions above and beyond the call of duty."

Metro drivers sometimes get the chance to find missing persons but rarely help stop runaway wheelchairs. Two transit operators, however, performed both these deeds and received commendations for "actions above and beyond the call of duty."

At 1 a.m., Tuesday, Nov. 16, Don Licht a 23-year veteran bus driver, sighted a man matching the police description of a 26-year-old resident missing from the Interlake Nursing Center.

Earlier that evening Bellevue police called Metro control center asking if any drivers had spotted the developmentally disabled young man, Gordon Roberts.

"From the police description I knew immediately who the missing man was," Licht said. "He used to ride my bus from Eastgate to Issaquah."

Roberts, missing for more than eight hours, suffers seizures that require medication at regular intervals. Without medication Roberts could be in serious trouble.

"I WAS THROUGH with my last run and heading back to east base when I stopped to check the Montlake Flyer Stop as I always do," Licht said. "There, sitting in the shadows was this individual. I almost missed him. When I saw him the flood gates nearly opened up. It was like finding an orphan in a storm."

Licht invited Roberts aboard the bus and radioed the control center, who notified Bellevue police.

"He seemed to be fine," Licht said. "I'm glad to have helped. It's not like I rescued anyone from a burning building. I'd like to think anyone would have done it."

Through the years Licht has received 45 passenger commendations for courtesy, safety and handling tough situations. He has a perfect

attendance record, received a 20-year safe driving award and was operator of the month in July 1978.

"INCREDIBLE" IS THE BEST word to describe the drama that transit operator Larry Popp found himself involved in on Nov. 29.

He was maneuvering a Route 27 coach up a steep grade on Yesler Avenue near Sixth Avenue South when he spotted a young man tearing down the hill on a runaway wheelchair.

"I knew he was in trouble when the wheelchair veered into oncoming traffic in the eastbound lane," Popp said. "Then when the wheelchair careened off a parked car, I stopped the bus and gave chase."

The wheelchair hit a seven-inch curb, severing the wheels and catapulting the rider, Jerry Giles, from the seat. Giles has cerebral palsy.

"Luckily I caught him in mid-air," Popp said. "It must have come from my baseball days, I could cover a lot of ground."

AFTER THE CATCH Popp's passengers cheered his heroics. A supervisor on the scene assisted Giles, who might have been seriously hurt but appeared unharmed by the experience.

Popp, who works out of the North Seattle Base, began as a part-time operator in 1979. In 1980 he became a full-time driver. He has received a two-year safety award and many commendations for his friendly, personable manner.

The Metro Council honored both Licht and Popp on Dec. 2. Council member Sam Smith applauded their efforts and moved the council prepare a commendation for each driver's personal file for "service above and beyond the call of duty." The motion won unanimous approval.

On the job

Senior operator retires to enjoy life's work

For 25 years Fred Jorgensen has worked in the wastewater treatment field to protect the environment.

Now in retirement Jorgensen, a senior operator at the Renton Treatment Plant, will enjoy the fruits of his labor by hunting and fishing in the Pacific Northwest.

A senior operator has many responsibilities, as Jorgensen will attest.

Daily, the senior operator logs in the pump crews and checks the various flow meters and electrical meters to make sure the system is running smoothly.

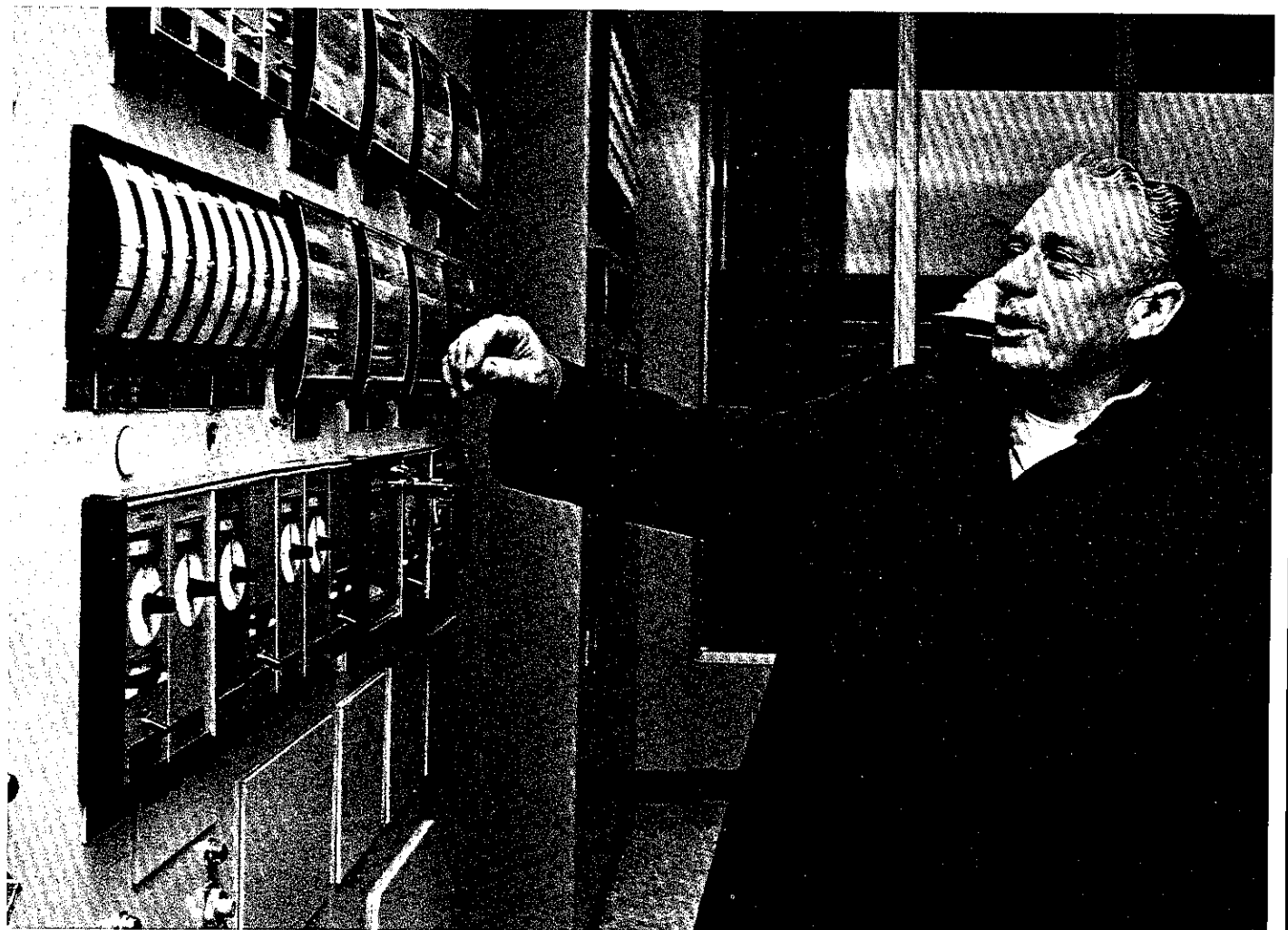
Also, the senior operator monitors the radios and automated equipment throughout the plant. If an alarm sounds, signaling an overflow or other problem, the senior operator alerts the proper crew to respond.

Keeping the plant spotless for safe working conditions also is a routine part of a senior operator's job. Each four-person crew is assigned regular cleaning stations. Crews also handle routine maintenance work such as packing the pumps yearly or as needed.

Other duties include running lab tests, training new employees and filling in for shift supervisors.

"It's a busy job, especially during storms," Jorgensen said. "During heavy rainfall pump station alarms are set off, and if power outages occur we have to send generators out to keep the system operating."

Jorgensen came to Metro in 1962 from Ellensburg, Wash., where he managed the local sewage treatment plant. Before coming to Renton, he worked at the old Lake Hills and Bellevue sewage treatment plants.



Twenty-year veteran senior operator Fred Jorgensen last time before heading out to his retirement party checks operations at the Renton Treatment Plant one

"It was my job to keep those plants running as best possible until Renton was built," Jorgensen said. "Those plants weren't automated so you worked by the seat of your pants."

Jorgensen is proud to have played a part in transforming Lake Washington from an ecological disaster into an environmental success.

"I like fishing and the outdoors,

and that's one reason why I got into this field," Jorgensen said. "I wanted to keep the environment clean so I can enjoy these activities."