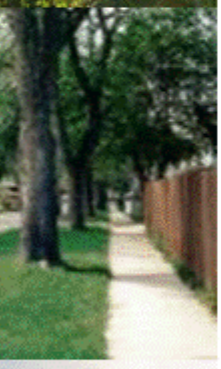


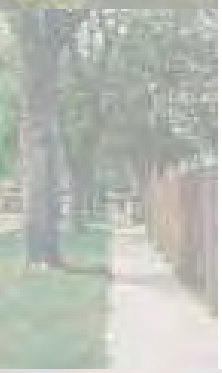
PUBLIC WORKS AND

UTILITIES

CITY OF LINCOLN
NEBRASKA
MAYOR COLEEN J. SENG
lincoln.ne.gov

2006

ANNUAL REPORT



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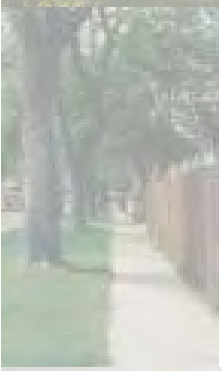


Dear Citizens and City Council Members:

Mayor Coleen J. Seng

As Mayor of Lincoln, it is my pleasure to present the 2006 Annual Report for the Public Works and Utilities Department. This report summarizes the efforts and accomplishments of the department over the course of the last year.

The Public Works and Utilities Department continues to do an excellent job of providing service to the citizens of Lincoln and those that live and work within the Capital City. Whether it be building new roads, providing drinking water, removing snow and ice, managing trash at the landfill, providing mass transportation or safely treating wastewater, the Department works year around to keep our City growing safely and efficiently.

Despite a year of budget cuts, the dedication of the Department's employees never wavered. To provide 14 billion gallons of water to customers, maintain over 2,450 lane miles of streets, 978 miles of sanitary sewers, 69 buses and the second largest landfill in the state, Public Works and Utilities continues to find ways to get the job done.

Public Works and Utilities continues to look to the future for ways in which their work can best be accomplished. Using Intelligent Transportation Systems technology and a central traffic signal control system, creating a Pavement Management System for street maintenance, using new databases to track signs, signals and pavement markings, adding automatic vehicle location to their fleet and the remote monitoring of pumping stations are just some of the ways that the Department is improving their efficiency. Adding to that is the initiative that individual employees take by belonging to professional societies and getting further training in their appropriate fields to stay abreast of the state of the art in public works.

This community can take great pride in the Public Works and Utilities Department. In many areas, it is one of the most advanced in the nation, and as you look through this annual report, I am sure you will agree. Please join me in thanking our Public Works and Utilities employees for their public service to Lincoln.

Sincerely,

Coleen J. Seng

Coleen J. Seng
Mayor of Lincoln

Mayor Seng,
City Council Members,
Fellow Citizens:

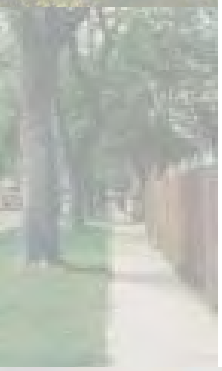
Karl A. Fredrickson P.E.
Director of Public Works And Utilities

I am pleased to submit the annual report of the Public Works and Utilities Department for 2006. This report serves as a valuable reference for the community to understand the department's work.

Several Notable successes were achieved in 2006. The Big T project was completed, linking North 14th Street with the UNL campus and eliminating at grade crossings of the Burlington Northern Railroad. The widening of O Street to 6 lanes continued from 52nd Street to 46th Street. The Long Range Transportation Plan Component of the Comprehensive Plan was also successfully updated and approved by the City Council and County Board.
StarTran carried over 1.8 million riders, nearly an 11% increase in rider ship over the previous year. Floodplain information was updated for more than 90 miles of streams, the Northeast Water Pump Station was upgraded to provide for future growth capacity, environmentally safe disposal of 285,445 tons of municipal solid waste was provided while minimizing the use of landfill space, and nearly $30 million worth of sanitary sewer projects were built.

The greatest challenge faced in 2006 was maintaining productivity in the face of declining budget availability. While the City and the amount of infrastructure needing to be maintained continued to grow, we were challenged to do it with less resources. Repairing potholes, sweeping streets, plowing snow, approving plans for new developments, reducing flood hazards, designing and building new infrastructure are considered necessities by the residents of Lincoln, and by finding new efficiencies and improving technology, we were able to get done most of what was needed.

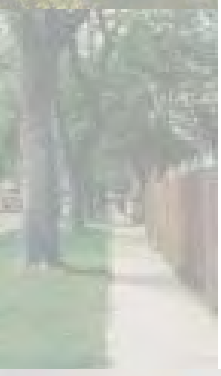
I continue to be immensely impressed not only by the dedication of the men and women of this department, but especially by the quality of work they perform every day. I take great pride in serving the residents of the City of Lincoln with them, and for the many contributions they make to this community.



Sincerely,

Karl Fredrickson
Director of Public Works and Utilities



Mission, Values & Goals

The purpose of the Department of Public Works and Utilities is to serve community growth, well-being and economic success. Working together to provide quality services to our community, we finance, design, construct, operate and maintain:

Municipal Water
Waste Disposal
Drainage, and
Transportation Systems

Our Staff is dedicated to providing our customers these services in a safe, reliable, and cost effective manner. We strive to achieve excellence in everything we do, and are committed to a safe workplace that:

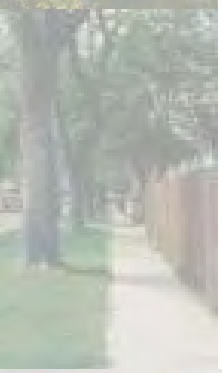
Encourages Open and Honest Communication
Promotes Team Successes
Respects One Another and Values Our Differences
Protects and Improves the Environment
Supports Local Government Partnerships, and
Encourages Public-Private Partnerships.











Engineering Services Division

ENGINEERING SERVICES

LINCOLN, NE






Year in Review

January

The start of the year coincided with the start of the process to put together the new Capital Improvement Program (CIP) proposal. Even though the CIP is not approved by the City Council until August, preparation begins early. Funding estimates were made for the coming six years and the list of needed projects was created. These were then matched up to arrive at a plan with which to move forward. Open houses were held for several storm water bond projects. Design, inspection and management of these bond projects is done within the Engineering Services Division.

February

With the proposed Lincoln Public Schools bond issue, it was necessary to look at what infrastructure requirements would be needed for the new schools. Streets, sidewalks, and traffic signals were identified that would allow students to safely reach the proposed school sites. These needed improvements were then passed on for consideration as the bond issue moved forward.

The project to widen O Street to six lanes between 52nd Street and 46th Street began. Due to the nature of the project and the surrounding land uses, and based on extensive public input and open houses held for the project, it was determined that O Street would be completely shut down for construction rather than being constructed one half at a time. While this may have impacted merchants along the street to a greater degree, the response was that it was acceptable due to the ability to shorten the amount of time that businesses would be impacted by the project.

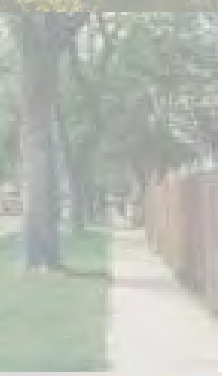
Completed O Street widening

March

Engineering Services held their annual Spring Construction Meeting with over 160 people in attendance. This is a time when contractors, design engineers, utility companies and other construction related personnel can get together with City staff to get acquainted, to get information on the latest changes, ask questions, and prepare for the upcoming construction season.

A second public information meeting was held on the 9th/10th & Van Dorn safety project. Due to the sensitive nature of the project and the impact that it will have on existing park land, keeping the public informed on this important safety project was deemed necessary. Between several public meetings held on this, several changes were made to the project to make the many groups interested in the project more comfortable with the final product.

The calibrated and validated update to the City's 2030 transportation model gained approval. This model is the basis for future transportation planning within the City. Land use data is provided by the Planning Department, then the expected traffic for the future planned traffic network is generated and assigned to the various streets. In addition to extending the forecast period for the model from 2025, this update also moved from an older model software to a newer software package that will allow the City to determine additional information in the future.



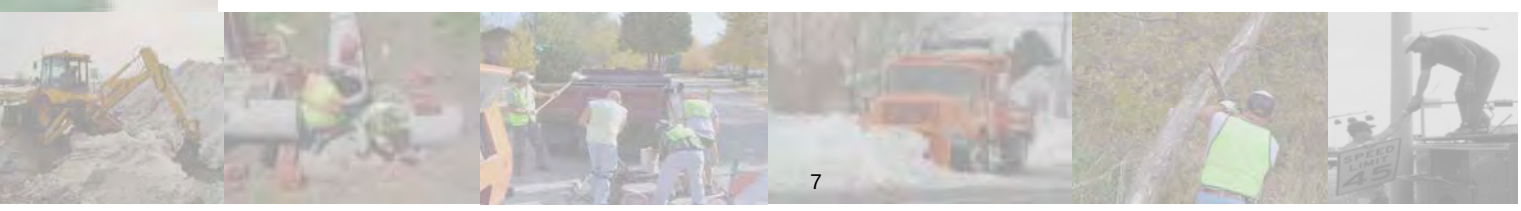
April

As the construction season neared, open houses were held for six upcoming projects: Pioneers Boulevard between 70th and 84th Street; Highway 2 between Van Dorn and 56th Street, including the intersection work at 14th Street; the 50th & R storm drain project; Cornhusker & L55X (56th Street) safety project; the Taylor Park Creek Stabilization project; and South Gate Storm Drainage project.

May

National Incident Management Systems (NIMS) training was provided to all Public Works and Utilities employees. NIMS was developed by the Federal government so that responders from different jurisdictions and disciplines can work together better to respond to natural disasters and emergencies, including acts of terrorism. NIMS benefits include a unified approach to incident management; standard command and management structures; and emphasis on preparedness, mutual aid and resource management. Through the training, Engineering Services staff will be better prepared to work with other agencies when incidents occur.

The City Council in May signed Legislation implementing the "RUTS" Program which establishes public street right-of-way and construction standards, to be applied to the repair, maintenance and construction of streets in the 3 mile zone jurisdiction of the City. This brought to fruition nearly 3 plus years of work by the County and City Engineers.



A project information meeting was held for the Nebraska Department of Roads' Highway 2 project. When initially approached by the State, little thought had been given to how traffic would be handled in this busy corridor. Through the efforts of Engineering Services staff, we were able to get NDOR to agree to do most of the construction work at night. This was a very positive step for motorists using the corridor, but potentially more disruptive to residents along the corridor. By explaining the project and working with neighbors, a greater agreement in the methods to be used on the project were decided.

Highway 2 was overlaid by the State from VanDorn to Old Cheney.

A public meeting was held for the Coddington Street, West A to Van Dorn and the West A, SW 40th to Coddington, and SW 40th Street construction projects. Although neither the West A nor Coddington projects have funding for construction, this meeting helped inform the community of the proposed design so they can take it into consideration if they intend to make improvements to their properties adjacent to these roadways.

June

A series of Antelope Valley project tours were held to allow citizens to see the results of the money that has been spent to-date on this project. These included both bus tours and bicycling tours and were quite popular. These highlighted the work that has been completed with the Antelope Valley project, focusing on all three major points of the project - flood control, transportation improvements and economic development.

July

Engineering Services was key in preparations for the Fourth of July festivities held at Oak Lake Park. Special traffic control, additional fencing, and parking lot lighting additions were a number of the items that went into the preparation for this event. Additionally, Engineering Services staff put in many hours actually working the event to ensure safe and efficient flow of traffic before and after the event.

August

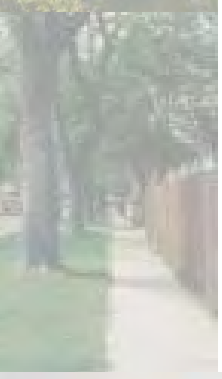
Bike lanes were installed on downtown streets. As the first bike lanes installed on-street in Lincoln, and possibly in Nebraska, these were the subject of much discussion and debate. Bicyclists were generally pleased with the final results, while motorists were not as favorable, due to the loss of vehicular travel lanes. Once all of the users of these streets started to accept the bike lanes, they worked well.

The finished Yankee Hill Road looking east from 27th Street

The six-laning of O Street was completed and opened 9 days ahead of schedule. Very few problems were encountered as a result of totally closing O Street, and the speed with which it was completed justified the additional work that was done with the public prior to the project to gain acceptance of the idea to close the street completely.

Two other major projects were completed in August. The Yankee Hill Road project between 27th Street and 40th opened twenty days ahead of schedule. The project to construct the west and north legs of the Big T in Antelope Valley was also completed. An adjacent pedestrian/bicycle trail was also completed.

Several studies were brought to completion. A Vehicle Occupancy Study, looking at how many people are riding in each car on the street, showed that most of the vehicles on Lincoln's streets have only one person in them. The results showed that very little has changed since the last study two years ago, despite the increase in gasoline prices. A Crash study was also completed, looking at locations around town where a higher than average number of crashes have occurred. This information is used to determine safety projects that will help reduce the number of crashes occurring at those locations.



September

The start of the Nebraska football season meant that it was time to put into operation the traffic control plans that were based on work that began prior to the spring game and continued throughout the summer. With the cut in overtime budgets for both Engineering Services and the Police Department, more of the pre- and post-game traffic control was handled via computerized technology. The result was the smoothest traffic flow ever for games and the fewest number of complaints received.

Pedestrians fill the streets following a Husker Football Game

John Luthy, a nationally recognized Public Works authority, was brought in to work with the various Engineering Services sections to update their strategic management plans. Missions, goals and visions were reviewed and new action plans were put into place to ensure that employees were focused on doing the most important work of the Division.

Two additional Long Range Transportation Plan open houses were held to show the final draft document of the plan to the community. These were designed to allow the public to ask questions and gain more familiarity with the document before it went to the Planning Commission for their review and approval on to the City Council and the County Board.

Antelope Valley construction continued with the start of the P & Q Street bridges. These "dry land" bridges are being built prior to the relocation of the channel which will carry storm water in the new Army Corps of Engineers flood structure. These are expected to take approximately a year to complete.

Phase I of the annual water main replacement project was let to bids. This phase consisted of five sections of pipe, nearly two miles in length. The project was designed and the construction inspected by Engineering Services staff.

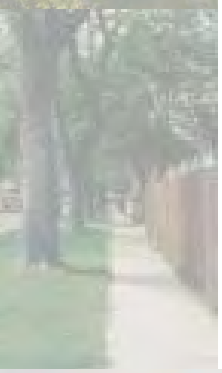
October

A consultant was selected to begin preliminary design of the East Beltway project. The preliminary design was needed to file for corridor protection along the route of the future roadway. This allows the City and County to ensure that development does not occur within the corridor and allows property owners in the area to have a better understanding of where the future alignment of the roadway will be.

The 48th Street portion of the O Street project opened 30 days ahead of schedule. Appreciative comments were received from businesses in the area as to their perception of how the project was handled and how well the City, the contractor and the design engineers worked with them to handle traffic as efficiently as possible during the construction process.

The widening of Pioneers Boulevard between 70th and 84th Street kicked off. The work appeared to be slow at first as utilities were moved out of the way prior to the beginning of the paving work, but that was factored in to the schedule prepared by Engineering Services. The project plans had called for a bridge over Antelope Creek, but the contractor for the project suggested that cost savings could result by instead building a box culvert to carry the water under the road.

An open house was held to discuss the potential to create an assessment district to pave 50th Street from O Street to R Street. This project would assist in the redevelopment of the property in this blighted area.



The reconstruction of four traffic signals along Holdrege was completed. These signals had become a maintenance concern due to the age of the signal poles. The project also installed fiber optic cable to allow interconnection of the signals, bringing high speed communication to the Holdrege corridor.

November

The City Council and County Board approved the new Comprehensive Plan, which contains the Long Range Transportation Plan (LRTP). This was the culmination of the efforts that Engineering Services staff began in updating the LRTP in the summer of 2005.

The City Council approved the sale of $27 million worth of bonds to be used for transportation improvements. The bulk of the money was to go towards building new roads that would stimulate economic growth in the community. Funding was set aside for paving unpaved streets within the urban environment. By shifting some funds from other roadway projects, money was made available to be used for constructing and repairing sidewalks to keep the City in compliance with the Americans with Disabilities Act.

Phase II of the water main replacement project was let to bids. This phase included the replacement of five sections of water line, a total of 3600 feet. The project was designed and inspected by Engineering Services staff.

The Big T Portion of the Antelope Valley project

As the construction season came to an end, several projects were opened to traffic. Completion of the US-77/Capitol Parkway interchange provided a major transportation improvement on the US-77 corridor. This joint Nebraska Department of Roads / City of Lincoln project allows the freeway status of the Homestead Expressway to be extended south to Pioneers Boulevard. The south leg of Big T was also completed and opened to traffic. The $21.5 million Big T project has created a much safer flow of traffic over the Burlington Northern railroad tracks in the 14th Street corridor, while starting a major link in providing north/south traffic flow.

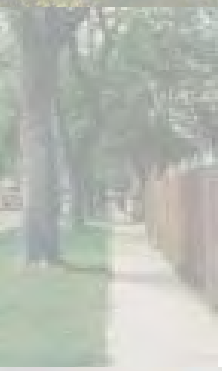
Another completed project was the sidewalk along 10th Street between Saunders and Military. This sidewalk serves the North Bottoms neighborhood and is highly used on Husker football game days. November also marked the completion of a successful residential rehabilitation program. A total of 57 blocks of residential streets were reconstructed through the course of the year. The Pine Lake Road and 56th Street project opened to traffic, allowing development in the area to continue.

December

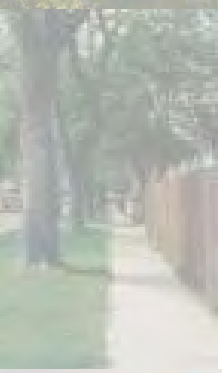
The Federal Highway Administration sponsored Americans with Disabilities Act (ADA) training for the City. This was in response to a complaint filed against the City. Omaha and Norfolk, two cities which have been subject to ADA lawsuits, presented their experiences. Lincoln has proactively worked to resolve the complaint that was filed, moving sidewalk funds around to eliminate the deficiencies that were identified by the complaint.

A public meeting was held for the Harris Overpass project. The replacement of this O Street bridge will have major impacts on traffic when construction starts in late 2007. As a result, individuals, organizations and businesses that will be impacted by the project have been involved in a working group to address issues of concern. The public meeting was held to show the results of the efforts of the working group prior to proceeding to final design on the project.

The final design of the Harris Overpass will include a lengthened right turn lane onto 9th Street.





Exemplary Programs

Special Events Traffic Control

Engineering Services is very involved in traffic control for special events. Thousands of hours are devoted every year to ensure that these events are safe for participants and attendees and that traffic flow before, during and after the events is maintained as efficiently as possible. Events for which Engineering Services provides traffic control assistance may range from street closures for neighborhood block parties to the Lincoln Marathon which winds through much of the community. Other major events for which special traffic control is provided include the annual 4th of July celebration, Husker basketball games, high school football at Seacrest Field, road races, rallies at the State Capitol, the holiday parade and downtown events such as July Jamm and Rib Fest.

As far as scope, few efforts are as involved as planning and implementing the traffic control for Cornhusker football game days. Planning begins in March for the spring game, then continues through the summer in anticipation of the fall season. A fifteen page "game plan" is put together for each game detailing everything that needs to be done. Crews begin setting out signs and hooding meters the day before the game, and work is typically not completed until three to four hours after a game. Changes also must be made to the pre-game and post-game traffic control while the game is going on. At least eleven employees are involved in the work for each game. Over 160 traffic signals run five different timing plans to accommodate the influx and outflow of traffic. These must be set for the particular starting time of every game. We work with representatives of the Police Department, Nebraska Department of Roads, UNL Police Department, StarTran, Nebraska State Patrol, UNL Athletic Department and others. The use of intelligent transportation systems has helped make this smoother in the last few years, with the centralized traffic signal system the City uses and the increased use of permanent and temporary dynamic message signs, as well as the placement of traffic monitoring cameras at numerous locations around town.

School Crossing Safety

Installing a countdown pedestrian head near UNL

Engineering Services is very involved in school crossing safety. In addition to the numerous requests we receive and investigate regarding safety for children going to or from school, there are several on-going programs that focus on the school commute. Safe walking routes and pick-up and drop-off plans for elementary and middle schools (both public and parochial) are annually updated as needed based on any school boundary changes and then placed on the Engineering Services website. A database of sites where traffic control may be needed to aid students in crossing streets is maintained and the locations are annually investigated to determine if changes are warranted. This year the Federal government made funds available for the Safe Routes to School program. Engineering Services has taken lead role in starting the process of applying for funds through this program, identifying potential needs for both physical improvements as well as educational materials. The expansion of the countdown pedestrian head program has also continued. These have proven to be very popular for children to use at school crossings, so we have continued to change out the older pedestrian heads with the newer countdown models.

Driver Education & Truck Driver Education

Engineering Services staff regularly volunteers to attend both driver education and truck driver education programs at Southeast Community College. This is an important opportunity to help educate new drivers and clear up misperceptions that exist in their minds. Explaining things like how a traffic signal operates or that you can't necessarily know when a signal will change based on how many times the Don't Walk flashes helps these students become better drivers. Samples of various traffic control items are taken for the students to see and become familiar with. We have also worked with the instructors to include the new bike lane video which was written by Scott Opfer and produced by the City in their curriculum.






Durable Pavement Marking

Former Mayor Don Wesely put a greater emphasis on ensuring that pavement markings are maintained and visible year-round. Mayor Seng has continued that vision and has continued to increase the durable pavement marking program each year. Pavement stripes that are painted generally have to be replaced twice a year. Paint used to be the primary source of markings used. Through the use of higher quality materials, Engineering Services has now converted most of the on-street pavement markings to the durable type that will last for several years, depending upon the type of street surface. Not only does this ensure that markings such as school crosswalks are visible year-round, it also reduces the amount of time that the City's striping crew must be out in the roadways, meaning less disruption of traffic and less risk being faced by those City employees.

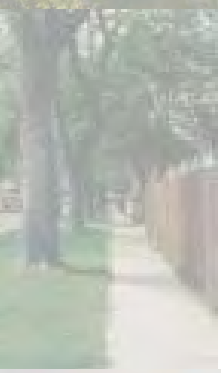
High visibility continental crosswalks installed with durable pavement markings at a school crossing.

Incident Management

Engineering Services has continued to expand our efforts in incident management. We started out several years ago by planning how traffic would be handled in the event of a closure of a major highway due to an incident. Plans were drawn up for every section of roadway that might be closed. These were then reviewed and refined while working with the Nebraska Department of Roads, the Nebraska Highway Patrol, Lancaster County Public Works, Lincoln Police Department, Lancaster County Sheriff's Office and others. Signal timing plans and permanent dynamic message sign placements have continued to allow Engineering Services to quickly respond to emergency closures.

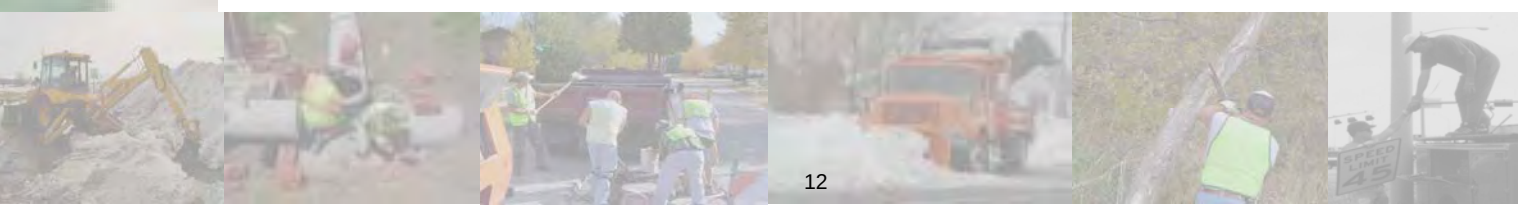
LED Signals

Light Emitting Diode (LED) signals have been used to retrofit the use of incandescent bulbs in more and more traffic signals around town. LED signals provide several advantages over other types of signal lighting. The LEDs use a fraction of the energy used by other bulbs, resulting in large power savings. The LEDs also last much longer than other types of bulbs, meaning that signals now only need to be relamped every seven to ten years instead of annually. This saves manpower and also makes it safer for employees and motorists, since the maintenance of signal heads must be done with a bucket truck parked in a lane of traffic in the roadway. In terms of savings, the electric bill for traffic signal power was approximately $160,000 in 2000 before the implementation of LEDs. In 2005, after installing nearly 6700 LED signals in the previous five years, the power bill for the signals had dropped to less than $100,000, despite the increase in the number of traffic signals and signal heads at intersections throughout town.



Site Supervisor /Field Representatives Certification

The Lincoln Municipal Code states that the Public Works Director is responsible for all work in the public rights-of-way. In light of that responsibility, the City Engineer implemented a procedure to establish a criteria to define a competent supervisor of work within the City's right-of-way. An approval process through testing was created to further that definition. The test varies by the type of work performed: General, Utility/Structures, Pavement/Sidewalk, Landscape/Erosion Control, and Traffic Signal/Electrical. Each individual tests in the area that they expect to oversee. The test highlights certain areas in the General Conditions and Specifications, the Lincoln Standard Plans and Public Works' Guidelines for Traffic Control for which we want to ensure understanding of the various topics. It is also intended to affix individual ownership for the quality and accuracy of the work that these people supervise. The test is open book and has been administered to contractors, utility company crews, City employees, consultant field representatives and others. Through certification, we hope to avoid situations that have arisen in the past costing projects money and extra time due to delays.



Railroad Transportation Safety District

Railroad crossings can be dangerous if they are not properly protected with signals, crossing arms or grade separated. Between 1952 and 1968, 55 people died, 57 were injured and 115 property damage accidents occurred between trains and cars or pedestrians in the Lincoln area. In 1971, the Nebraska State Legislature authorized the creation of the Railroad Transportation Safety Districts (RTSD). This legislation allowed counties a means to fund railroad crossing improvements through property taxes. To date, Lincoln and Lancaster County have created the only RTSD in the State. Between 1990 and 2004, the RTSD collected $36 million dollars in property taxes. Prior to 1990, the RTSD funds were able to be leveraged with over $40 million in Federal Funds for further improvements.

For fiscal year 2006, RTSD funding was used for construction of the Antelope Valley Big "T" project, the design of the Harris Overpass, the Salt Creek railroad underpass west of 1st and J, as well as funding miscellaneous crossing improvements and studies. One of the studies looked at the feasibility of creating “Quiet Zones” along the Burlington Northern tracks that parallel Cornhusker Highway. This study showed promise and may be implemented in the near future

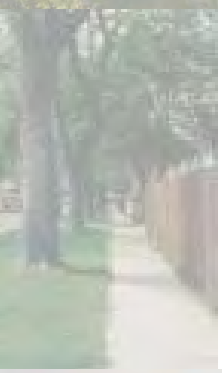
Rural to Urban Transition Streets

Rural to Urban Transition Streets (RUTS) has been a cooperative effort between the City and the County to deal with rural roads on the edge of the City. Rather than working independently on street construction, the City Engineer and County Engineer worked out an agreement on how to handle streets in the City’s fringe areas to minimize costs for both entities.

Typical cross-sections of how roads would be built were developed, taking into account the standard practices of both the City and the County. Differences between the two were minimized to the extent possible, allowing for offset road construction on the initial two lanes of a future four lane facility. This saves costs as well as motorist inconvenience in the future when the widening occurs. In addition to the construction method of the roads, the agreement also includes language on how much right-of-way will be purchased and who will be responsible for doing so in advance of projects.

Pavement Management System

Creating a pavement management system to assist in determining maintenance needs was seen as a high priority. Once the pavement management system is operational, Lincoln will be able to extend the serviceable life of its existing pavements and make optimum use of the funds allocated for street maintenance and resurfacing. Applied Research Associates was hired to assist in this process. The company drove a specially equipped van to acquire high quality digital images of the pavement surface and measure the number and extent of all surface defects on every street in town during the initial data gathering phase. As the data was collected it was entered into a specially designed pavement management software program that has been customized for the City of Lincoln's unique combination of traffic, climate, and paving materials. The software will be used to select the most appropriate maintenance or repair method for each street and the optimum time to conduct the activities over a multi-year period to most efficiently use the limited street maintenance resources.



The City has adopted the philosophy that instead of a fixing the “worst” streets first scenario, maintenance dollars can be better spent keeping good pavements from deteriorating to a poor condition. Less expensive maintenance procedures will be used to extend the life of pavements in good condition rather than entirely replacing streets that have become deteriorated. This should allow for savings in the future as streets last longer and major repairs are needed less often. This philosophy and utilization of the pavement management system will ultimately result in smoother riding, longer lasting pavements throughout the City.

Joint Antelope Valley Authority

Big T

The Joint Antelope Valley Authority (JAVA) is an excellent example of synergism. JAVA is made up of three partners; the University of Nebraska-Lincoln, the Lower Platte South Natural Resource District and the City of Lincoln. Each of the partners had been working independently for years trying to solve storm water and transportation issues but with no success.

Once the three joined forces through an interlocal agreement, the Antelope Valley Project, which consists of storm water, transportation and community revitalization components, began to show progress. Each of the partners has had a vital role and in turn will see many benefits. UNL furnished a large portion of the right-of-way and will see over 50 acres of land available for use when the flood plain is reduced, as well as having reduced traffic through campus. The LPSNRD is paying for the remaining land needed for the channel and in return will have an easily maintained stream that does not flood. The City of Lincoln will have eliminated at-grade railroad crossings, provided better access to downtown and will have new parks and trails as part of the redevelopment.

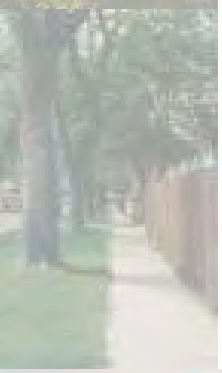
Traffic Signal System /Intelligent Transportation Systems

Lincoln continues to enjoy the benefits of having one of the most advanced traffic signal systems available. Nearly all of the four hundred signals citywide are connected to the system, approximately one-third of them via high speed communication. We have begun using the on-street traffic controllers to count the traffic volumes using existing traffic signal detectors, which will provide better data for use in signal timing. Manual traffic counts are taken annually and signal timings are adjusted as needed. In addition, timing changes are done continually during construction projects which are on-going and effect the flow at other traffic signals. Major street corridors are reviewed every three years, and more often as conditions dictate, to ensure that signals are well coordinated.

During the course of the average day, seven different signal timing plans are implemented automatically by the system. These plans take into account the different traffic volumes and directional flows by time of day to maximize efficiency along a corridor. Alternate timing plans can also take into account special events, such as football traffic or major detours, incidents and inclement weather, as well as seasonal events, such as areas that are effected by higher holiday season shopping traffic.

Since the City's completion of the regional Intelligent Transportation System (ITS) architecture, which was unique for its scope because it included the entire Nebraska Department of Roads District 1 area, Lincoln has continued to remain near the forefront in using intelligent technology. A total of 23 traffic monitoring cameras have been placed on-line for citizens to view traffic conditions prior to leaving home, and the number of people viewing these cameras has dramatically gone up each year. We have successfully used dynamic message signs to notify motorists of changed traffic conditions on projects, for detour routing, and also to notify of upcoming events or open houses impacting roadway projects. Coordinating traffic signal control with railroad crossing devices has remained a high priority. Work began on a cooperative project with UNL to better predict the arrival of trains at a crossing point that could be used to provide advance notice of railroad crossing closures to motorists.

View from the traffic monitoring camera at 48th & O.



Another intelligent transportation system device that is used is a pre-emption device for emergency responders. This device notifies a traffic signal that a fire truck or ambulance is approaching and turns the signal green for the appropriate direction of travel. This allows the emergency responder to get around more rapidly and safely, but the negative aspect of the pre-emption is that the traffic signal system may be out of coordination for ten minutes or more after the fire truck has passed through the intersection.

Safe Kids Coalition

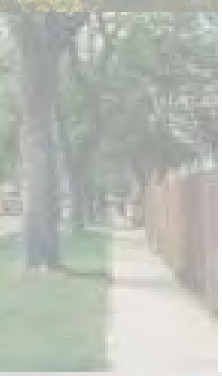
Street Operations staff installing new high visibility crosswalks near a school

Engineering Services is involved with the Safe Kids Coalition, whose purpose is ensuring the safety of pedestrians and bicyclists in the City. Each year this group puts on an educational day at a Lincoln Public Elementary School in conjunction with the International Walk to School Day. It gives us a chance to educate children and their parents on the safe practices of crossing the street so they safely get to and from school. This year we went to Huntington Elementary. The coalition also receives grant money on a regular basis. With some of the grant money this group initiated the installation of countdown pedestrian signals at the intersection of 27th & Holdrege, and installed cameras at the 13th & "F" Street Recreation Center. This group led the effort in 2006 to organize a Call to Action Series for countdown pedestrian signals which aired on Channel 8 News. This was a 10-day long series that aired on the news. It stressed the increased safety that pedestrian countdown signals bring to an intersection and called upon the citizens of Lincoln to donate money towards the installation of these signals.

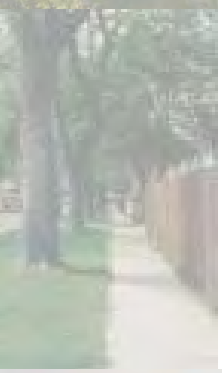
High Crash Location Studies

Each year, Engineering Services undertakes a Crash Study looking at the highest crash locations city-wide. Every collision that occurs is put into a database and those occurring at intersections are assigned to the proper intersection. The intersections are then sorted by those with the highest rates of crashes occurring. Once that data is obtained, engineers study the crashes to determine if there are patterns. Recommendations are made as to how the crashes can be eliminated. When minor improvements are needed (signing, pavement marking, traffic signal improvements) they are quickly made. For projects that require construction or major changes, the projects are budgeted into future Capital Improvement Programs. Virendra Singh has also been very effective at getting Federal Aid funding to help pay for safety projects, typically getting up to 80% of the project costs funded by other sources. Since 1997, over $4 million of safety funds spread out over eleven projects have been brought in for this work.

A benefit to cost analysis is performed on each project to determine its effects. For the crash report completed in 2006, looking at only 18 previously completed projects of various sizes and improvements, it was found that 102 crashes were eliminated per year, resulting in an annual savings of $4.5 million. In addition to making intersections safer for the traveling public, there are other benefits that accrue to the community as a result of this work. Travel delays and detours to avoid crash sites are reduced, less police officer time is spent investigating and reporting crashes, car insurance rates are held down, and the pain and suffering that result from fatal and injury crashes are reduced. Pedestrian and bicycle crashes have also been reduced as a result of this program. In 2005, the latest year for which full data was available, pedestrian and bicycle crashes dropped to near all-time lows.





Certifications & Licenses

Professional Engineering Licenses
Craig Aldridge
Dennis Bartels
Chad Blahak
Kent Evans
Roger Figard
Randy Hoskins
Kris Humphrey
Holly Lionberger
Erika Nunes
Dave Rathjen
Thomas Shafer
Bruce Sweney
Wayne Teten

Engineer In Training Certificates
Alicea McCluskey
Erin Sokolik

Licensed City Street Superintendents
Roger Figard
Bill Nass
Al McCracken

ATSSA Certified Traffic Control Supervisor
Wayne Burcham
Mike Hardekopf
Randy Hoskins
Jerry Morris
Scott Opfer
Kelly Sieckmeyer
Jim Tompsett
Greg Topil
Leroy Uglow

WMD Basic Concepts Trained
Al McCracken
Jay Edmiston
Bub Edwards
Roger Tiedeman
Leroy Uglow
Greg Topil

IMSA Signs & Markings Certification
Wayne Harpin (Level 1&2)
Tim Hunt (Level 1 & 2)
Bob Kunath (Level 1 & 2)
Allen Lee (Level 1 & 2)
Marty Meyer (Level 1)
Paul Rodriguez (Level 1 & 2)
Colin Schumacher (Level 1 & 2)
Doug Schwartz (Level 1 & 2)
Jim Tompsett (Level 1 & 2)

IMSA Traffic Signal Certification
Jeffrey Felty (Level 1, 2 & Inspector)
Stephen Koch (Level 1, 2 & Inspector)
Doug Powell (Level 1, 2 & Inspector)
Kirk Drake (Level 1)
Curt Weber (Inspector)
Wayne Burcham (Inspector)

Terrorism Response Training
Jay Edmiston
Bub Edwards
Leroy Uglow

Traffic Control Technician
Shane Dostal
Jeffrey Felty
Allen Lee
Doug Powell
Doug Schwartz
Erin Sokolik
Greg Topil

Work Zone Safety
Craig Arehart
Dave Bernt
Tom Buechel
Dave Campbell
Nick Castillo
Ed Crouse
Bill Dibbert
Shane Dostal
Kirk Drake
Ron Edson





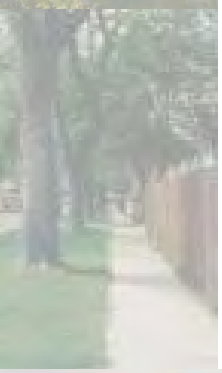

Work Zone Safety
Jeffrey Felty
Greg French
Kurt Frye
Wayne Harpin
Tim Hunt
Larry Jochum
Stephen Koch
Micheal Kramer
Bob Kunath
Allen Lee
Sheila Martinez
Alicea McCluskey
Marty Meyers
Ron Null
Erika Nunes
Doug Powell
John Rausch
Paul Rodriguez
Colin Schumacher
Doug Schwartz
Jim Tompsett
Charlie Wilcox
Warren Wondercheck

IMSA Flagger Certification
Scott Opfer
Greg Topil

American Congress on Surveying & Mapping
Greg Topil

American Concrete Institute / NDOR
Greg Topil

National Incident Management System IS-100
Shane Dostal
Jeffrey Felty
Wayne Harpin
Timothy Hunt
Lawrence Jochum
Maggie Kellner
Stephen Koch
Harry Kroos
Robert Kunath

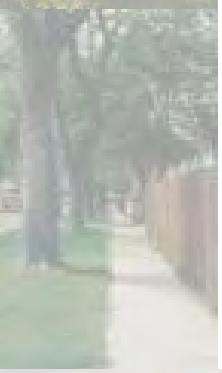


Allen Lee
Martin Meyer
Roger Ohlrich
Doulgas Powell
Paul Rodriguez
Colin Schumacher
Doug Schwartz
Erin Sokolik
Gregory Stohs
Jim Tompsett

National Incident Management System IS-200
Charles Wilcox

National Incident Management System IS-700
Craig Aldridge
Paul Andrews
Charles Baker
Richard Bartek
Dennis Bartels
David Bernt
Robert Bewley
Chad Blahak
Byron Blum
Douglas Blum
Jonathan Brakeman
Michael Brienzo
Bruce Briney
Wayne Burcham
Nick Castillo
Jon Cockrill
Elmer Cole
Amy Cornelius-Jones
Rex Cornell
Julie Dahlke
John Davis
Billy Dibbert
Brian Dittman
Gary Divis
Shane Dostal
Kirk Drake
Larry Duensing



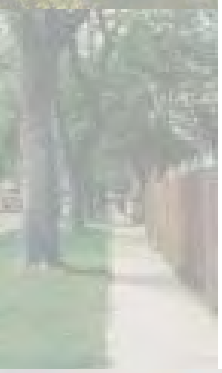



National Incident Management System IS-700 (Cont.)

Ronald Edson
Kent Evans
Steve Faust
Roger Figard
Susan Filipi
Mark Fischer
Charles French
Glenn Funk
Dale Gebhard
Glenna Graupmann
Wayne Harpin
Daniel Hassler
Jeffrey Hertzler
Randy Hoskins
Kristen Humphrey
Timothy Hunt
Shannon Ideus
Lawrence Jochum
Maggie Kellner
Adam Knudsen
Harry Kroos
Robert Kunath
Frank Larson
Allen Lee
Holly Lionberger
Mary Lowe
Sheila Martinez
Richard McBride
Alicea McCluskey
Martin Meyer
Mark Miller
Henry (Sonny) Myers
Katherine Neemann
Erika Nunes
Roger Ohlrich
Scott Opfer
Michael Otte
John Ottoson
Tim Pratt
Tina Queen
David Rathjen
Paul Rodriguez
Andrew Ruder
Colin Schumacher
Doug Schwartz
Thomas Shafer
Kelly Sieckmeyer
Virendra Singh
Erin Sokolik
James Starck
Bruce Sweney
Walter Teten
Stephen Titus
Jim Tompsett
Gregory Topil
Curtis Weber
Charles Wilcox
Warren Wondercheck
John Wragge
Michelle Zuhlke
Jeffery Adams
Craig Arehart
Mark Bahensky
Kenneth Beetem
Ronald Beetem
Randall Benes
Jonathan Binkley
Joshua Blake
Shane Bottorff
Patti Buechel
Thomas Buechel
Rodney Buss
David Buzby
Bennett Cahoon
David Campbell
Sam Chea
Ed Crouse
Carol Dormer
Jim Dormer
Terry Dunn
William Dutton
Timothy Eliker
Frederick Fleming
Pamela Fleming
Angela Frederick
Tracy Galter
Mickey Griffin
Terry Gustafson
Tom Haller
Douglas Hanson





National Incident Management System IS-700 (Cont.)

Amber Hass
Roger Helmick
Kenneth Herel
Steven Kostner
Ken Kuhle
Guy Lahners
Douglas Miller
Jamie Mitchell
Del Moormeier
Jon Mora
William Nass
Wesley Nelson
Kurt Nisley
Harvey Nowak
Ron Null
Gale Ogg
Robert Prange
John Rausch
Elpidio Rodriguez
Jerry Ronhovde
Terrence Ryan
Richard Scholl
Lance Sittner
Parks Smith
Kevin Stangl
Lynn Stangl
Steven Stewart
Greg Stubblefield
Jeffery Stump
Ronald Swanson
Danny Thompson
Roger Tiedeman
Gary Tillman
Timothy VanMeveren
Gary Weger, II
Iris Weger
Randall Winch
Richard Wolfe

Mfg. Radiation Safety Officer Training

Dan Hassler

Mfg. Nuclear Gauge Safety Training

Charles (Buff) Baker
Doug Blum
Elmer Cole
Rex Cornell
Bill Dibbert
Brian Dittmann
Larry Duensing
Ron Edson
Steve Faust
Roger Figard
Greg French
Glenn Funk
Dale Gebhard
Dan Hassler
Frank Larson
Holly Lionberger
John Ottoson
Andy Ruder
James Starck
Bruce Sweney
Charles Wilcox

Hazardous Materials Transportation Training

Rex Cornell
Dan Hassler
Andy Ruder
James Starck

NDOR Field Inspector, Level 1

Nick Castillo
Rex Cornell
Bill Dibbert
Greg French
Dale Gebhard
Dan Hassler
Dick McBride
Mark Miller
Martin Meyer
Andy Ruder
Jim Starck
Warren Wondercheck

FHWA Federal Bridge Inspection Certified

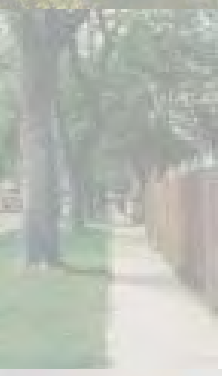
Roger Figard
Bruce Sweney
Erica Nunes
John Wragge
Warren Wondercheck
Elmer Cole
Charles Wilcox
Steve Faust
Nick Castillo
Larry Duensing

NDOR Concrete Plant Technician, Level II

Rex Cornell
Dan Hassler
Andy Ruder
Jim Starck

NDOR/AGC Asphalt Concrete Test Technician

Rex Cornell
Dan Hassler
Andy Ruder
Jim Starck



ACI Concrete Field Testing Technician, Grade I

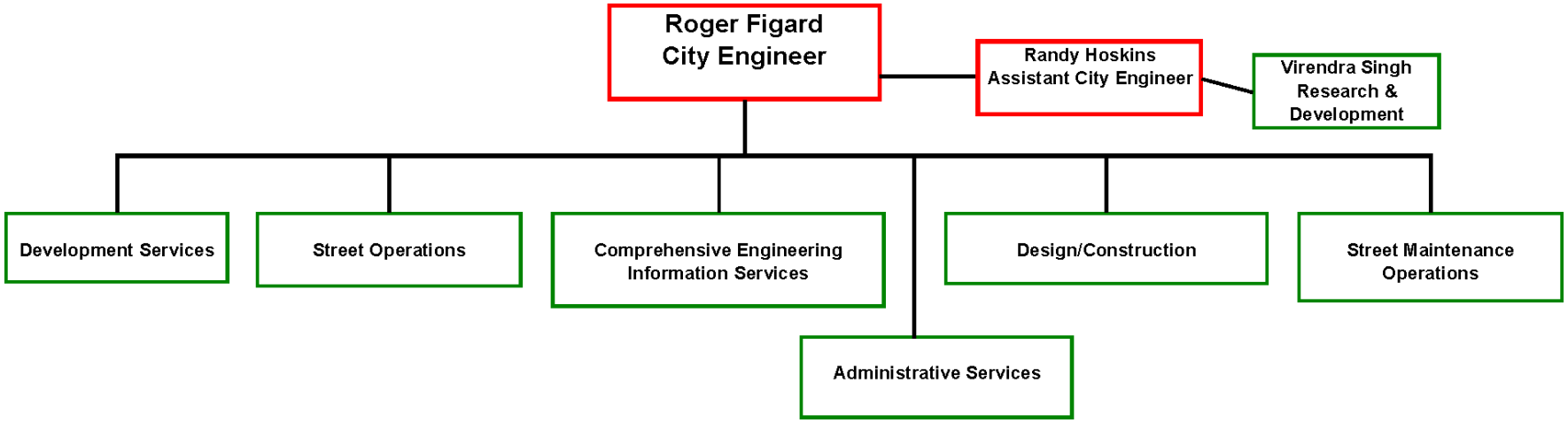
Nick Castillo
Rex Cornell
Greg French
Dan Hassler
Andy Ruder
Jim Starck

ACI Concrete Strength Testing Technician

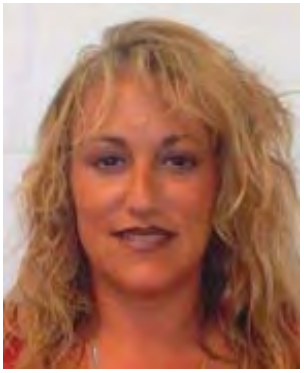
Rex Cornell
Dan Hassler
Andy Ruder

Department of Public Works & Utilities Engineering Services Division

Roger Figard
City Engineer



Administrative Services



Maggie Kellner
Administrative Aide
Engineering Services

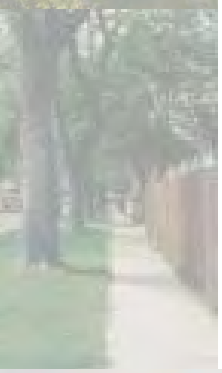
In addition to the typical office support services provided to Engineering Services, the Administrative Services section continued to branch out and expand into new areas. Some of the areas that were added in the past year included: expanded support and efforts for special projects, such as the Food Bank and United Way campaigns; reviewed the Strategic Plan development and identified priorities; developed and updated the Emergency Staffing Plan; provided assistance at presentations and open houses for events such as the Long Range Transportation Plan; assisted with the update of the Standard Specifications: reviewed and updated Affirmative Action and 2005 Recruitment plans; reviewed subdivision / development processing (Permits Plus); coordinated with State and Department staff on updating of the records Schedule for the Department and the RTSD; and assisted with site supervisor and project management testing.

Computerization and technological enhancements were provided in the following areas: continued effort in printing reduction by use of e-mail and scanner equipment; equipment (printers, faxes, scanners) purchases were replaced with copier leases; determined training needs and scheduled sessions (Excel, GIS, Operator Training, etc.); created a new Fleet Services program to provide vehicle budget worksheets.

Carol Dormer
Administrative Aide
Street Maintenance

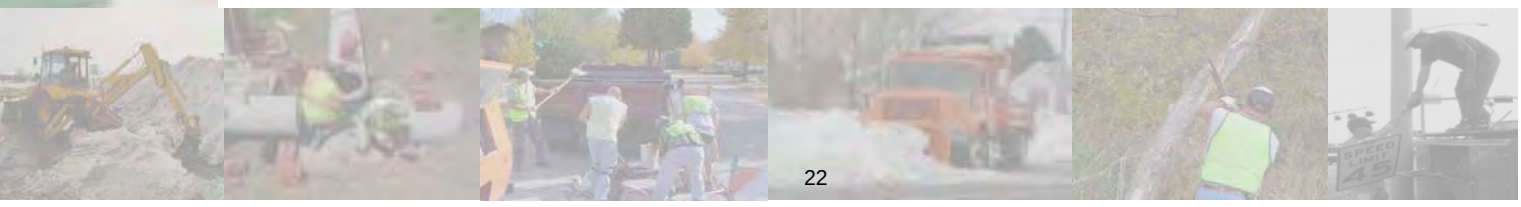
The office area was reorganized due to reduction of one person at Engineering Services. A file area was provided, a new copier replaced old printers, better workflow patterns were provided and a Uniform Call Distribution telephone system was implemented to better handle incoming phone calls. Reassignment of duties occurred due to the hiring of a part-time temporary person at Maintenance to provide additional support and assistance, particularly as related to Watershed Management functions.

Through the course of 2006, this section processed over 925 Executive Orders for the Mayor's signature. These Executive Orders consisted of the paperwork to authorize contracts, to begin new private construction and for the acceptance and release of Sureties and retainers, as well as various other types.



Administrative Services Staff:

Engineering Services: Amy Cornelius-Jones, Glenna Graupmann, Mary Lowe and Tina Queen.
Street Maintenance: Pattie Buechel, Pam Fleming, Angie Frederick, Amber Hass and Iris Weger.



Comprehensive Engineering Information Services

The Comprehensive Engineering Information Services (CEIS) section provides department-wide coordinated responses to information and technology related issues. The initial focus of the CEIS section was on the implementation of Computer Aided Design (CAD) for construction projects and the development of a best-in-class records system. Since then the section has branched out into many other areas of involvement. Currently the CEIS section is subdivided into two sub-sections.

CEIS Records Section

The records section is responsible for creating and maintaining the electronic records of infrastructure improvements and meeting the records retention schedules mandated by state and federal regulations.

One of the most notable projects undertaken this year was the conversion of the official electronic records of the water and storm water systems from CAD to Geographic Information System (GIS) format. The water data conversion was about 90% complete and was by far the most complex and difficult system to convert. Conversion of the storm water system began later in the year. Lessons learned from the water conversion helped the process progress rapidly and will assist the efforts in 2007 as the wastewater data conversion is started.

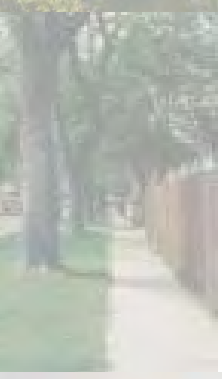
Tim Pratt
Manager of CEIS

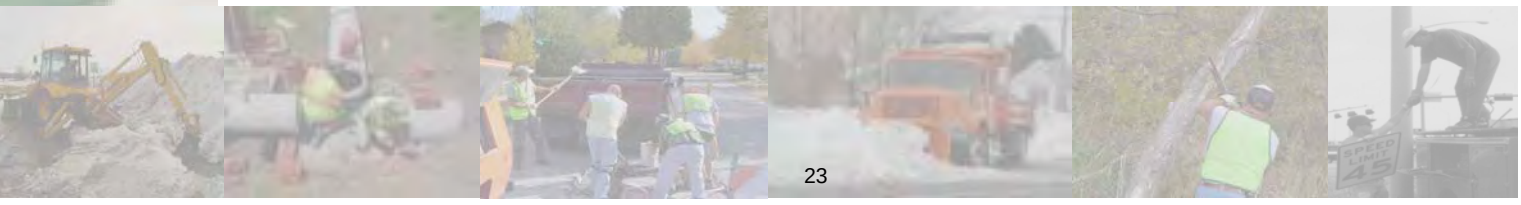
CEIS Technology Section

The second section is focused on technology. Five full time staff members and two shared staff members provide support to users, with 218 directly attached users and another 220 departmental users, 386 computers, 6 servers and over 25 key and unique software programs not supported by the City/County Information Services Division. Last year CEIS installed over 20 new computers and reallocated another 20 to users whose usage was less demanding. CEIS was responsible for the proper accounting and recycling of all computer related equipment. The technology section has grown to support the entire Department's presence on the Internet. Section head Tim Pratt is the Department's representative on the Lincoln/Lancaster County GIS Administration Team and is responsibile for coordinating and purchasing GIS technology throughout Public Works and Utilities. More information about GIS is available at keyword GIS.

CEIS staff adeptly resolved over 2,500 requests for technology support last year. Real time technical support for Public Works and Utilities employees was provided on a nearly 24/7 basis.

CEIS Staff: Ryan Axmann, Julie Dahlke, Mark Fischer, Shannon Ideus, Frank Larson, Kathie Neemann, Tracy Schuppan, Brian Schwinck, Steve Titus and Michelle Zuhlke.

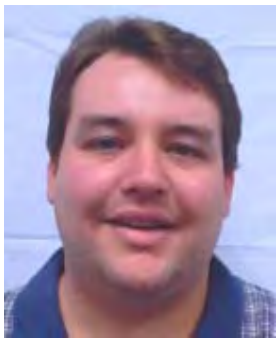




Design and Construction

The Design and Construction section provides a full range of engineering related services for the entire City. When projects need to be designed or inspected, this is the section that is called upon. "Clients" include Water, Wastewater, Watershed Management, Landfill, Urban Development, Information Services, Parks and Recreation Railroad Transportation Safety District, Nebraska Department of Roads, as well as the public and private developments.

In 2006, the section was responsible for working on and managing projects with a total cost of $999 million. They also published a major update to the *Standard Specifications for Municipal Construction* and the *Lincoln Standard Plans*. Creating a new Pavement Management System was a task that was largely completed in 2006, as well. Staff also investigated new construction project management software packages to help in handling the many projects they are tasked with, they also created the *Guiding Principles and Procedures* for Public Works and Utilities which is a project management tool on the internet,which allows City staff as well as outside engineers to gain an understanding of how to properly manage and design a project to City criteria.



Thomas Shafer

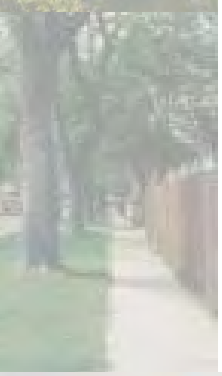
Manager of Design & Construction

The section is also responsible for inspecting City bridges on the Federal Aid inspection list, which includes all structures with a span of 20 feet or greater. This list has grown considerably over the years, both through the construction of new bridges and annexing County bridges. In 1980, the section inspected 77 bridges, in 2006 there were 110 bridges on the list.

Design Services

The design team members take projects from their conception through the bidding process. Skilled staff members can handle the design of nearly any type of infrastructure project. In addition to designing projects in-house, they also manage projects that are being designed by private consulting firms.

This section is also involved in estimating project costs for individual projects as well as for the entire Engineering Services Capital Improvement Program (CIP), which is developed and coordinated in the section. Along with CIP documentation, design team members assemble the Transportation Improvement Program (TIP); State's required 1 & 6-year program, and Railroad Transportation Safety District CIP.



Construction Services

The construction team members take the projects after the bidding process is complete, and follow them through until project final inspection is complete. These highly trained individuals assure that projects are constructed according to the City of Lincoln's standards. Additionally, they are responsible for inspecting private development projects that involve public facilities. Based on daily inspection records, the staff are also charged with making pay requests for contractors on a timely basis.

Laboratory Services

The laboratory team members work with the Construction team members in providing for the testing of materials used in public infrastructure. Testing is done to ensure that proper compaction of earthwork is achieved, and that the asphalt and concrete materials that are used on projects meet the City of Lincoln's specifications.

Survey Services

The goal of the Survey team members is to provide the City with timely preliminary surveys and construction staking for projects, which also includes staking sidewalks and commercial curb cuts for private work done within the City's right-of-way. At the same time, the benchmarks that make up the city-wide vertical control network must be maintained.

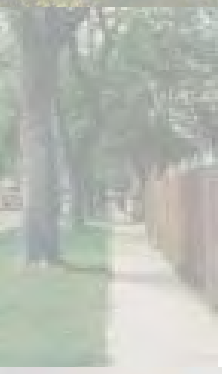
Requests for surveys are initiated by a number of different sources. The City's project designers typically request the surveys, but requests also come from engineers, observers, project managers, the City arborist and the other Public Works and Utilities divisions such as Water, Wastewater, Watershed Management and Landfill.

During 2006, many changes took place, in addition to personnel changes: they started renting Global Positioning System (GPS) equipment to set the control points on larger jobs, which enhanced productivity; conducted their first all GPS preliminary survey; and purchased a new data collector to replace two obsolete data collectors used in the past.

Team Members: Craig Aldridge, Paul Andrews, Rick Bartek, Bob Bewley, Jon Brakeman, Wayne Burcham, Nick Castillo, Rex Cornell, John Davis, Bill Dibbert, Brian Dittmann, Gary Divis, Larry Duensing, Ron Edson, Kent Evans, Steve Faust, Susie Filipi, Greg French, Dale Gebhard, Dan Hassler, Jeff Hertzler, Kris Humphrey, Adam Knudsen, Holly Lionberger, Sheila Martinez, Dick McBride, Mark Miller, Sonny Myers, Erika Nunes, Mike Otte, Andy Ruder, Jim Starck, Bruce Sweney, Curt Weber, Charlie Wilcox, Warren Wondercheck and John Wragge

41st Street before street rehabilitation **41st Street after street rehabilitation**

North South P & Q Street Bridge Jobsite



Development Services

Development Services provides the review comments for the Public Works and Utilities Department for the majority of the subdivision and zoning actions requested through the Planning Department. These reviews focus on assuring that development projects can be adequately served with sanitary sewer, water, streets, access, sidewalks, grading and drainage in accordance with the Municipal Code, Design Standards, and good engineering practices. This section initiates the Mayor's Executive Orders that authorize the construction of the Public Works infrastructure necessary to serve projects and then coordinates the review and approval of the construction plans for these projects. Development Services also monitors and initiates the release of many of the required sureties that have been posted to guarantee construction of required improvements in new development projects.

Dennis Bartels

Manager of Development Services

Development Services initiates legislation and preliminary background information, including preliminary engineering and cost estimates, for the City Council's consideration to create special assessment districts. These districts authorize the design, construction, and assessment of various Public Works infrastructure. The cost of the engineering and construction is ultimately assessed to benefitted property owners. This section also assists in the preparation of the legislation and assessment calculations that are acted upon by the City Council when they sit as the Board of Equalization for these districts. As properties are offered for sale, real estate and title insurance companies are concerned about existing and proposed assessment on the properties being offered for sale. As a service, this section provides research and fills out "real estate forms" providing potential assessment information for companies.

Development Services provides Public Works and Utilities review and approval of commercial building plans for the Building and Safety Department. Comments and reviews are provided concerning parking lots, circulation and access, availability of sewer and water service, and site grading and drainage.

These functions generate numerous contacts with the public, development attorneys, engineers, architects, and builders before, during, and after completion of the projects. Development Services prides itself in providing these services in a customer friendly, professional, and efficient manner while balancing the interests of the developers, citizens and the needs of the Public Works and Utilities operational and maintenance responsibilities.

Development Services Staff: Charles "Buff" Baker, Chad Blahak, Bruce Briney, Elmer Cole and Dave Rathjen.

Long Term Planning*/Metropolitan Planning Organization**

The Long Term Planning/Metropolitan Planning Organization section looks at the future of infrastructure based on how the City is projected to grow. Coordination is provided between utilities and streets in determining how and when projects should move forward for construction. Coordination is also provided between the various organizations that make up the Metropolitan Planning Organization - Lancaster County, Nebraska Department of Roads, Railroad Transportation Safety District, Airport Authority, Health Department, Urban Development, Planning and Public Works and Utilities.

Virendra Singh
Manager of
LTP/MPO

One of the major accomplishments of this section during 2006 was the update of the Long Range Transportation Plan (LRTP) as part of the Comprehensive Plan update. The update was begun in 2005 as the City's existing transportation model was upgraded to a new modeling software package. This provided important data to the LRTP update, which was kicked off with a series of public open houses soliciting information from the community. Work on updating the document was completed in late August, at which point the public approval process commenced, with the document being approved by the City Council and County Board in November.

The section was also responsible for obtaining Federal funding for safety enhancement projects. A report was completed reviewing high crash locations around the City, which identified ways the crash problems could be mitigated. Documentation was then prepared and presented to the State Safety Committee to justify the need for the safety projects. Approximately $954,000 of funding from the Federal government for up to 80% of the project costs was received for three projects constructed during 2006: 14th Street and Highway 2; Cornhusker Highway and 56th Street; and the installation of countdown pedestrian heads in the downtown area. Three other projects have been awarded approximately $1.2 million in funding and are in various stages of the design process: 9th/10th and Van Dorn; 56th and Elkcrest; and the northbound Superior Street off-ramp from Interstate 180. The safety improvements that have been made annually played a critical role in keeping the total number of crashes occurring city-wide at a constant level, despite increases in the number of miles driven within the City each year. This continuous reduction in the crash rate has helped to keep insurance rates lower for City of Lincoln drivers.

Long Term Planning/Metropolitan Planning Organization Staff: Mike Brienzo, Scott Cockrill, and Roger Ohlrich.

Public open house for the Long Range Transportation Plan

*MPO Administration was re-assigned to Planning for fiscal 2006/2007

**LRTP- was re-organized for 2007

Street Maintenance

Street Maintenance is responsible for all the activities in the public right-of-way that keep citizens happy. They repair potholes, replace broken sidewalks and curbs, sweep the streets, mow along streets, and remove snow and ice in the winter. Working out of three shops located around town, they are kept busy throughout the year performing their various duties.

In addition to these items, Street Maintenance does many things which go unnoticed by the general public. They seal cracks in streets, allowing them to last longer. They grind curbs for new driveways or sidewalk ramps, fill and patch holes cut in the street when utility repairs are made, repair and replace damaged guardrails along City streets, flush and maintain medians, put down sand and chemicals when bridges might freeze and become icy, maintain unpaved roads and alleys within the City, including providing dust control on some unpaved streets, inspect, clean and repair storm drain manholes, and spray for noxious weeds.

Bill Nass
Street Maintenance Manager

In 2006, Street Maintenance removed and replaced nearly 3,000 cubic yards of concrete and 4,000 tons of asphalt; ground down nearly five miles of curbs and filled 2,000 cubic yards of holes; maintained nearly nine miles of guardrail and replaced 600 feet of it; swept nearly 21,000 miles of streets, resulting in 7,500 tons of debris being picked up; applied 5,000 tons of sand and 3,600 tons of salt for ice control; placed 1,300 tons of rock on unpaved roadways and sprayed 52,000 gallons of dust control chemicals; inspected and cleaned 85 miles of storm sewer pipe and 31 miles of roadside ditches; and mowed 575 acres of ground seven times over the course of the year while applying 8,750 gallons of herbicides.

Concrete crew putting in a new curb return with ADA pedestrian ramps

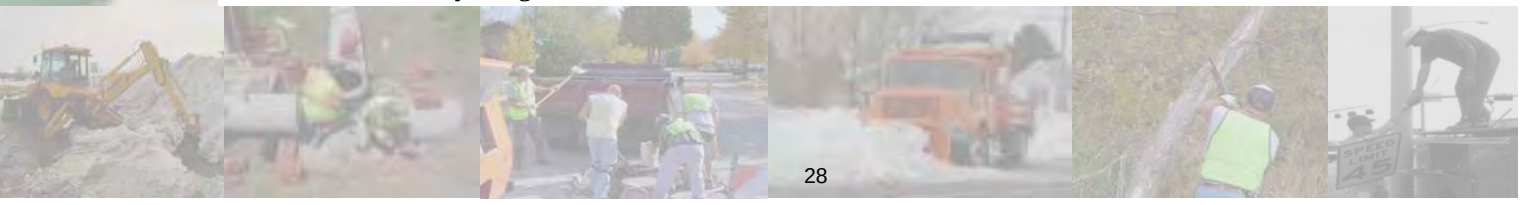
Fleet Services

The Fleet Services section provides the majority of the maintenance of the City's heavy-duty equipment and heavy-duty trucks. They maintain and track the depreciation of 1,096 vehicles with only ten mechanics, responding to 5,000 repair orders per year. They provide fueling services at eight automatic fueling sites throughout the City and dispensed nearly half a million gallons of gas last year while investigating alternative fuel options. Their fiscal responsibility looks at managing the fleet at the lowest operating cost while maintaining high levels of mechanical reliability. This includes disposing of vehicles in a manner that brings the highest possible return on investments, with the average age of the fleet being 9.5 years old.

Fleet Services garage at 901 N. 6th Street

Street Maintenance Staff:

Jeff Adams, Craig Arehart, Mark Bahensky, Kenneth Beetem, Ronald Beetem, Randall Benes, Jonathan Binkley, Joshua Blake, Shane Bottorff, Thomas Buechel, Rodney Buss, David Busby, Bennett Cahoon, David Campbell, Sam Chea, Ed Crouse, James Dormer, Terry Dunn, William Dutton, Andrew Edwards, Timothy Eliker, Frederick Fleming, Tracy Galter, Mickey Griffin, Terry Gustafson, Tom Haller, Douglas Hanson, Roger Helmick, Kenneth Herel, Steven Kostner, Ken Kuhle, Guy Lahners, Douglas Miller, Jamie Mitchell, Del Moormeier, Jon Mora, Wesley Nelson, Kurt Nisley, Harvey Nowak, Ron Null, Gale Ogg, Robert Prange, John Rausch, Elpidio Rodriguez, Jerry Ronhovde, Terrence Ryan, Richard Scholl, Lance Sittner, Parks Smith, Kevin Stangl, Lynn Stangl, Steven Stewart, Greg Stubblefield, Jeffery Stump, Ronald Swanson, Danny Thompson, Gary Tillman, Timothy VanMeveren, Gary Weger, II, Randall Winch and Richard Wolfe.



CITY OF LINCOLN
STREET MAINTENANCE OPERATIONS
NORTHEAST DISTRICT

LEROY UGLOW
DISTRICT MANAGER

John Rausch
Labor Supervisor 1

Roger Helmick, E. O. II	Rich Wolf, E.O. I	Cedric Esquivel, E. O. II	Gale Ogg, E. O. I
Doug Thatcher, E. O. I	Rollyn Friesen, B. W.		Steve Stewart, E. O. I
Seasonal temp			Ron Beetem, E. O. I
			Kevin Stangl, Laborer
			Lance Sittner, Laborer

Utility Excavation, Tamp & Trim Back Utility Cuts, Traffic Control, Set & Maintain Traffic Sets & Permanent Barricades, Grade Alleys & Unpaved Roadways, Vegetation Control, Mow & Spray Islands, R.O.W & Thistle Control

Ron Null
Labor Supervisor 1

Doug Hanson, E. O. II	Leroy Heier, E. O. II
Doug Miller, E. O. I	Jamie Mitchell, E. O. I
Dave Buzby, Laborer	Greg Stubblefield, E. O. I
Seasonal Temp	Eric Seibert, E. O. I
	Gary Weger, Laborer

Removal of Asphalt, Pothole Patching, Crack Sealing, Replacement of Asphalt, Pothole Patching, Crack Sealing

Terry Gustafson
Labor Supervisor 1

Neal Reblin, E. O. II	Ed Crouse, C. F. II	Don Gunning, C. F. II	Ken Beetem, E. O. II
Vacant, E. O. I	Robert Prange, C. F. I	Chris Linke, C. F. I	Jeff Adams, E. O. I
Seasonal Temp	Vacant, Laborer	Kurt Nisley, Laborer	

Breakout, Removal of Concrete Materials, Concrete Replacement of Arterial, Residential Flatwork, Curb & Gutter, Concrete Production, Deliver Concrete by Mobile & Drum Mixer

CITY OF LINCOLN
STREET MAINTENANCE OPERATIONS
SOUTHEAST DISTRICT

AL MCCRACKEN
DISTRICT MANAGER

Tom Buechel **Labor Supervisor 1**	
Tracy Galter, E. O. II	Gene Seibert, E. O. II
Shane Bottorff, E. O. I	Mark Bahensky, E. O. I
Steve Kostner, E. O. I	Josh Blake, E. O. I
Bill Stangl, Laborer	Jim Chapman, Laborer
	Seasonal Temp

Asphalt Paving Maintenance
Crack/Joint Sealing

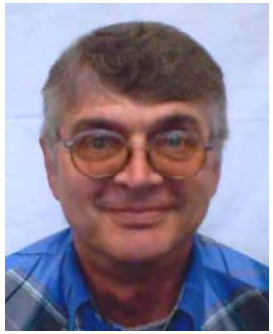
Mike Hardekopf **Labor Supervisor 1**	
Curt Frye, C. F. II	Bruce Ross, E. O. II
Dave Mellick, C. F. I	Ben Cahoon, E. O. I
Steve Null, E. O. II	
Shane Bush, E. O. I	
Jon Mora, Laborer	
Seasonal Temp	

Concrete Paving Maintenance
Curb Grinding & Removal

Lynn Stangl **Labor Supervisor 1**	
Tim VanMeveren, E. O. II	Parks, Smith, E. O. I
Sam Chea, E. O. I	Dan Thompson, E. O. I
Harvey, Nowak, E. O. I	Terry Dunn, E. O. I
Terry Dunn, Laborer	John Wolter, Laborer
Ken Herel, Laborer	Seasonal Temp

Unpaved Road & Alley Maintenance
Mowing

CITY OF LINCOLN
STREET MAINTENANCE OPERATIONS
WEST DISTRICT



ROGER R. TIEDEMAN
DISTRICT MANAGER

Charlie Craig
Labor Supervisor 1
A. M. Shift

Jeff Stump, E. O. II	Dean Fullerton E. O. II	Ron Tillman E. O. II
Howard Blake E. O. I		
Dennis Hall E.O. I		

Sweep arterial streets & central business districts.

Wes Nelson
Labor Supervisor 1

Marcus Rife, E. O. II	Ed Gleason E. O. II	Leonard Fogleman, E. O. II	Jim Farwell E. O. II	Francis Massa, E. O. II
Tim Eliker, E. O. I		Dennis Markowski E. O. I	Jerry Sanford, E. O. I	
Seasonal Temp				

Residential sweeping; alley & unpaved roadway; guardian installation, repair & maintenance

Mike Ham
Maintenance Repair Worker II

Vacant, Maintenance Repair Worker I
Seasonal Temp
Seasonal Temp

Maintain facility, grounds & downtown improvement district.

Gary Tillman Dave Campbell
Labor Supervisor I

Tim Brabb, E. O. II		Steve Bussen, E. O. II
John Bliss, E. O. I	LeRoy Rosenthal P. W. Inspector	Dave Prdmore E. O. I
Mickey Griffin, E. O. I	Elpidio Rodriguez, E. O. I	Casey Dunn, E. O. I
Tom Haller, Laborer		Jon Binkley, Laborer

Inspect, clean, maintain and construct stormwater inlets and outflow points, vegetation control.

STREET OPERATIONS

Street Operations staff continue to provide an invaluable service to the citizens of Lincoln. The goal of this section is to see that traffic moves safely and efficiently around town, whether it is by car, truck, bike or on foot. Major duties of the section include installation and maintenance of street signs and pavement markings, traffic signal maintenance and timing, parking meter maintenance, permitting for events and oversized loads, development review as related to the transportation system, sidewalk inspection, crash record keeping and intelligent transportation system maintenance and implementation.

Scott Opfer
Manager of Street Operations

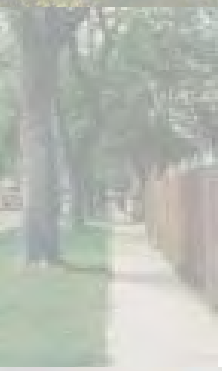
The key component of all the section's activities and the primary focus for Street Operations is "Safety" for the traveling public. A decline in the city-wide vehicle crash rate for the 21st consecutive year was a true indication of this service. Additions and modifications to traffic signals, markings and signs were done to address traffic crash patterns; sidewalks were added and repaired in many locations along with the installation of wheelchair ramps across the City to provide for a more accessible pedestrian system; and management of event traffic for numerous special events, such as the Nebraska National Guard Air Show, the 4th of July Celebration at Oak Lake, Lincoln Marathon, Star City Holiday Parade and University of Nebraska football games, all helped to add to the quality of life here in Lincoln.

The 14th and Highway 2 safety project not only addressed safety of traffic, but also assisted in improving capacity at this very busy intersection. One major success of this project was in the coordination with the Nebraska Department of Roads (NDOR) project which conducted paving repair and a complete overlay of Highway 2 from Van Dorn to 56th Street. The unique thing about this project was that for the first time, much of the work was completed between the hours of 6:00 pm to 6:00 am. This allowed all lanes to remain open during the peak times of the day and minimized many detour related problems that most projects experience, namely increased traffic congestion and crashes related to the congestion. This method of construction was a great success in terms of typical detour related problems, and was also completed one month earlier than originally anticipated.

Street Operations implemented the first bike lanes ever to be installed in Nebraska, though not without controversy. These lanes were installed in the downtown area on 11th Street from Q Street to K Street and on 14th Street from R Street to K Street and have been accepted with mixed reviews by the traveling public. Continued evaluation of these new bicycle facilities will assist the City in making the determination on whether or not to expand this program.

A bicyclist uses the bike lane on 11th Street

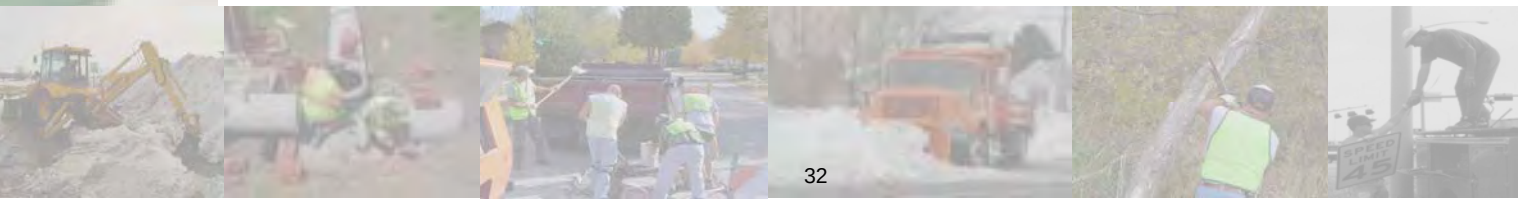
Other areas where Street Operations staff were heavily involved included working with the City Information Services staff to provide better high speed communication to various City agencies located in facilities across Lincoln. Through coordination with others, fiberoptic and radio communication was shared, meaning a higher level of service was provided to all users at a lower cost than would have otherwise been incurred. Continued efforts to address vehicle and pedestrian issues as they relate to completion of the Antelope Valley projects, major durable pavement marking projects which improved the lane lines on several city streets and continued efforts to deal with planned and unplanned incidents which affected the roadways in and around Lincoln were other major areas of efforts for the section.



Street Operations Staff: Dave Bernt, Byron Blum, Shane Dostal, Kirk Drake, Jeff Felty, Glenn Funk, Wayne Harpin, Tim Hunt, Larry Jochum, Steve Koch, Harry Kroos, Bob Kunath, Allen Lee, Alicea McCluskey, Marty Meyer, John Ottoson, Doug Powell, Paul Rodriguez, Doug Schwartz, Colin Schumacher, Kelly Sieckmeyer, Erin Sokolik, Greg Stohs, Jim Tompsett and Greg Topil.

Street Operations staff prepare to paint the bike lane markings

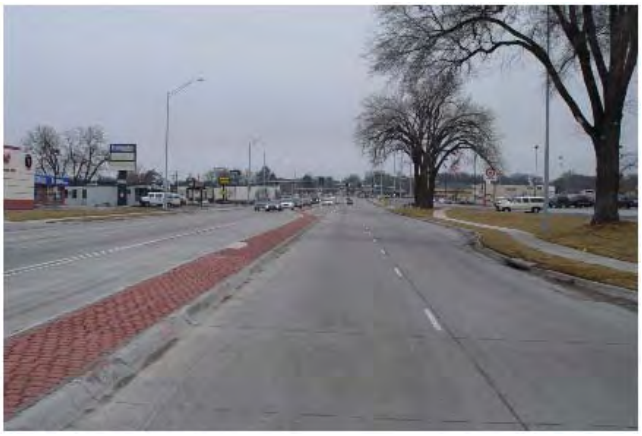
Responding to a signal pole knocked down in a crash.



Projects

Completed Projects

Completed O Street Widening near 48th Street



48th Street Widening north of O Street

Cornhusker Hwy safety project at L55X (56th)

27th Street & Old Dairy Traffic Signal

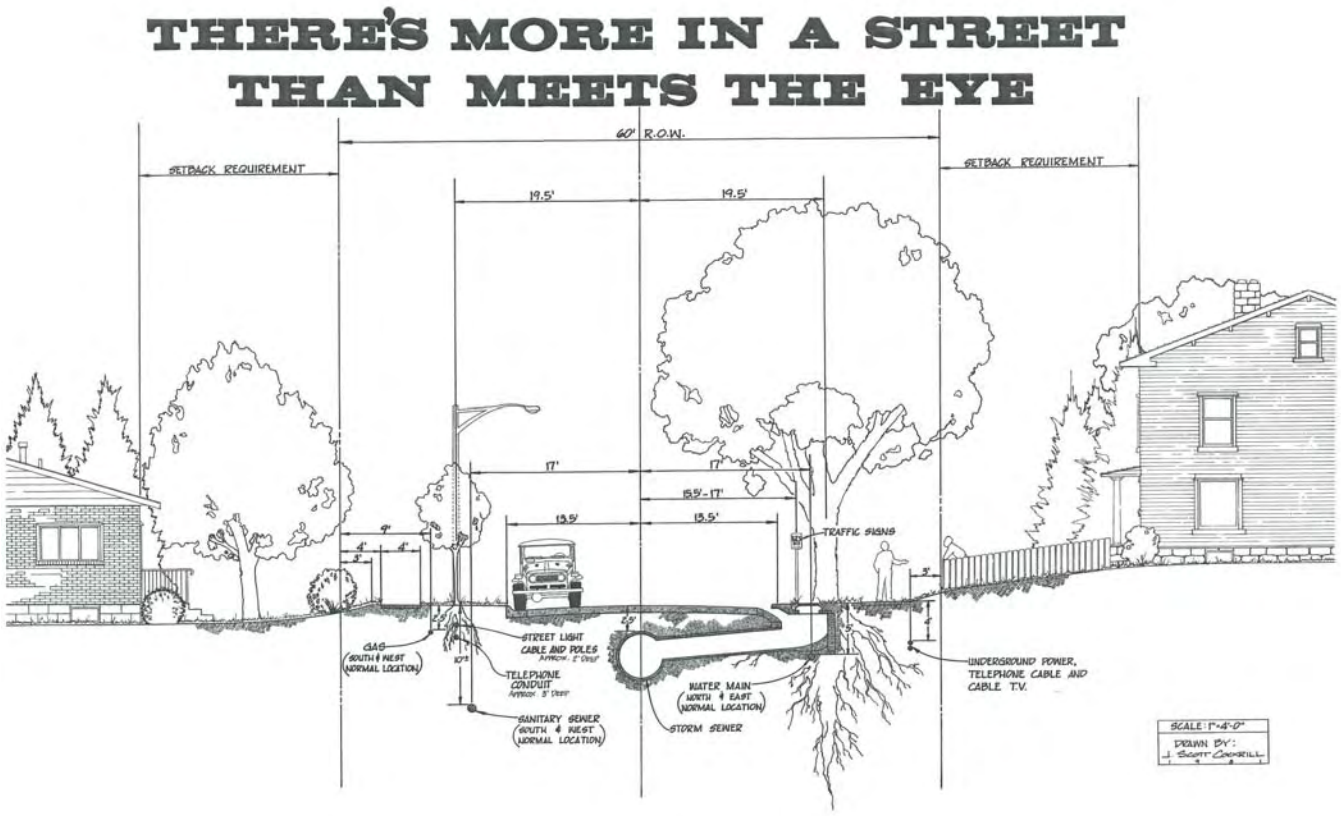
10th Street sidewalk over the Salt Creek Bridge

The installation of a new water main in Fletcher Avenue

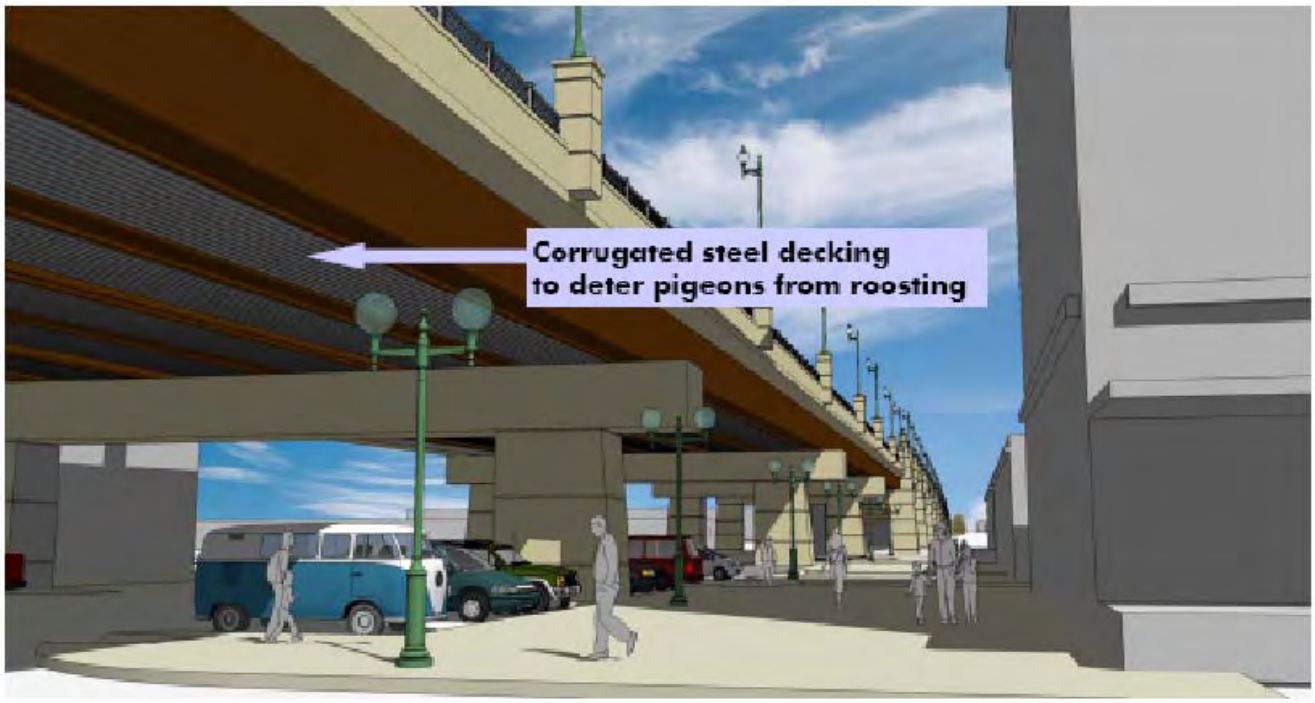
US-77 & Capitol Parkway Interchange

The new interchange at US-77 and Capitol Parkway was a joint City / Nebraska Department of Roads project.

Future projects along US-77 will continue adding interchanges at all intersections from I-80 to the South Beltway, providing for a safer roadway.



People often wonder why a construction project takes so long. What they typically don't realize is that there are often utility conflicts or aging utility lines that need to be replaced so that the street doesn't need to be torn up again later to fix them. This diagram shows some of the items that are typically found within the public right-of-way.



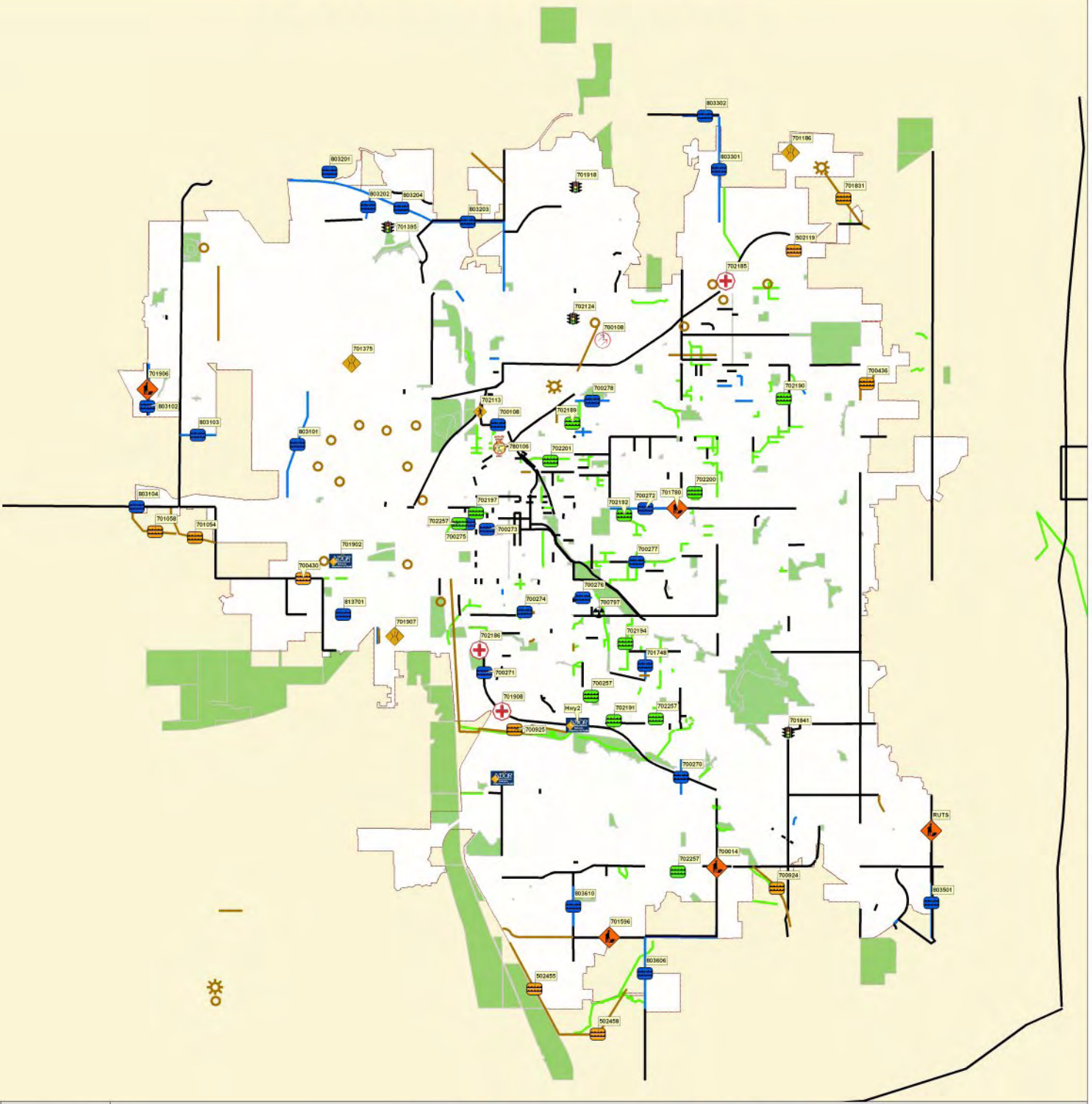
Proposed view from the underside of the new Harris Overpass on O Street

2006 Railroad Transportation Safety District Projects (with Costs)

Antelope Valley (Big T) Construction ($1,200,000)
Harris Overpass Design ($930,000)
Salt Creek Railroad Underpass West of 1st and J Street ($125,000)
Crossing Improvements - Various Locations ($300,000)
Emergency, Safety & Studies - Various Locations ($150,000)

Public Works and Utilities Star City Parade Float

Public Works & Utilities



2006 Construction Projects

LEGEND

- Antelope Valley
- Fiber Project
- Maintenance
- Bridge Project
- Major Road Project
- NDOR Project
- Sidewalk
- Safety Project
- Traffic Project
- Storm Drainage Project
- Waste Water Project
- Water Project
- Engineering Services
- Waste Water
- Water
- Watershed Management
- Elementary School
- High School
- Middle School
- Lincoln Parks

CITY OF LINCOLN
NEBRASKA
MAYOR COLEEN J. SENG

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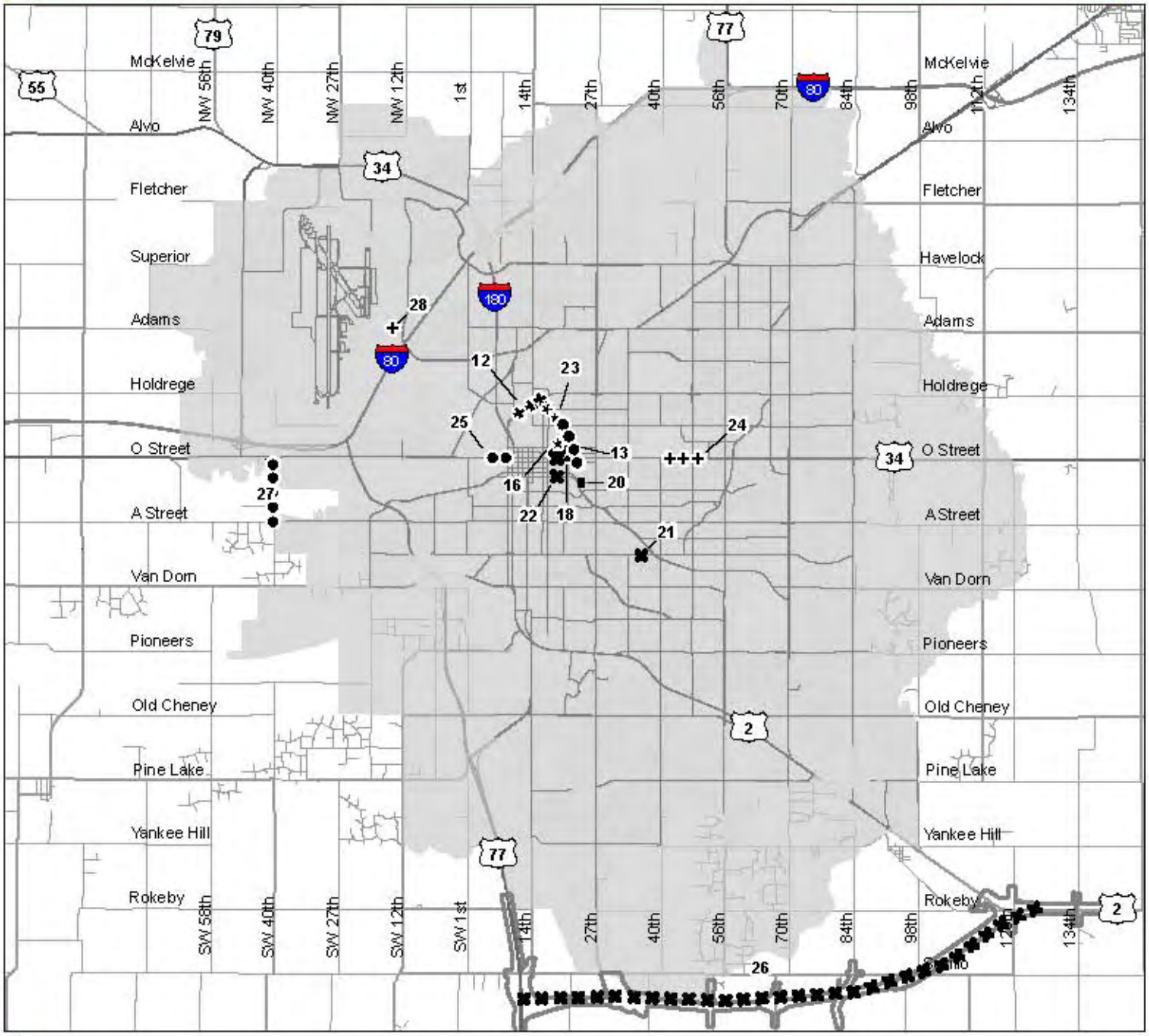
Lincoln CIP 2006-2012

Public Works & Utilities
Streets and Highways



LEGEND

Lincoln's Future Service Limit Shown as Grey

Map Prepared by ES GIS Section

N W E S

Miles 0 1 2 3

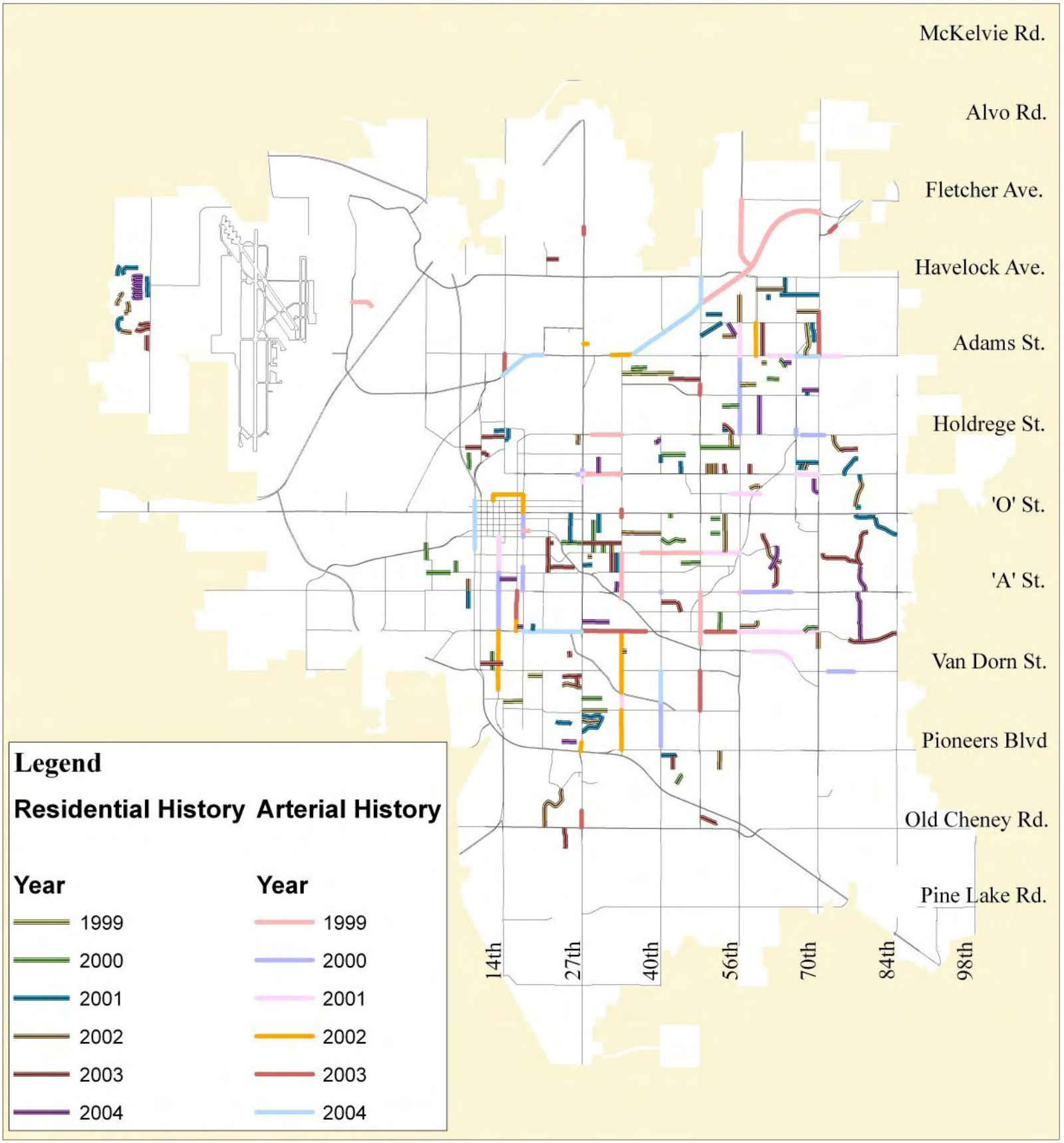
+++++ 2006 - 2007 ★★★★★ 2009 - 2010

●●●●● 2007 - 2008 ▬▬▬ 2010 - 2011

▲▲▲▲▲ 2008 - 2009 ✖✖✖✖ 2011 - 2012

Map Document: (N:\Major Projects\CIP_05-06\ES_CIP_2006-2012.mxd) 01/11/2006 -- 3:41:10 PM

Public Works & Utilities



CITY OF LINCOLN
NEBRASKA
MAYOR COLEEN J. SENG
lincoln.ne.gov

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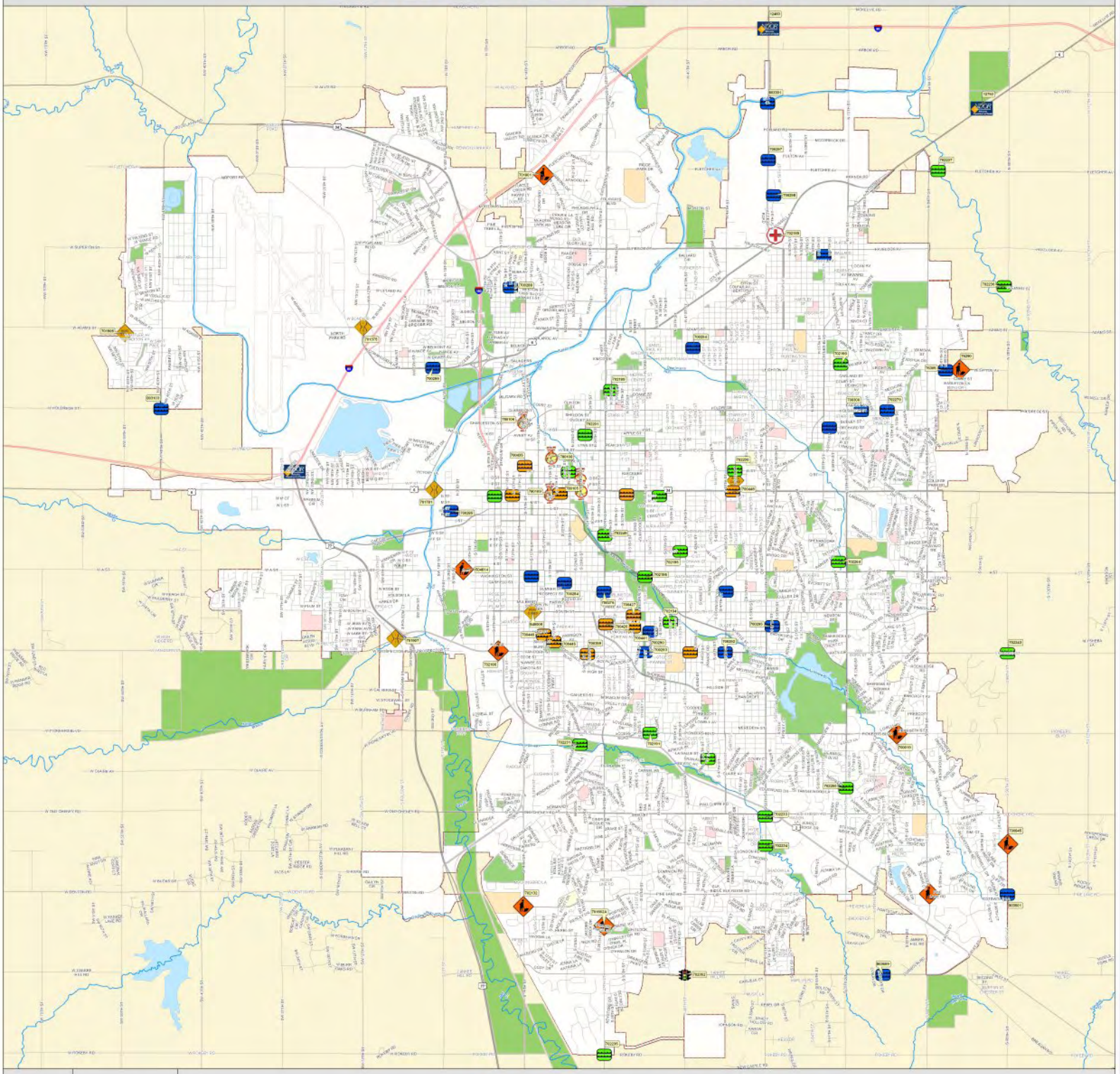
Miles

Street Rehabilitation
1999-2004

Public Works & Utilities



2007 Construction Projects

2007 Projects Project Type

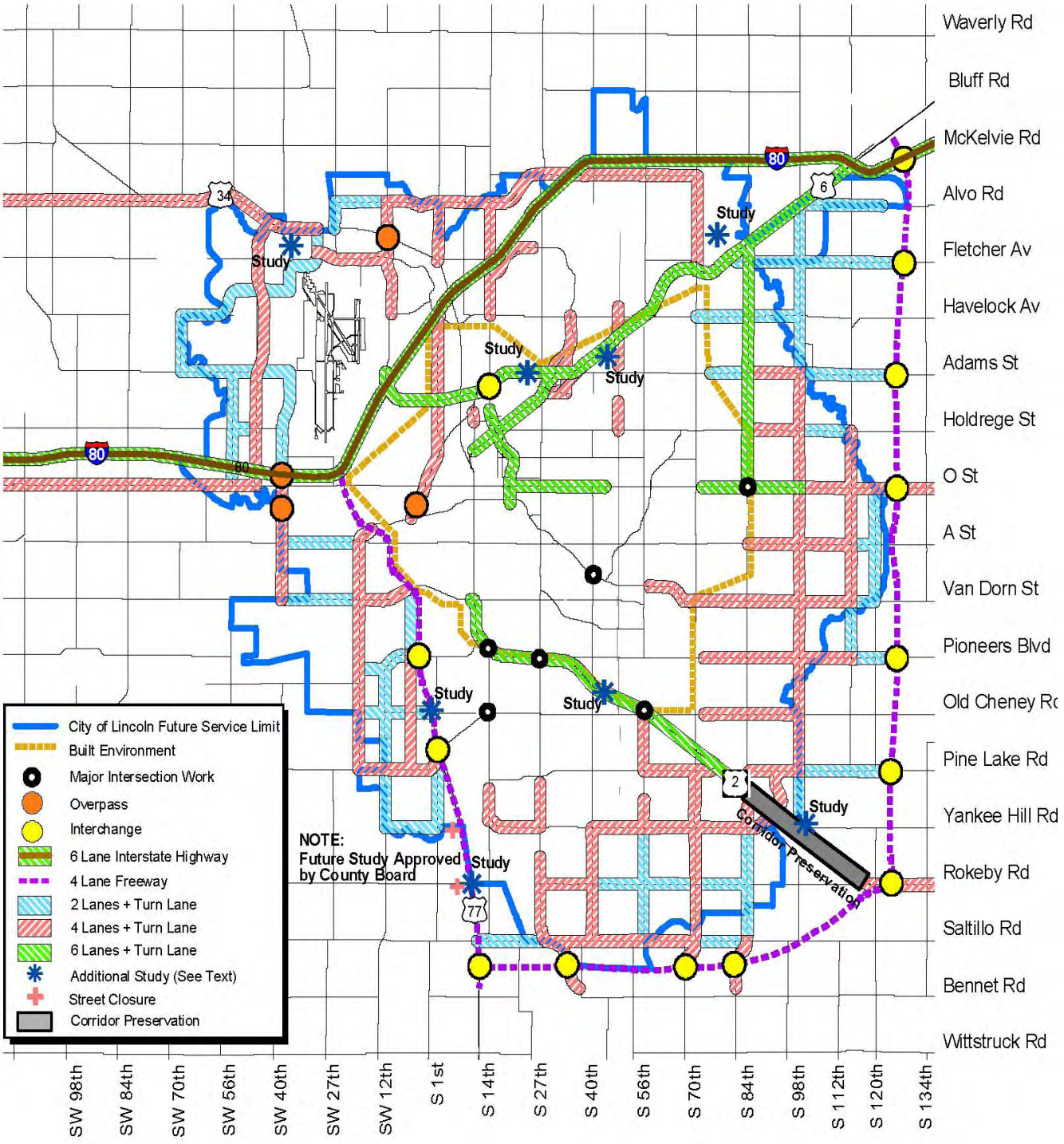
- Antelope Valley
- Bridge Project
- Fiber Project
- Major Road Project
- NDOR Project
- Paving Project
- Safety Project
- Storm Drainage Project
- Traffic Project
- Waste Water Project
- Water Project

LEGEND

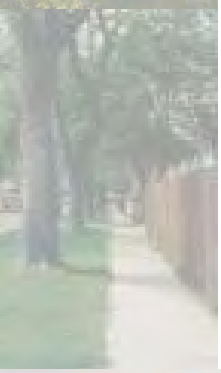
N W E S

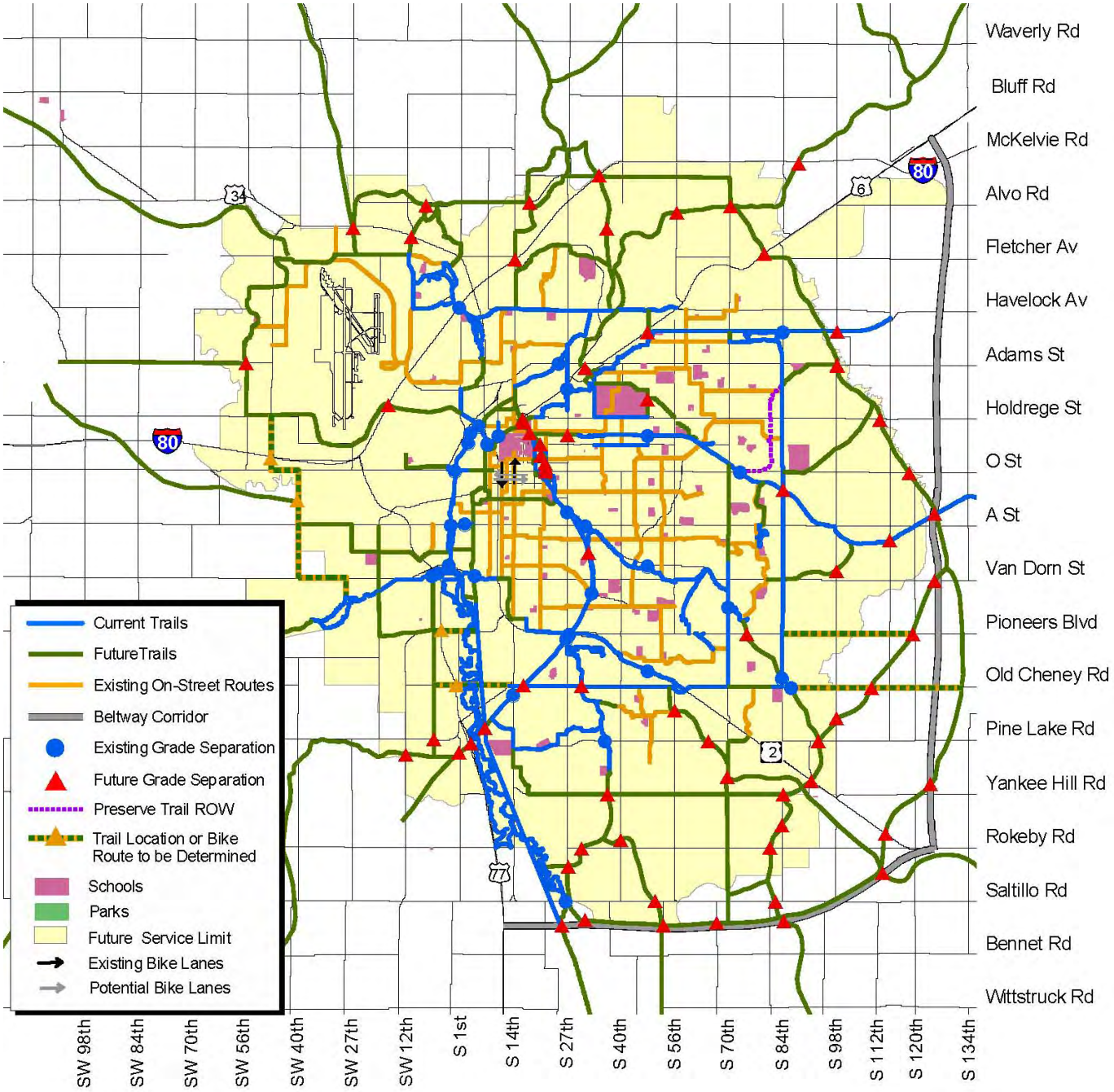
CITY OF LINCOLN NEBRASKA
MAYOR COLEEN J. SENG

0 1 2 Miles



The adopted 2030 Comprehensive Plan shows the future network of streets.

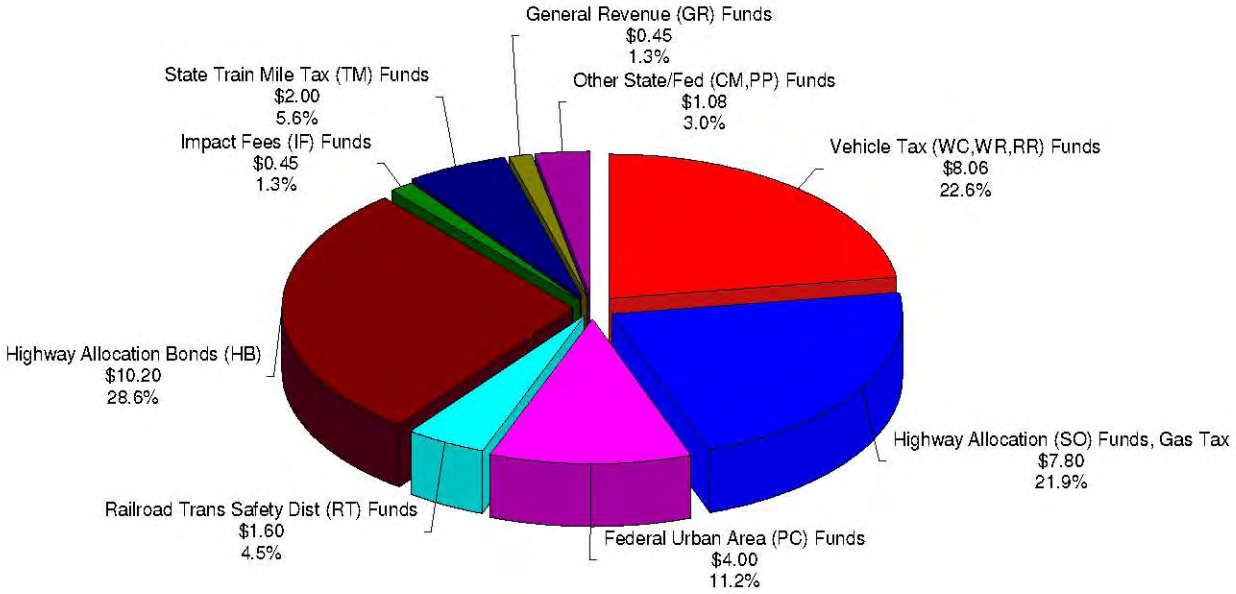




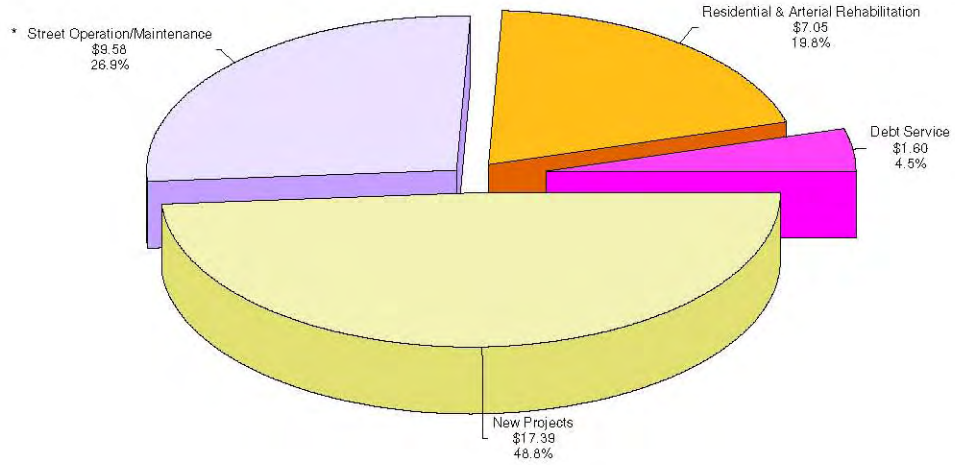
The multi-use trails map from the adopted 2030 Comprehensive Plan

LINCOLN'S STREET & HIGHWAY FUNDING FY-2005-06

ESTIMATED REVENUE



ESTIMATED TOTAL REVENUE = $35.68m



ESTIMATED TOTAL EXPENDITURES = $35.68m

* STREET OPERATION / MAINTENANCE DETAIL

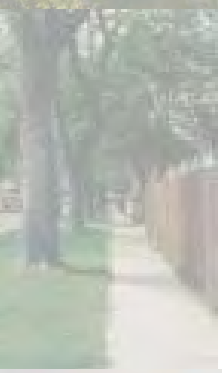
Hwy User Funds (Gas Tax-SO),Vehicle Tax (Wheel Tax-WR) and (GR) for sidewalks

Management (SO)	$4.92 m	51.36%	
Street Sweeping (SO)	$1.00 m	10.44%	
Snow Removal (SO)	$2.39 m	24.95%	includes $250,000 for sidewalks
Snow Removal (WR)	$1.02 m	10.65%	
Sidewalks (GR)	$0.25 m	2.61%	
	$9.58 m		

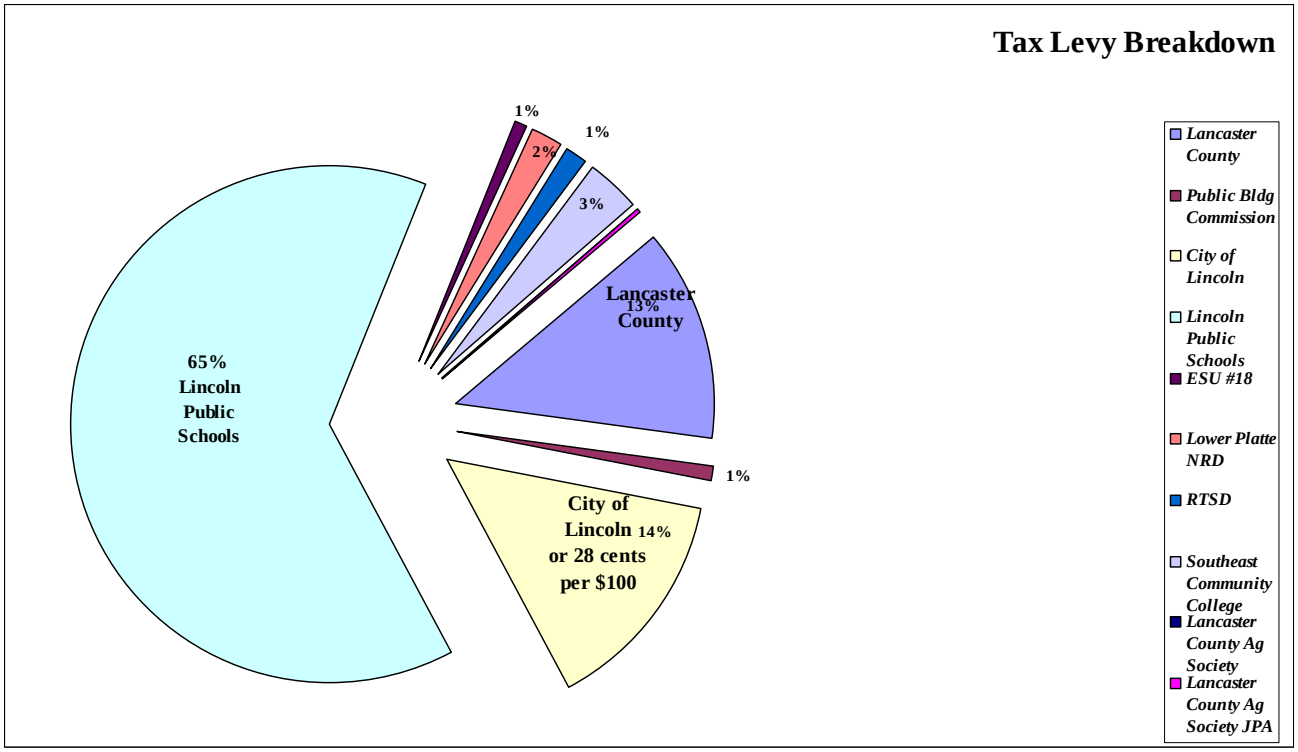
Public Works Department

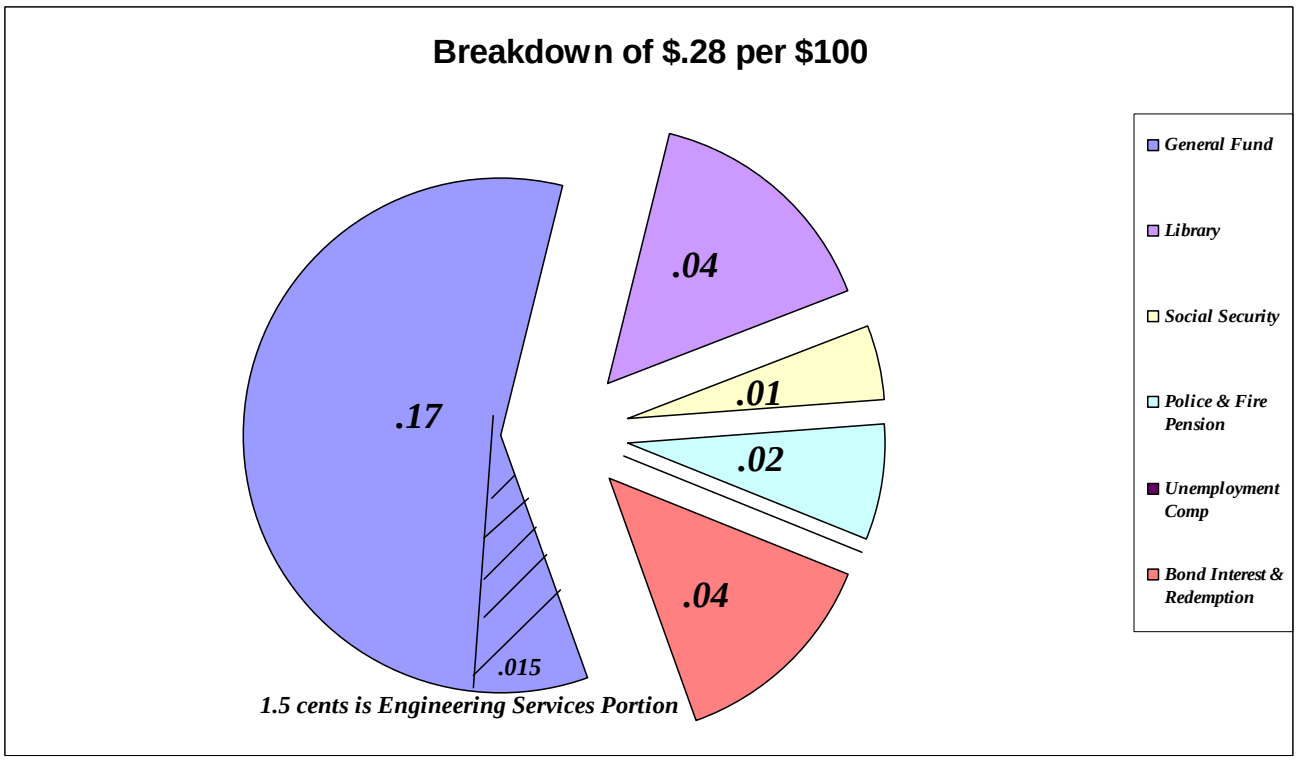
Date: 01-30-2005



Where Your Tax Dollars Go









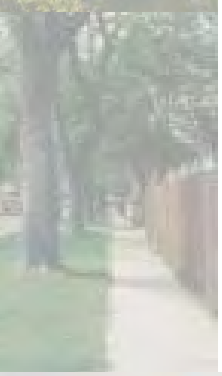

Facts & Figures

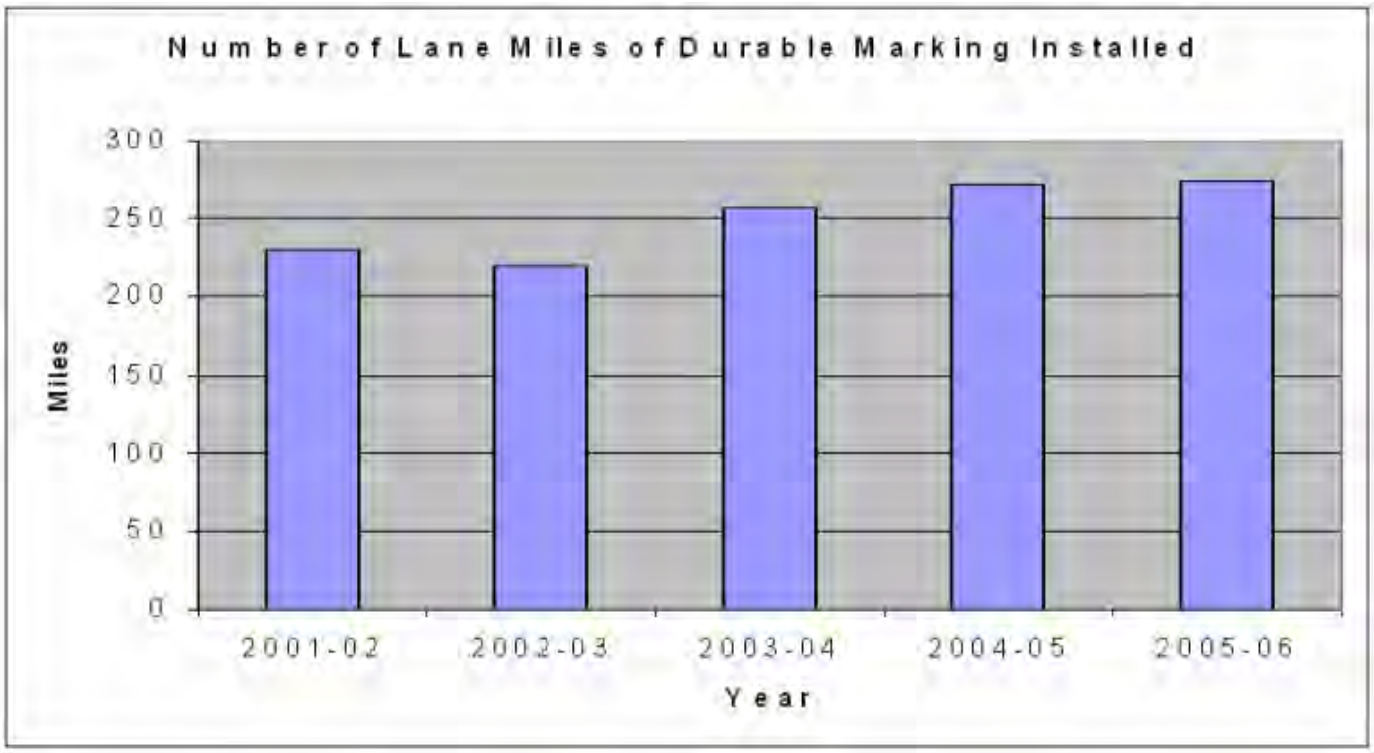
After years of declining numbers of after hour call-outs for knocked down signs, this trend moved back higher in 2005-2006. The number of signs city-wide declined during the period from 2002 through 2005 through cost saving measures that were implemented to reduce budget expenditures. City growth and traffic growth now put the number of signs, as well as the number that are knocked down, back on the rise.

Since 1980 total spent on infrastructure:

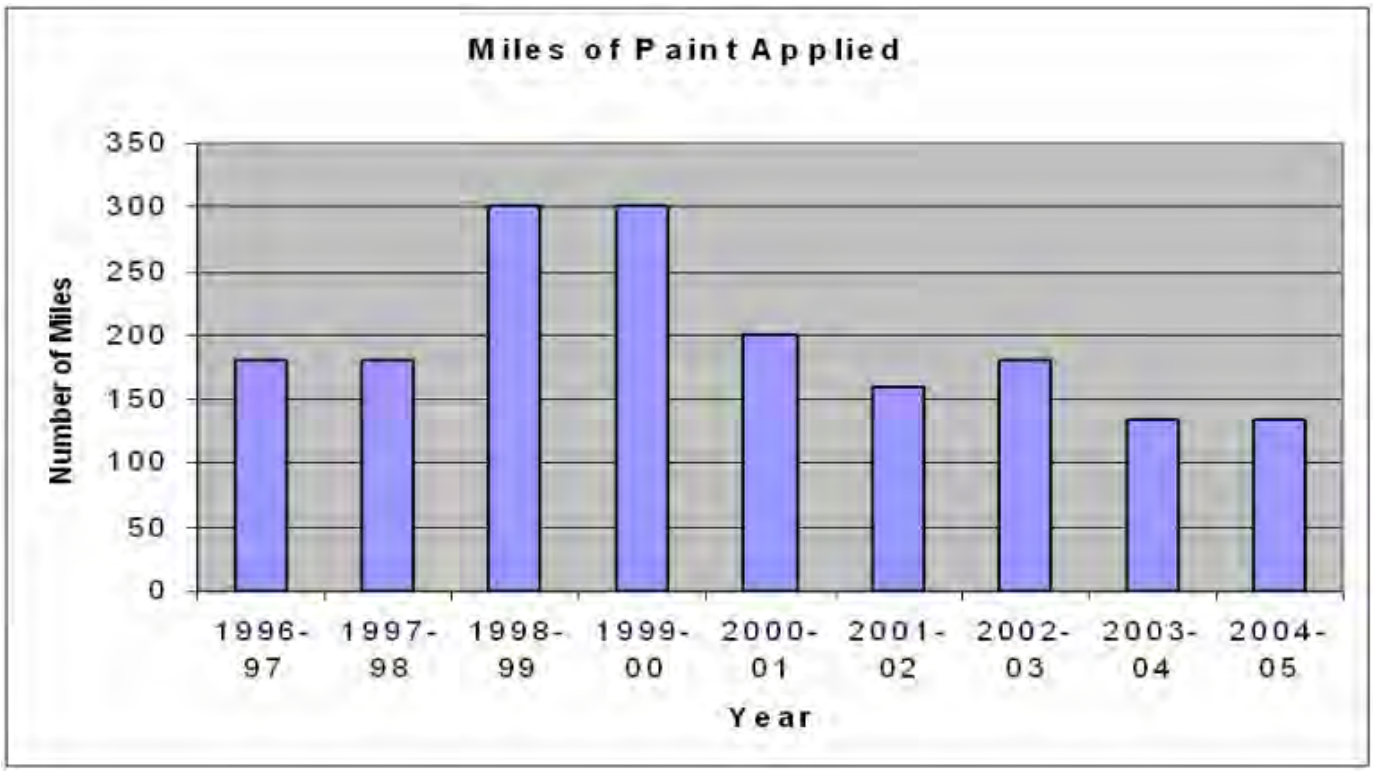
Street Lights	**$21 million**
Traffic Signals	**$20 million**
Bridges	**$17 million**
Streets	**$371 million**
Storm Drainage	**$61 million**
Right-of-Way	**$36 million**

Repainting pavement markings

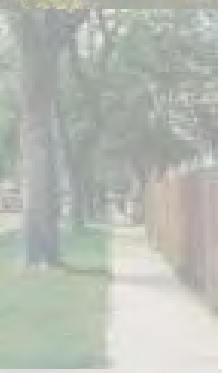


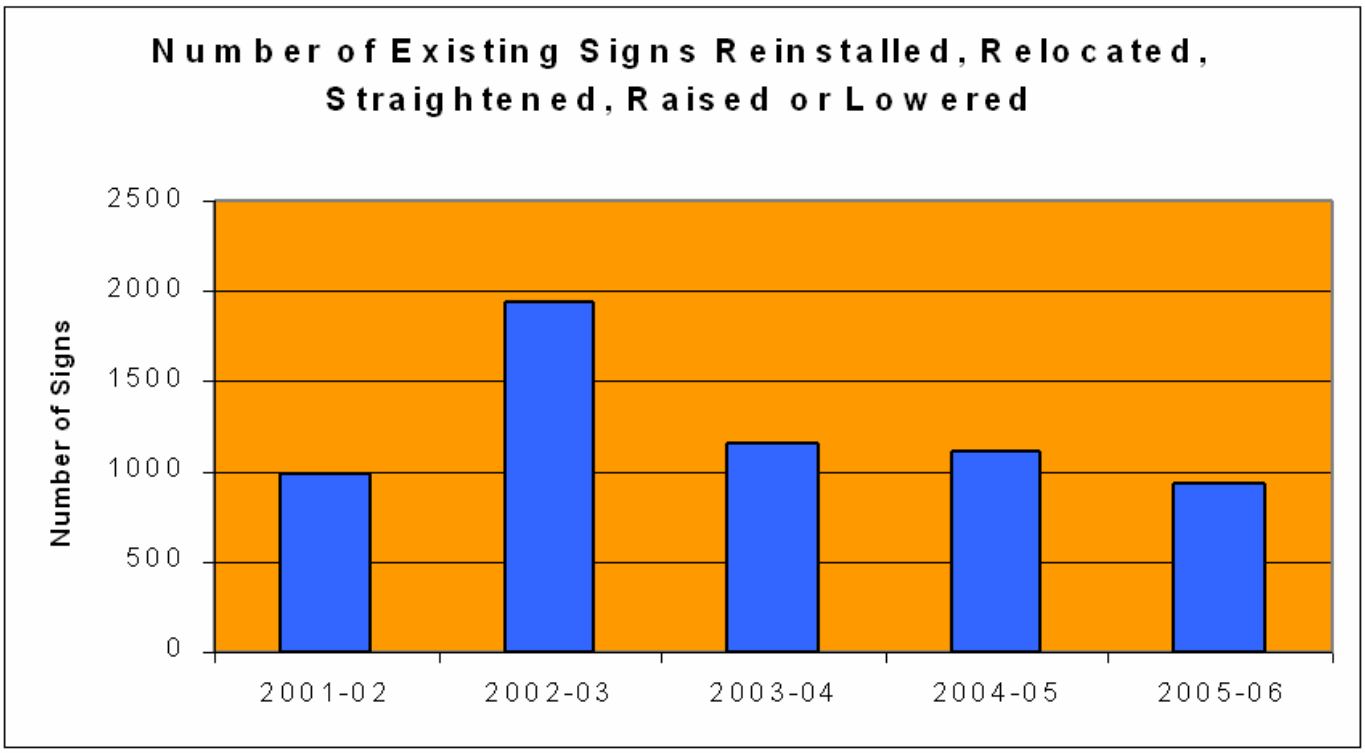


The amount of durable pavement markings applied has increased due to increases in funding levels for the program. This has resulted in many compliments for the City due to the pavement markings being much more visible year-round.

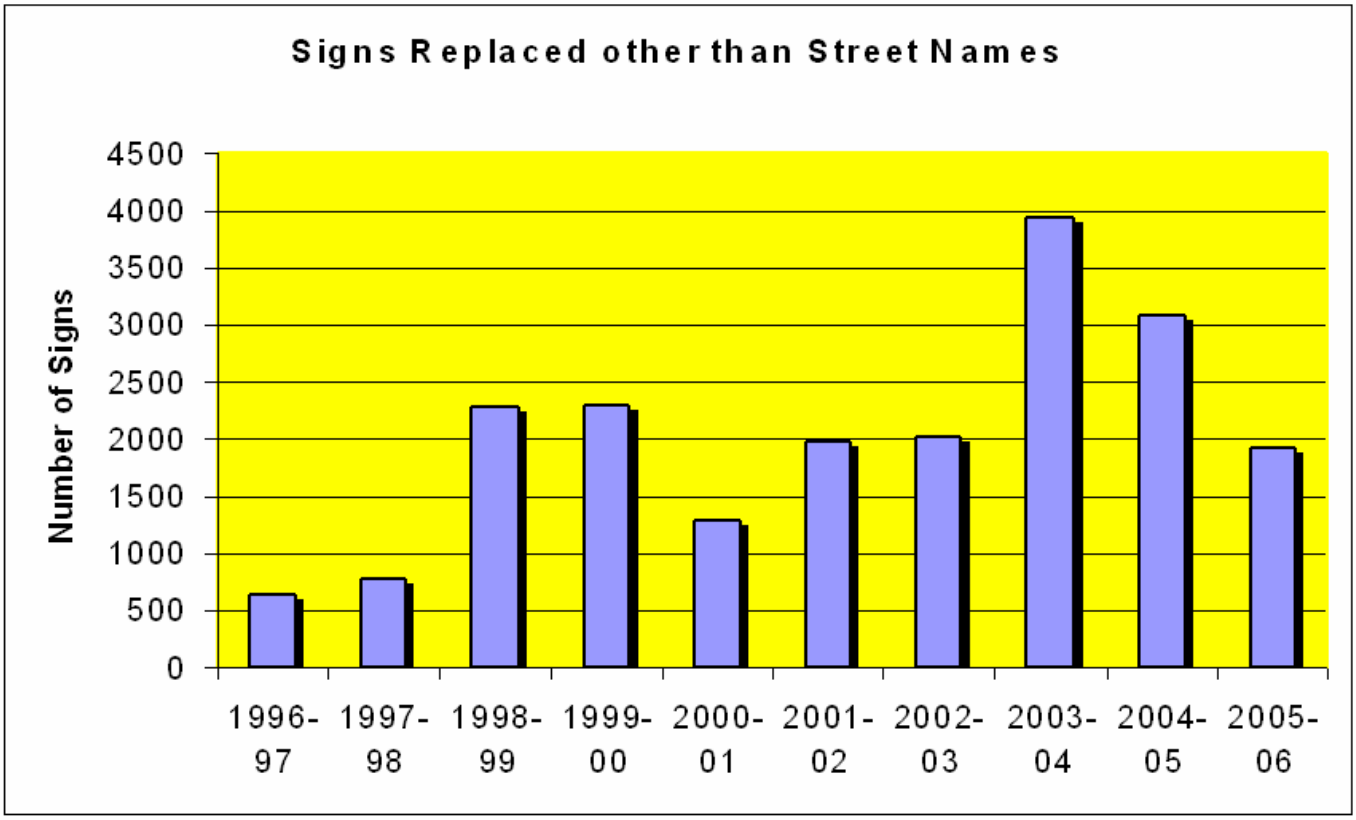


Due to the increases in durable markings, the number of miles needing to be painted (twice annually) has dropped, despite the growth in the City.



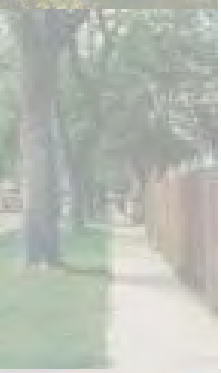


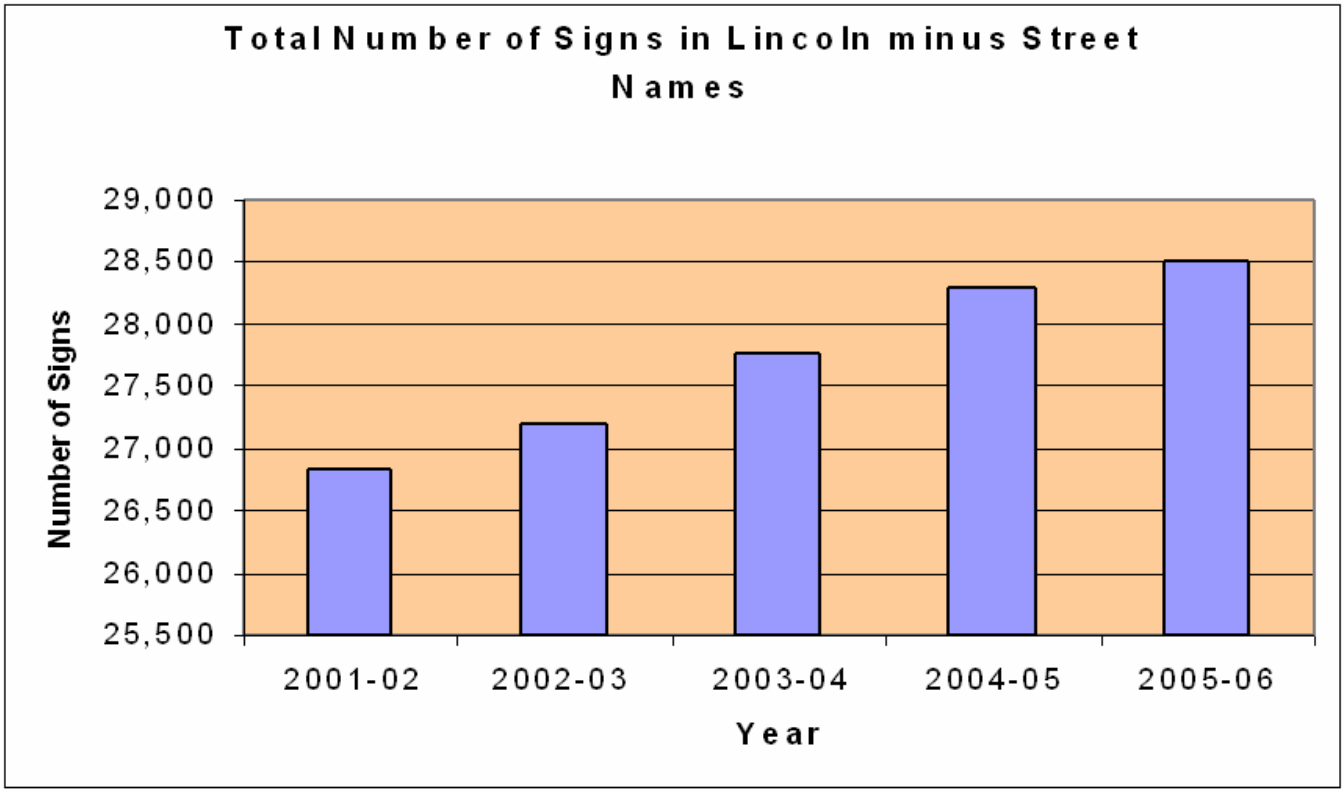
Vehicles crashing into signs and the wind blowing them over contributes greatly to the workload of Street Operations staff annually.



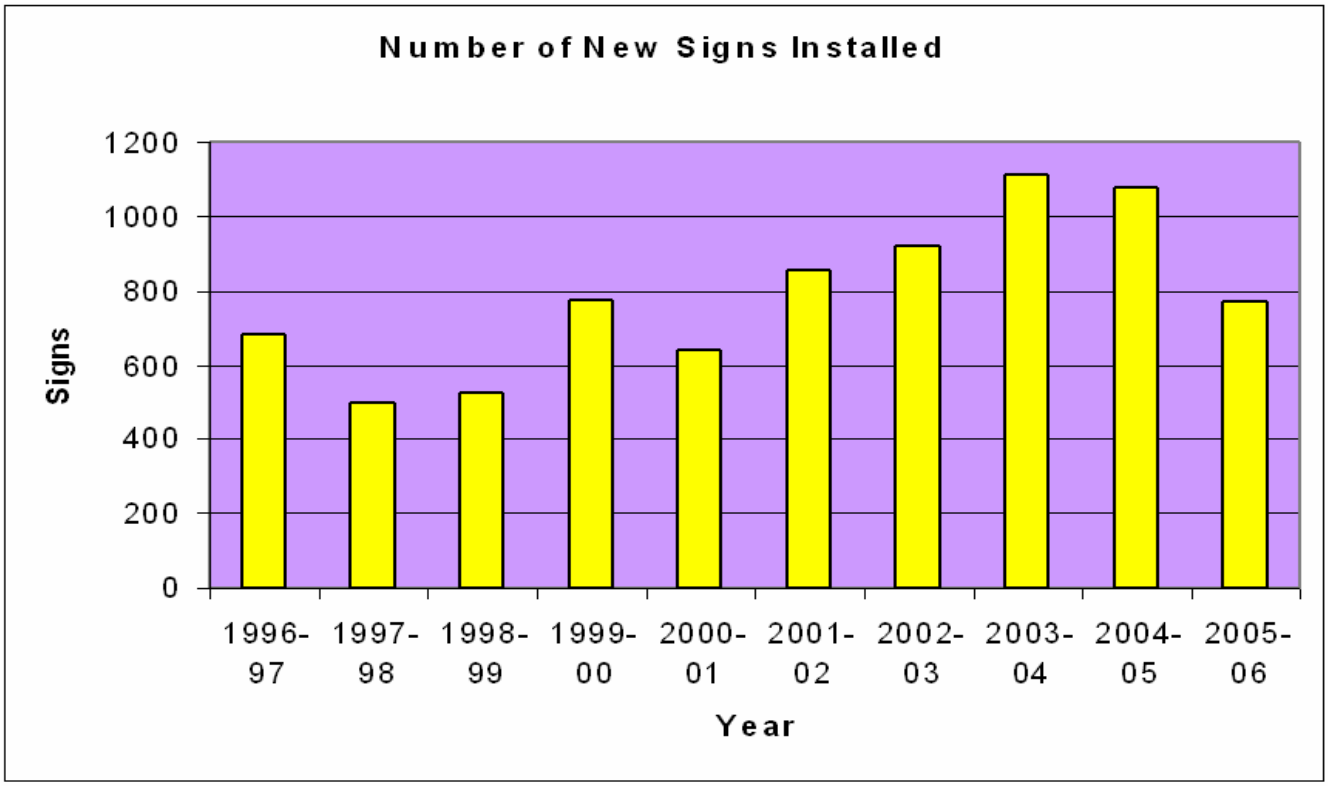
Sign replacement has received a higher priority in the past few years. The replacement of signs competes for priority in funding with pavement markings, parking meters, installing new signs and other duties performed by the Sign shop personnel in the Street Operations Section.





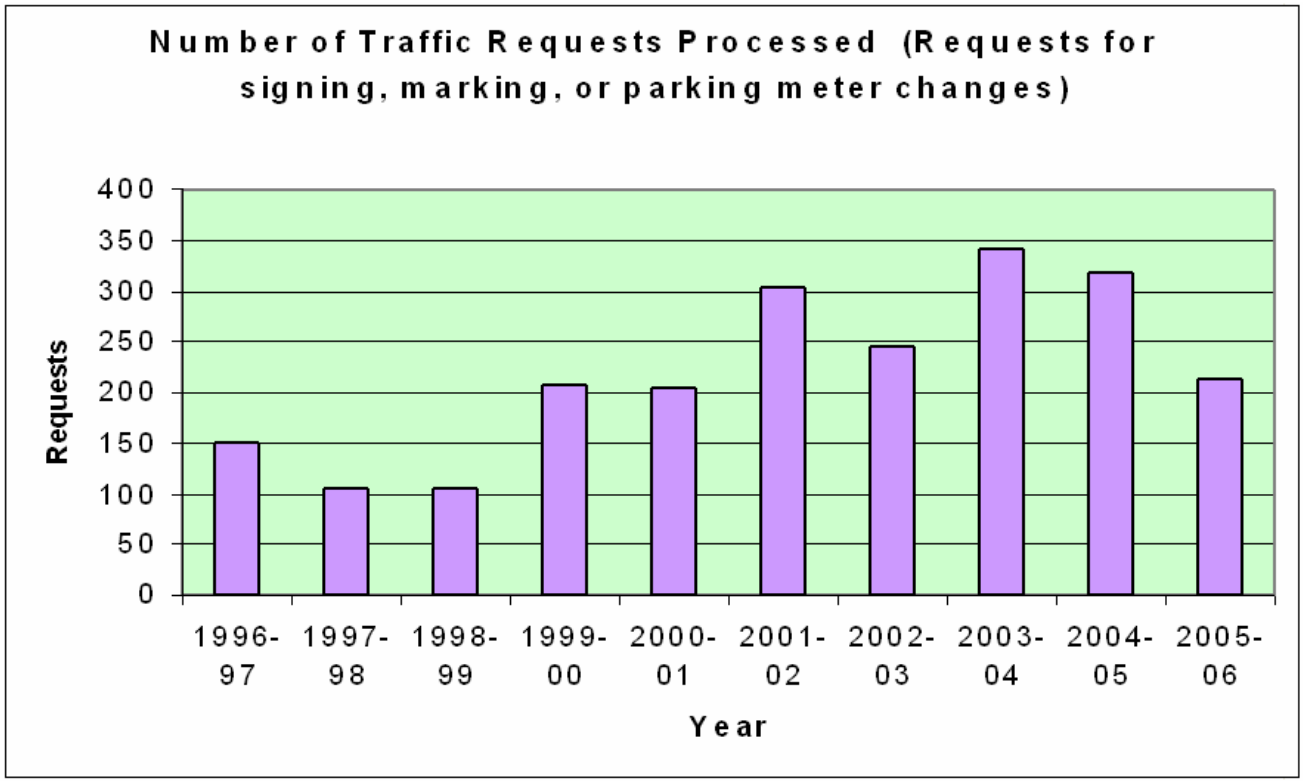
Despite efforts to get rid of unneeded signs around the City, the total number of signs along the streets continue to rise due to the growth of the City.



In support of the chart above, this graph shows that 600 to 1000 new signs are added to the City's responsibility for maintenance every year through the growth of the City.

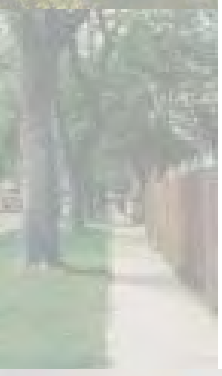


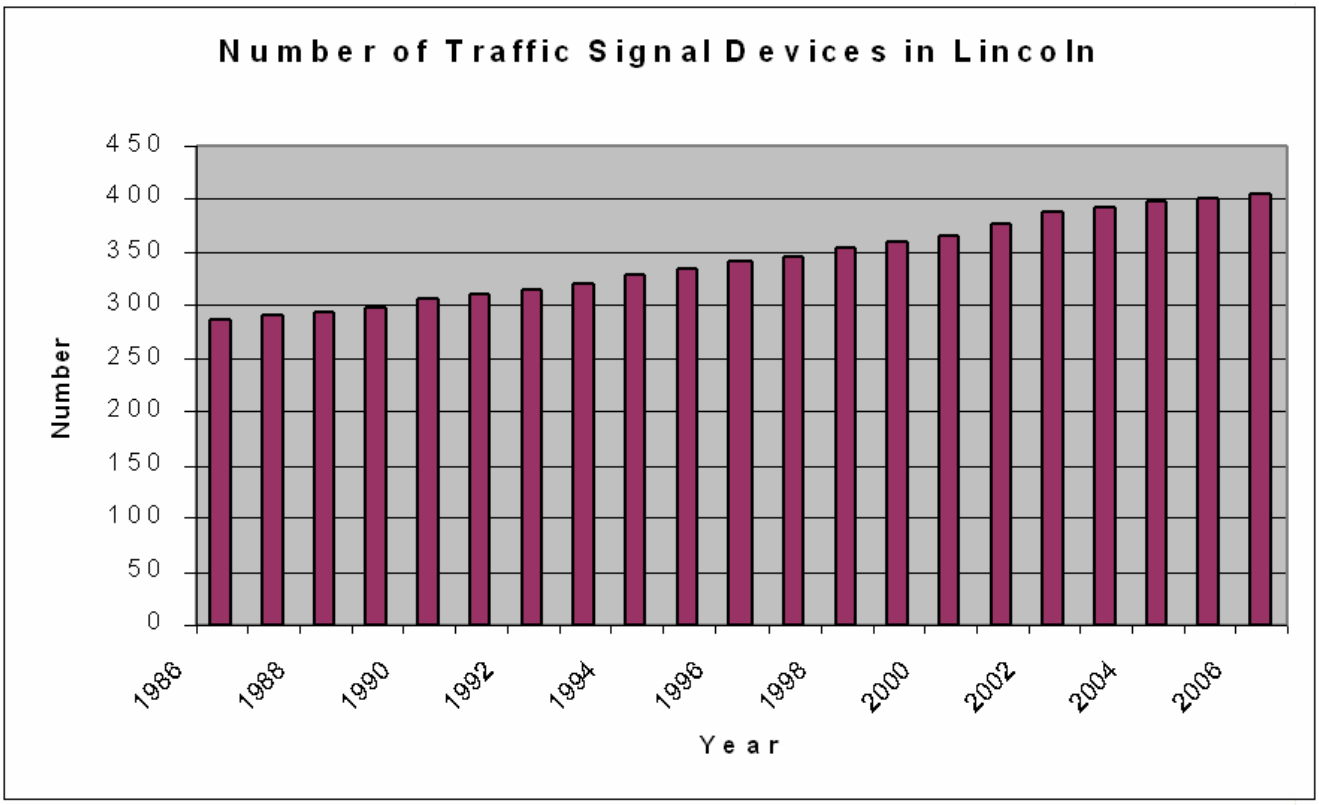


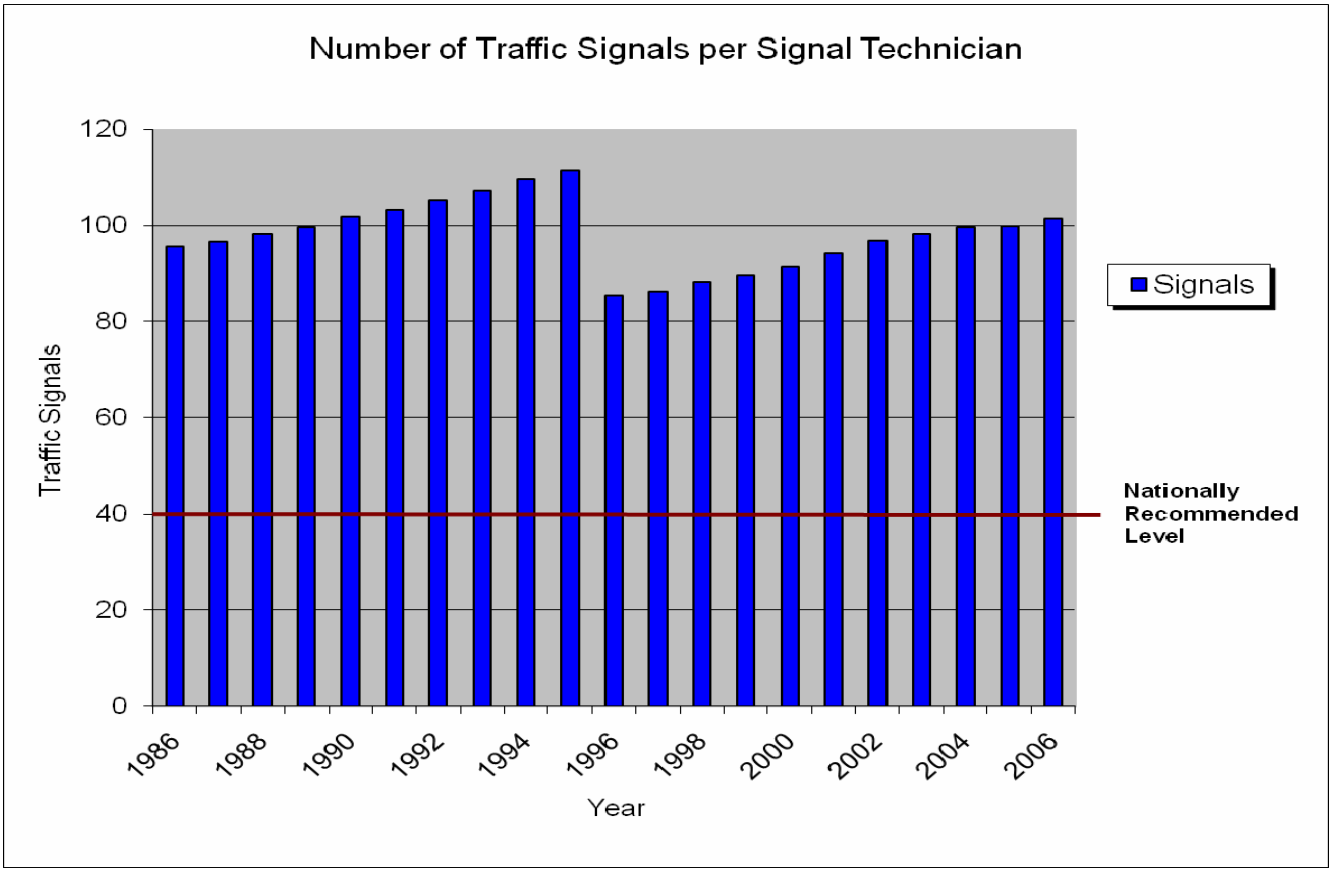
As the City grows, so do the number of requests for services to the Street Operations staff.

A fully equipped signing truck, with a sign post puller, a post installer, an arrow board, and a towing trailer used for installing thermoplastic pavement markings.

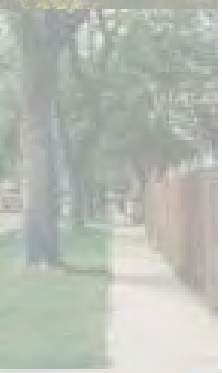


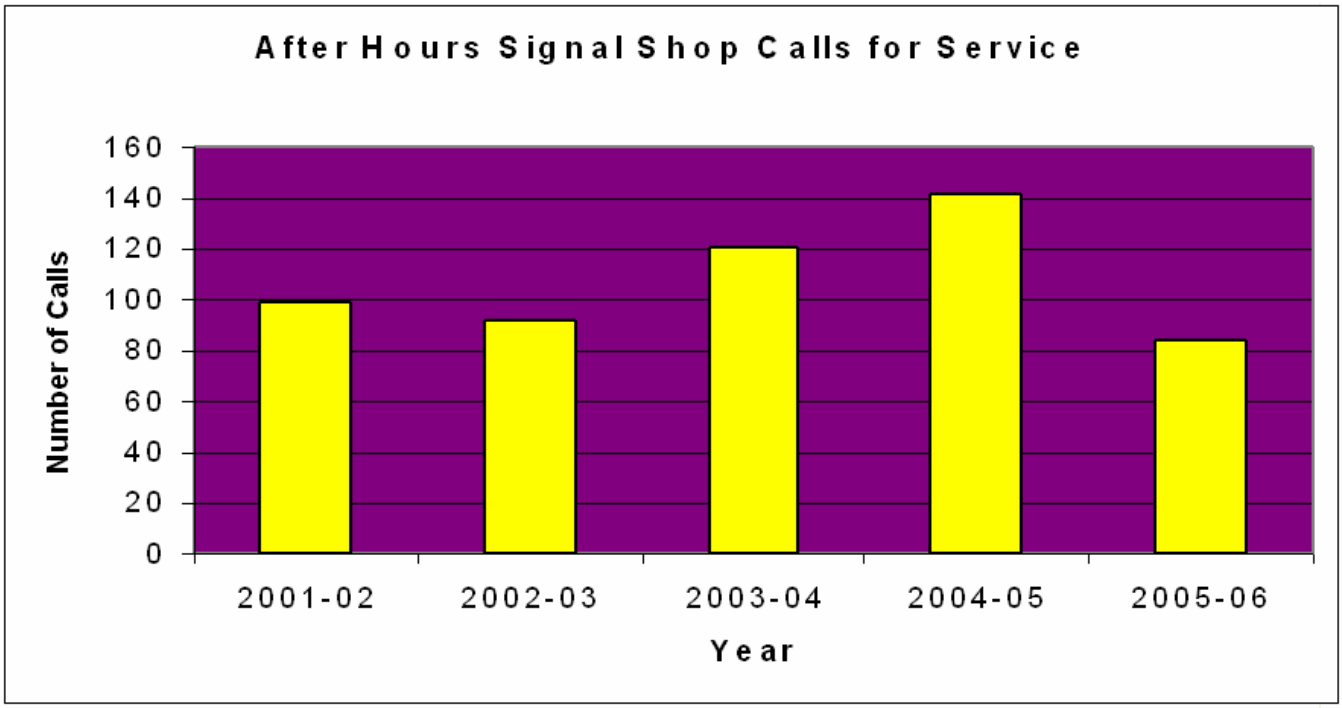


The number of traffic signals in Lincoln continues to increase. The climb from 300 to 400 signals took only 15 years.

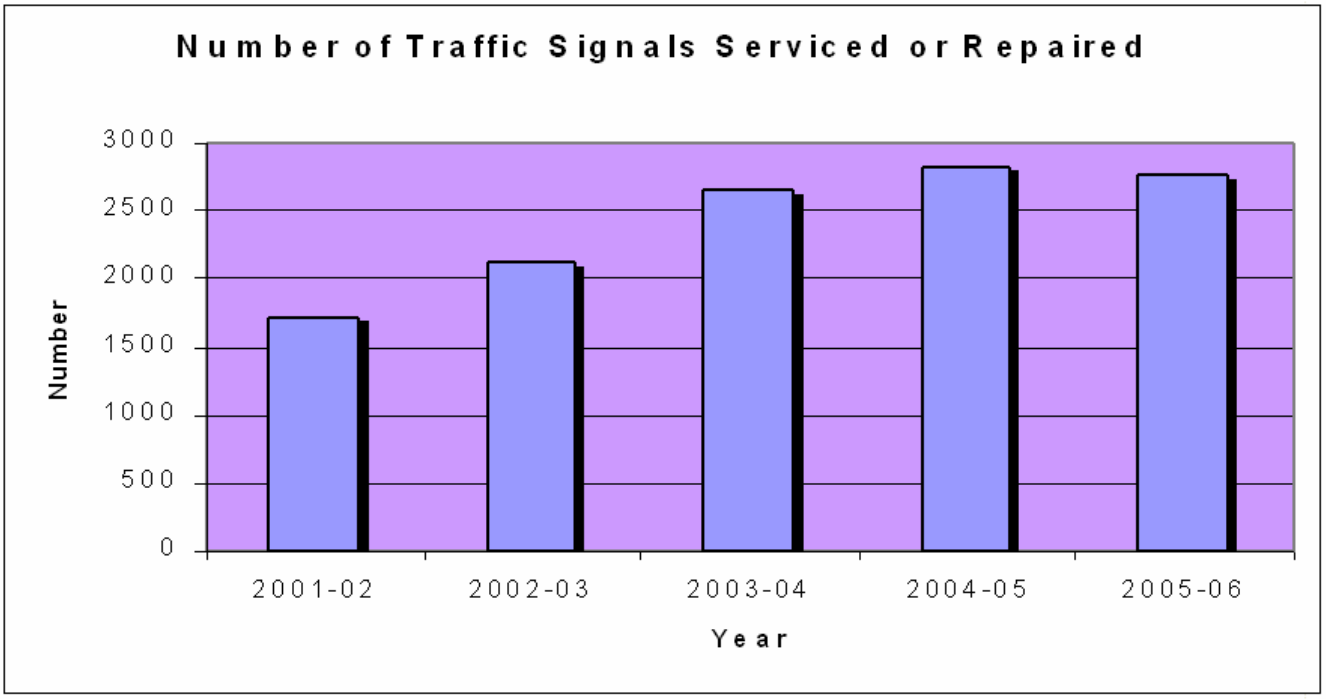


Street Operations staff maintain more than two and a half times the nationally recommended number of traffic signals per technician. Regular maintenance is annually performed on each signal.

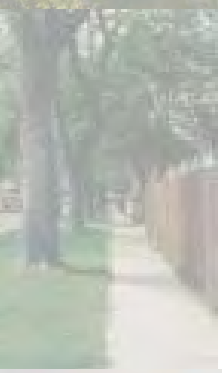


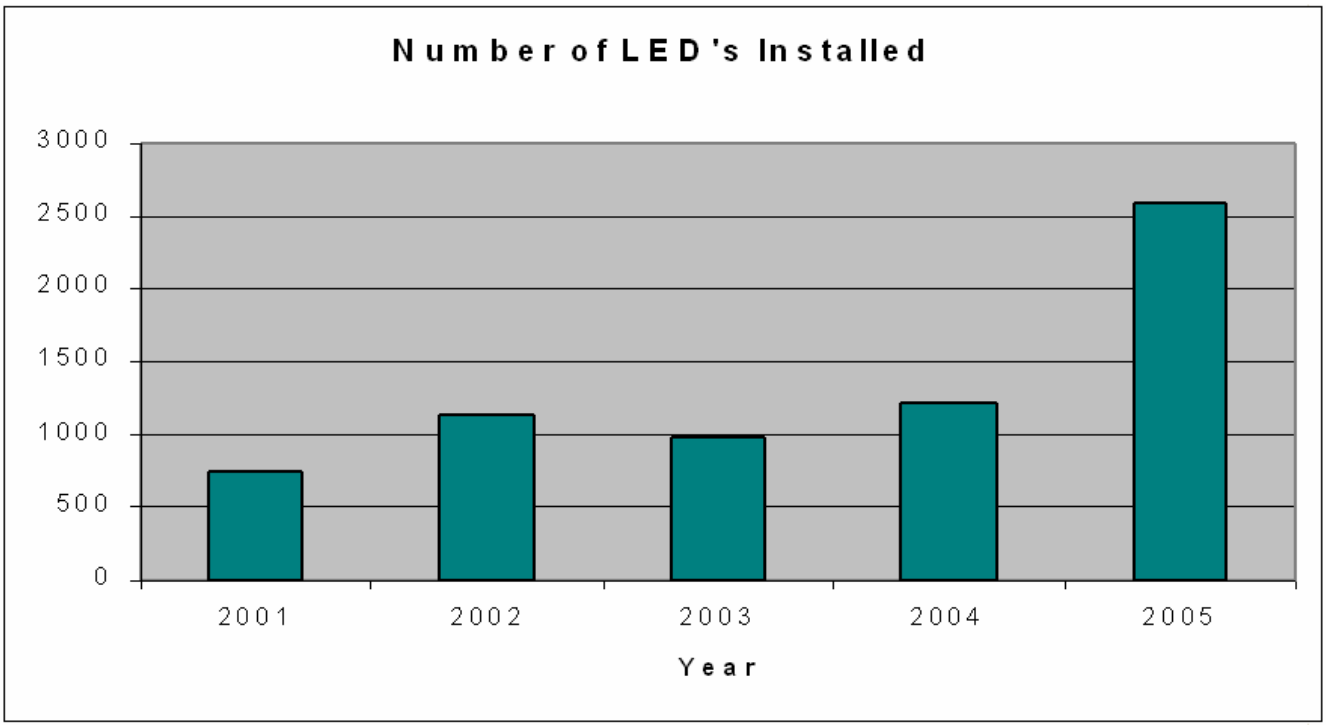


As the number of traffic signals climbs, so do the number of call-outs for maintenance of the signals. This increase has been slowed by the implementation of LED lights in the signals. LEDs typically last 7-10 years, while incandescent bulbs which were being used were replaced annually. The LED signals also provide a tremendous cost savings in energy.

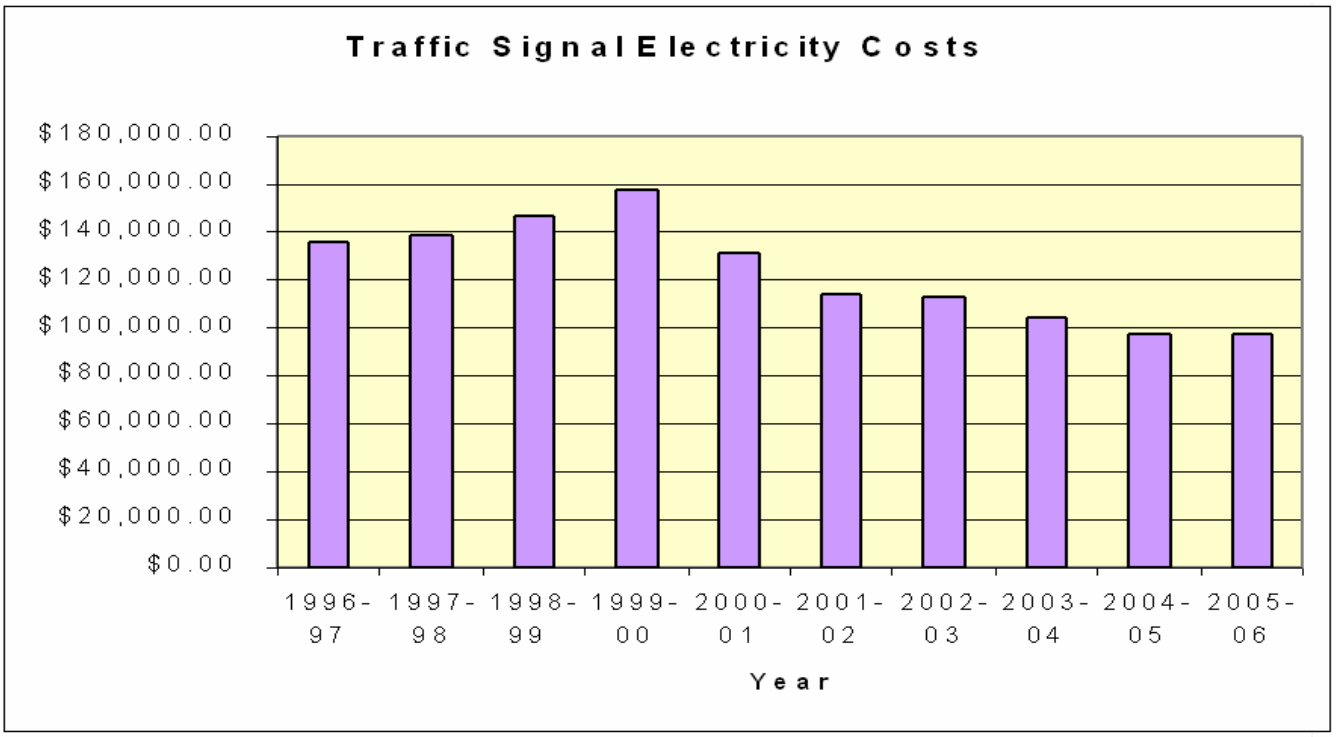


As the number of traffic signals rises, so does the age of the existing signals. This number is likely to continue to increase in the future.



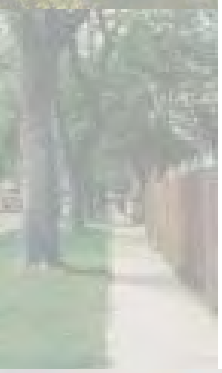


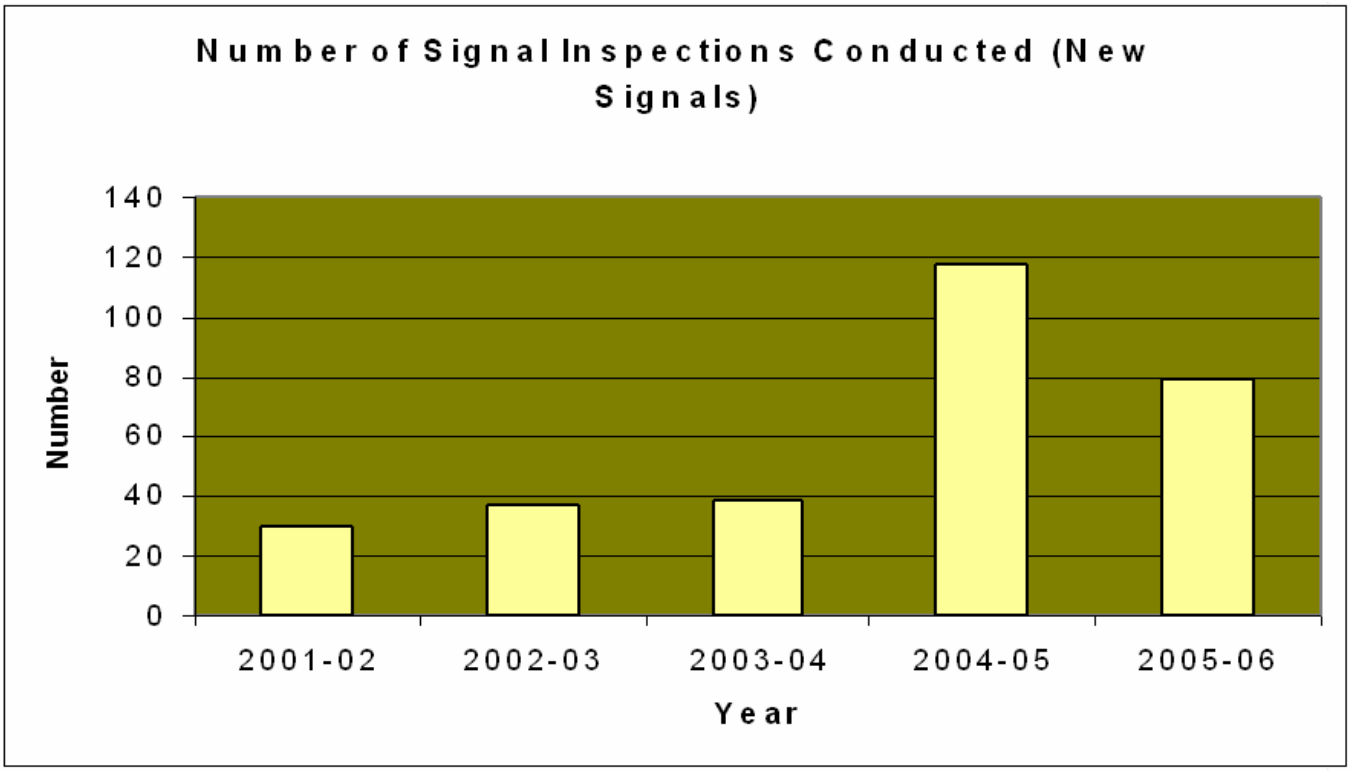
The installation of LED traffic signal indications provides the City with savings both in the cost of electricity as well as in manpower savings due to the longer life of the fixtures.



Electricity costs to run the traffic signals has been going down, despite the increasing number of signals and the fact that signals now typically have more lights on at any one time. Most intersections have now been converted to LED signals, so the downward trend will likely end.





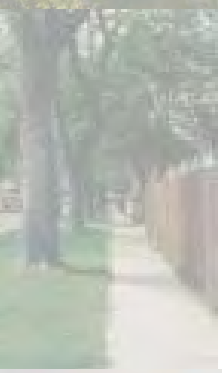
In addition to the new signals installed, a number of older traffic signals have been rebuilt in the last two years.

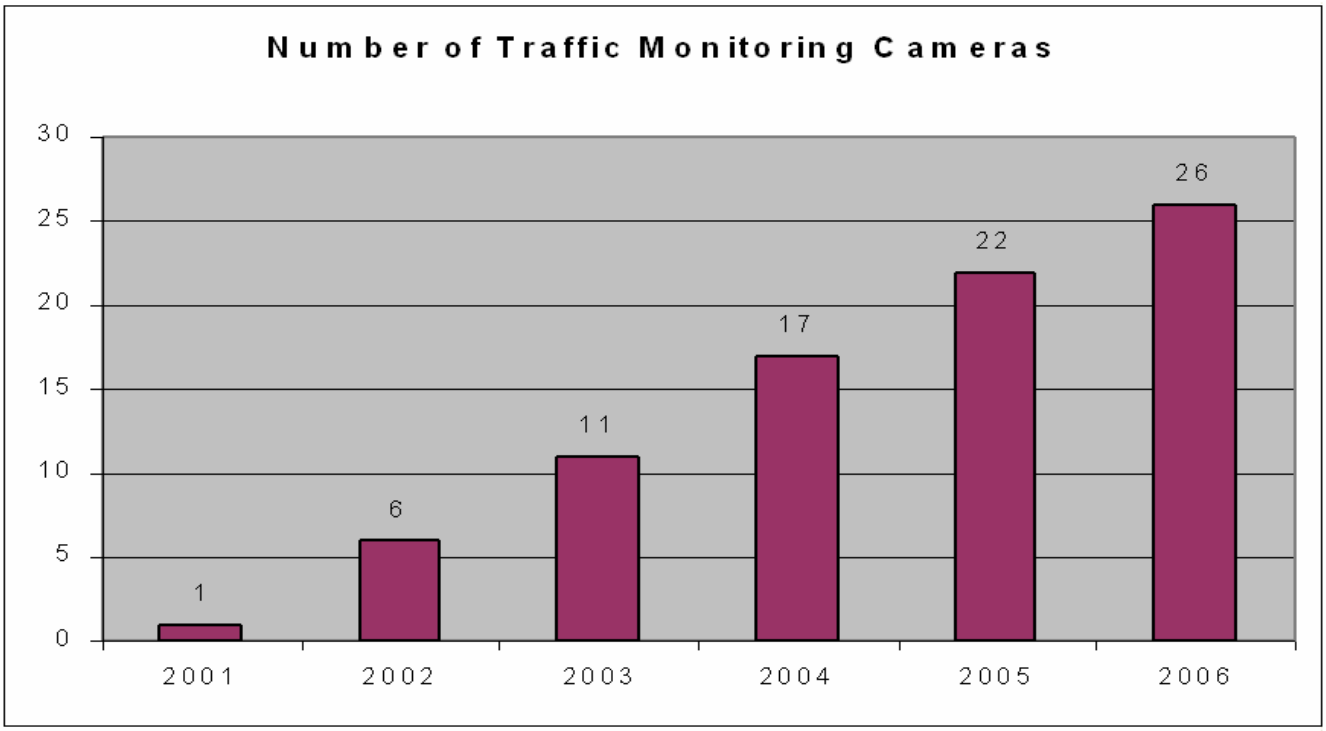
Intelligent Transportation Systems Information

Miles of copper traffic signal interconnect cable	**83**
Miles of fiberoptic traffic signal interconnect cable	**42**
Miles of additional conduit for fiberoptic cable	**15**
Point to point radio links	**25**
Point to multi-point radio links	**8**
Number of traffic signals using high speed communication	**127**
Percent of traffic signals using high speed communication	**32%**
Number of traffic signals with no communication	**17**
Percent of traffic signals with no communication	**4%**

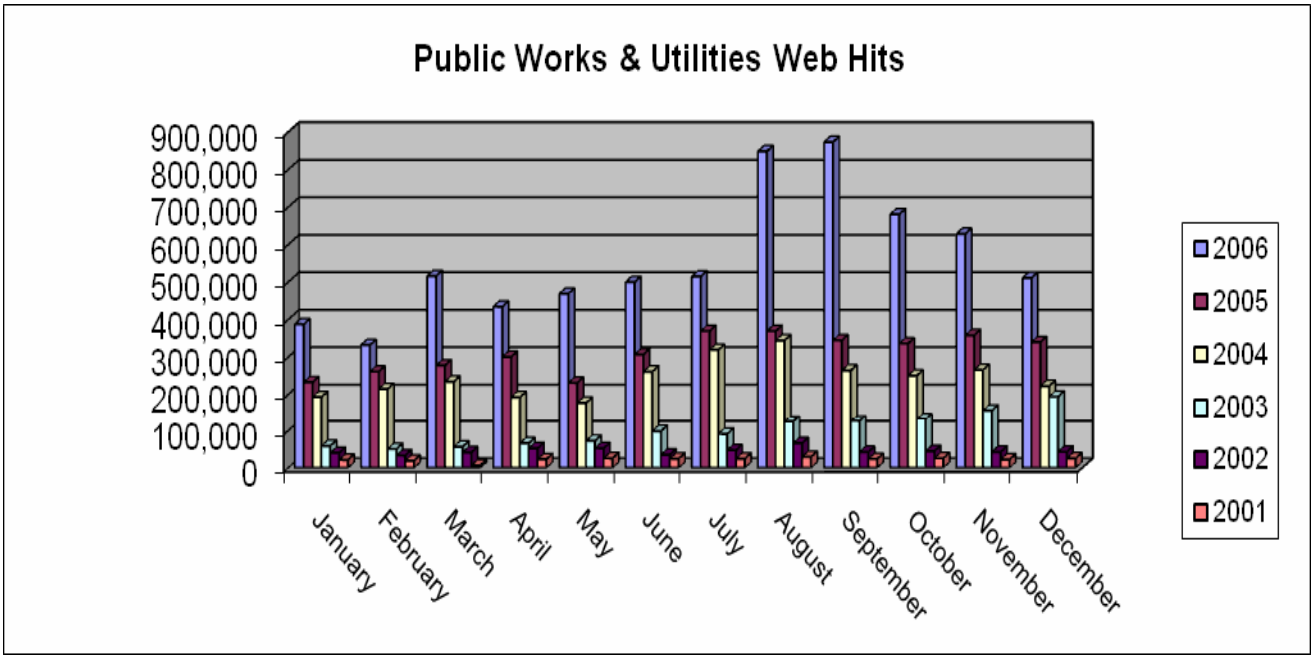




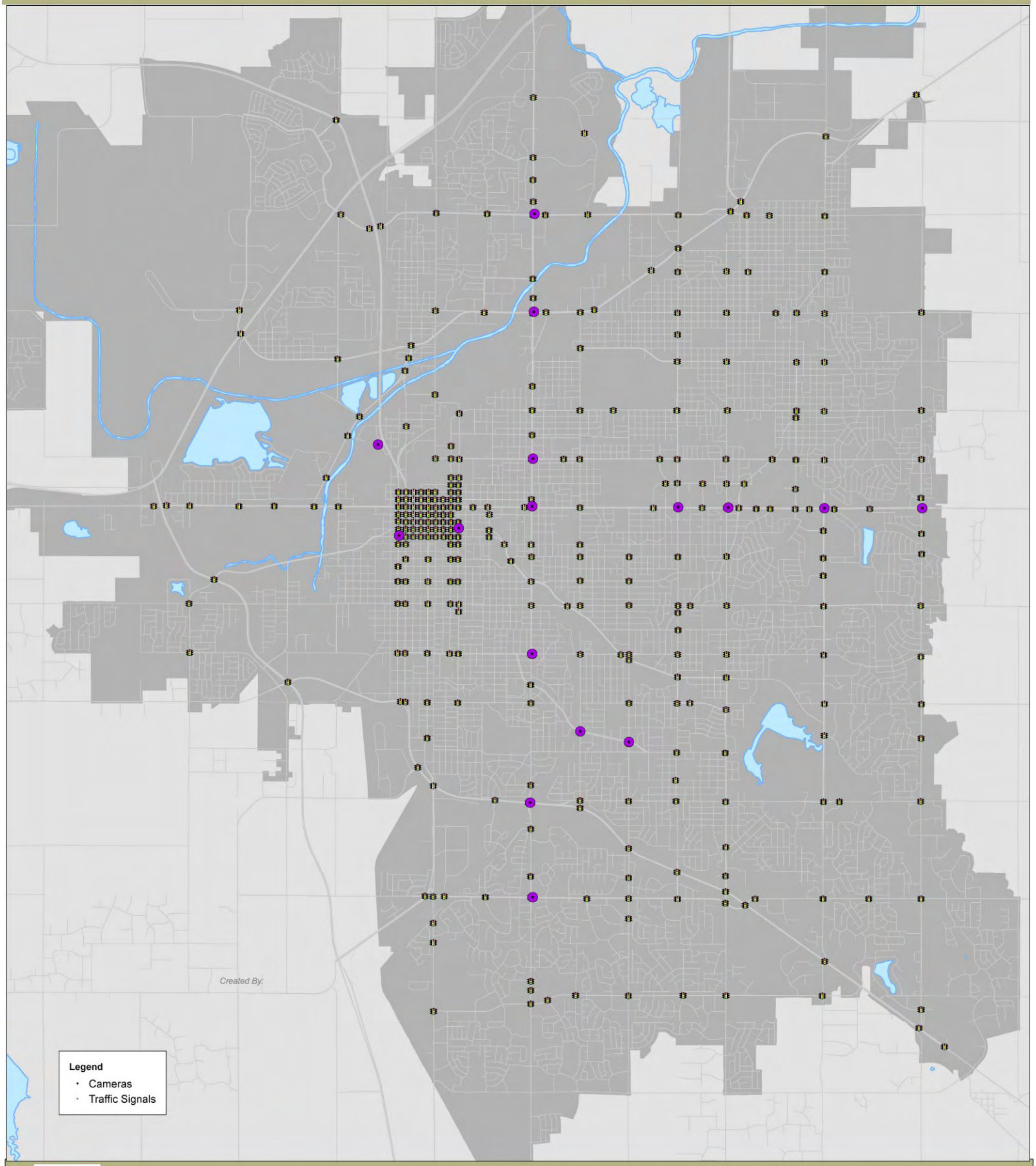


Traffic monitoring cameras have been a man-power saving investment. Rather than spending the time to travel to an intersection, traffic at intersections can now be monitored from the office courtesy of camera images brought back on high-speed communication lines. They have allowed for quicker incident detection and have reduced the number of people needed for special event traffic control, such as football games. The number of citizens accessing the cameras on-line has also dramatically increased as they have become more wide-spread throughout the City and people rely on them for traffic conditions.



Percent increase since 2001: 2398.54%

Public Works & Utilities



CITY OF LINCOLN
NEBRASKA
MAYOR COLEEN J. SENG

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Miles

Traffic Signals & Cameras

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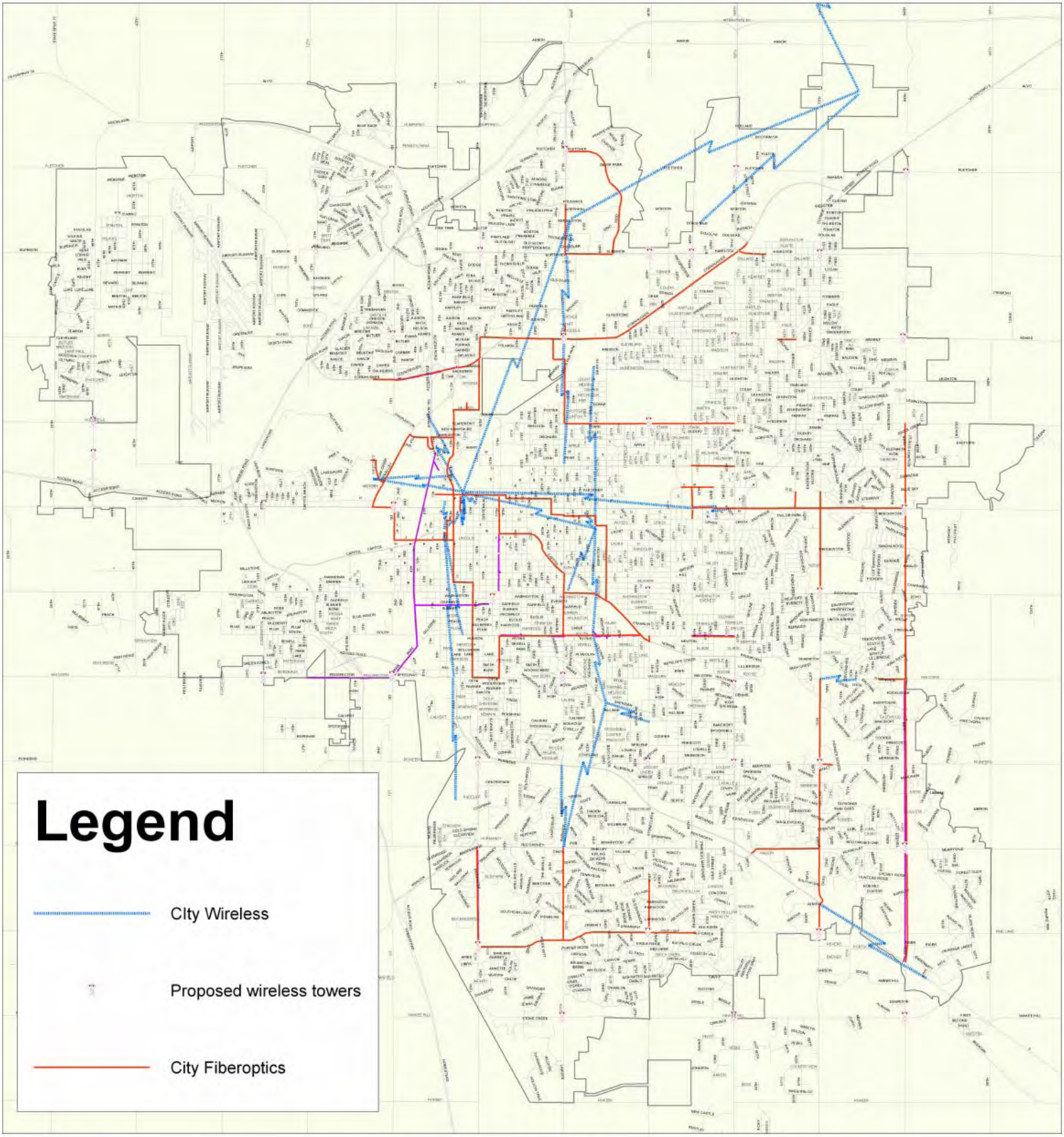
Public Works & Utilities



CITY OF LINCOLN
NEBRASKA
MAYOR COLEEN J. SENG
lincoln.ne.gov

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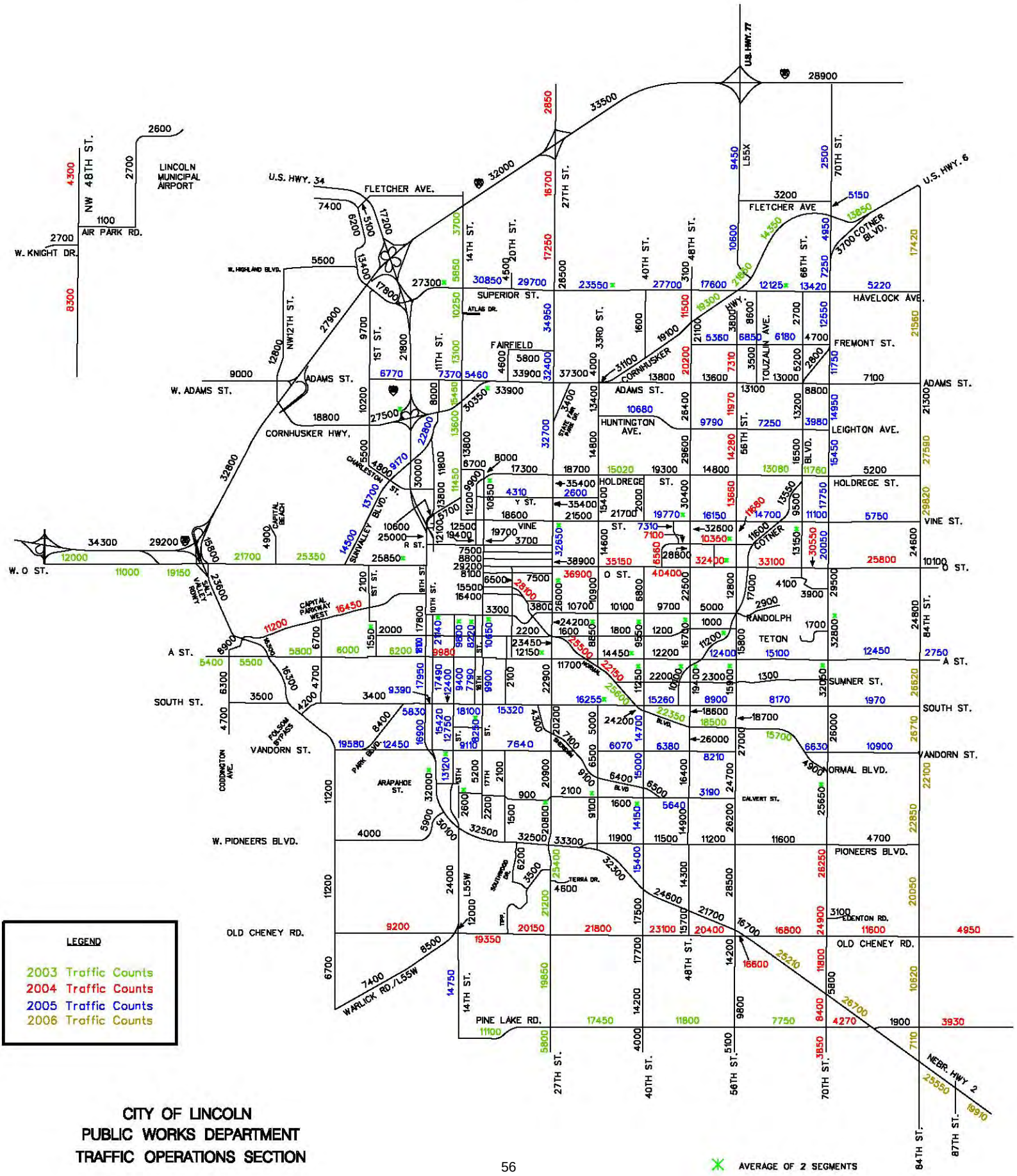
City of Lincoln
Communications Network

Prepared By: SIETLS
Printing Date: September 26th, 2006

2006 ESTIMATED
24 HR. TRAFFIC VOLUMES

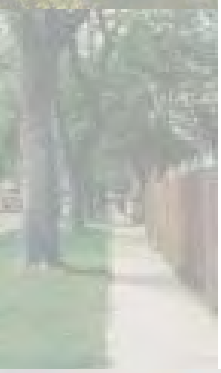


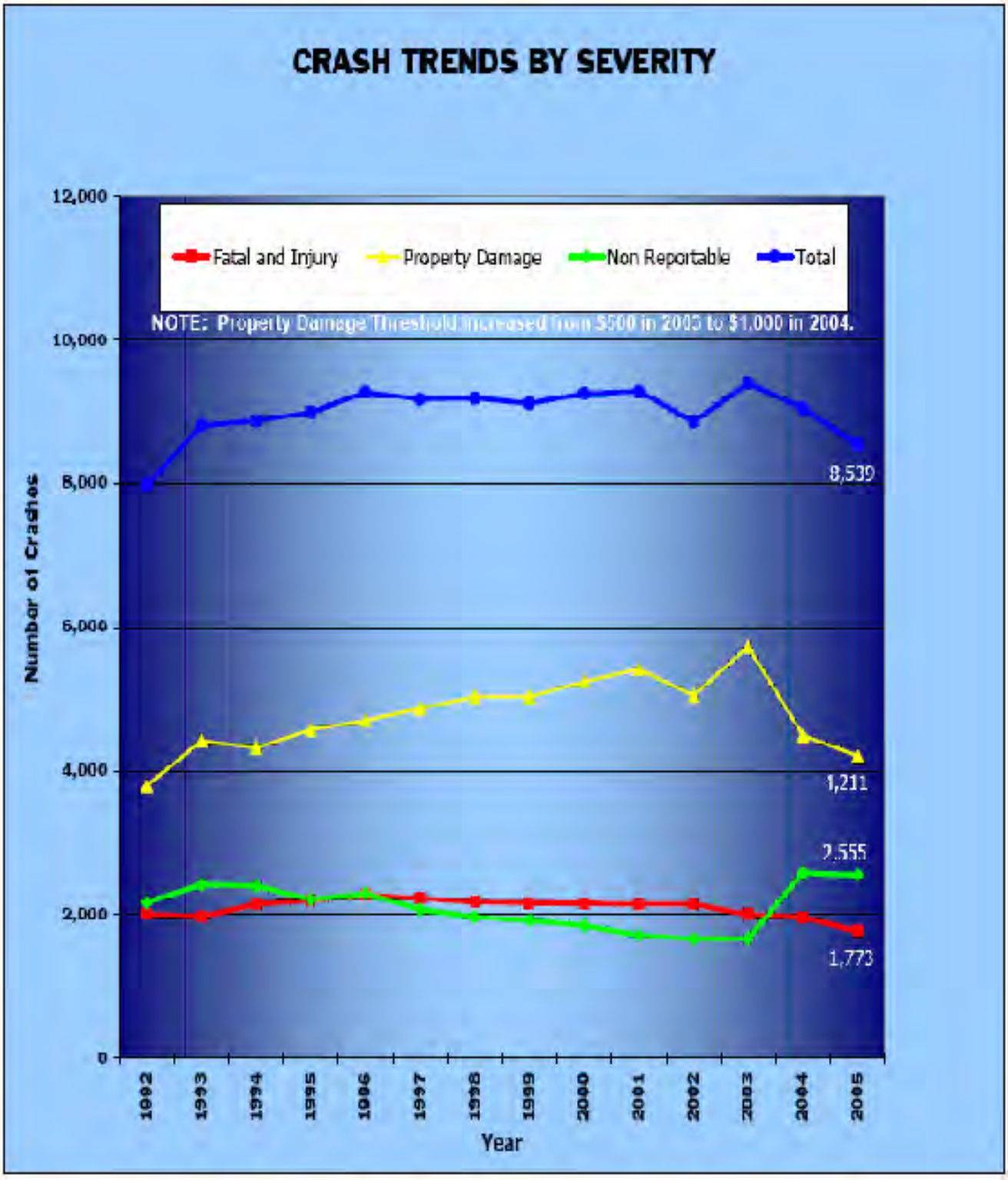
LEGEND

2003 Traffic Counts
2004 Traffic Counts
2005 Traffic Counts
2006 Traffic Counts

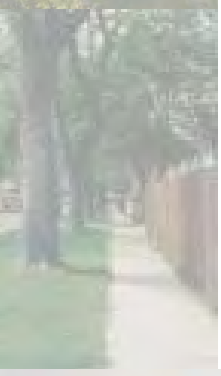
CITY OF LINCOLN
PUBLIC WORKS DEPARTMENT
TRAFFIC OPERATIONS SECTION

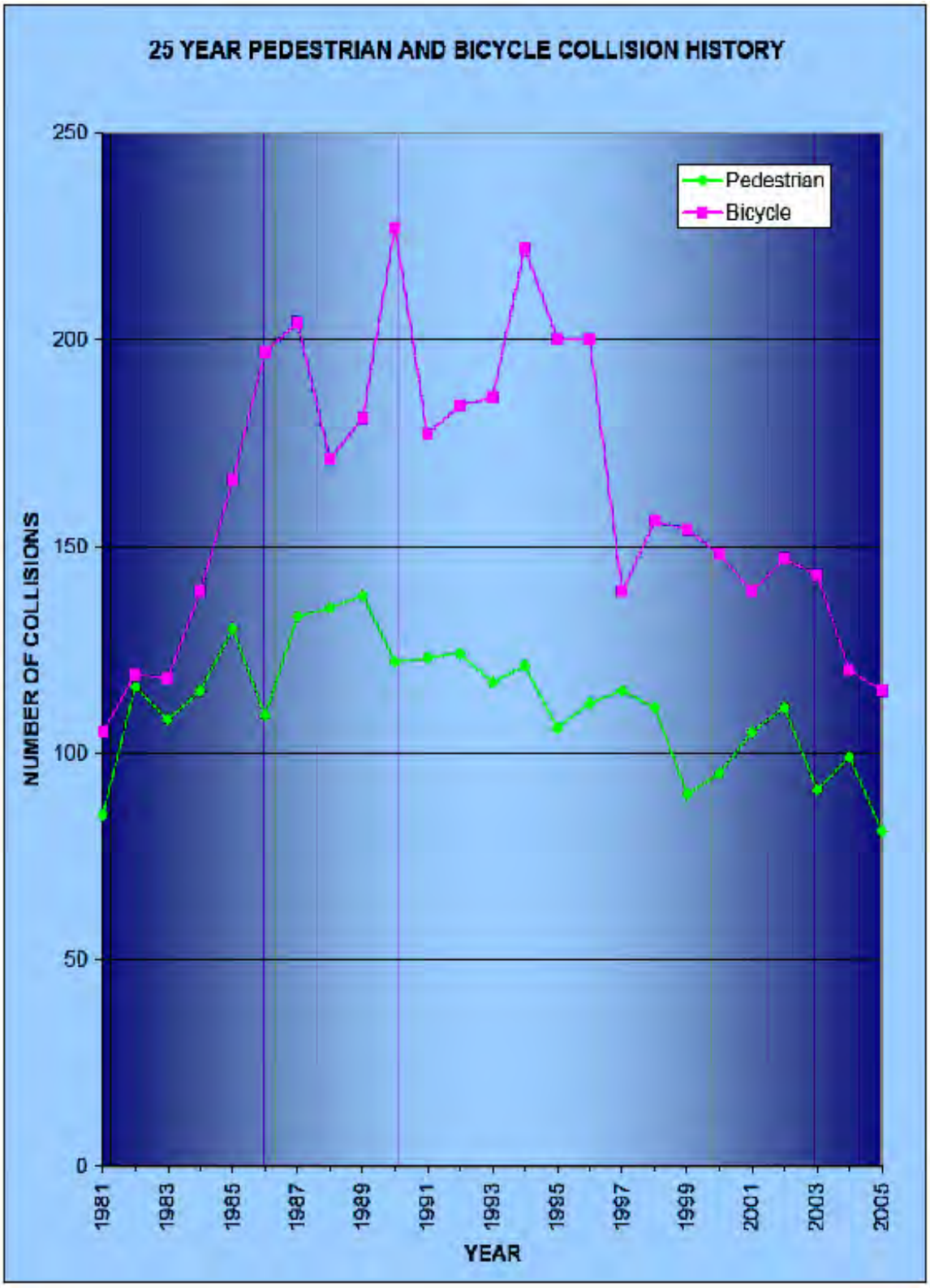
X AVERAGE OF 2 SEGMENTS



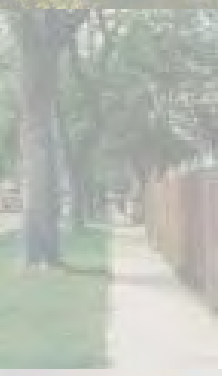


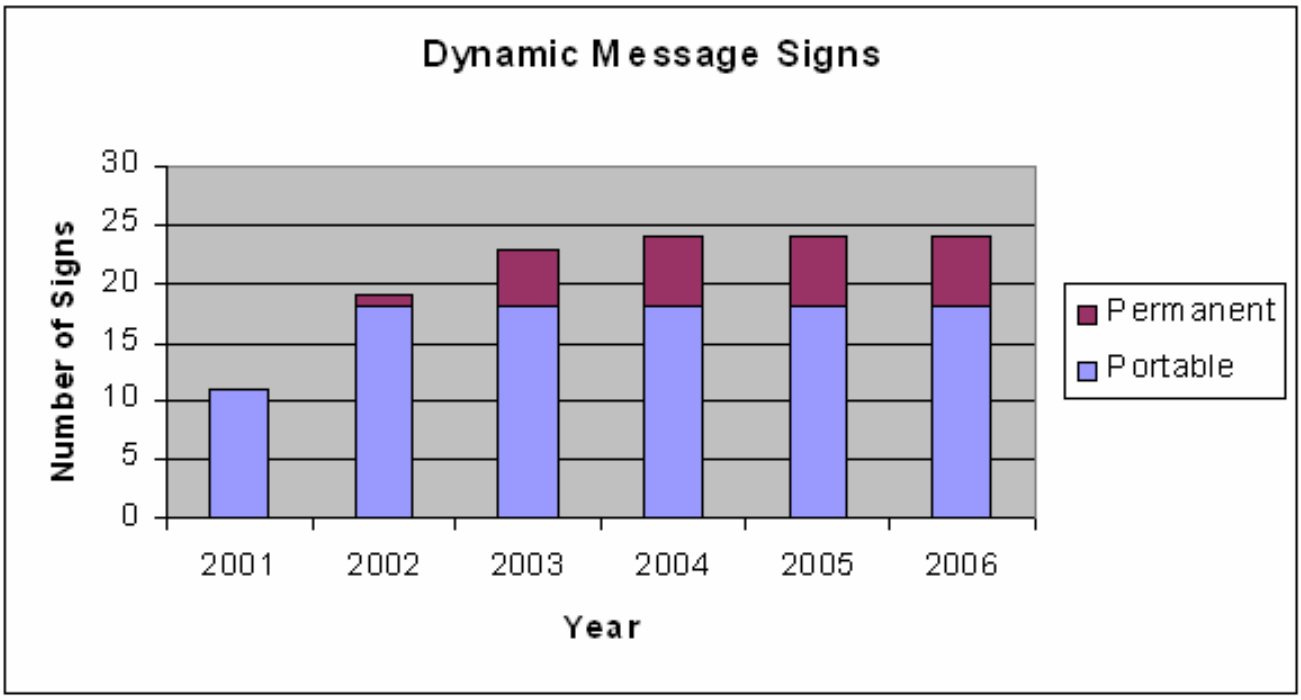
Crash rates (number of crashes per million miles driven) in the City of Lincoln continue to drop. While the number of miles driven continues to increase each year, the total number of crashes has remained constant. The number of fatal and injury crashes have seen a reduction well below 1992 levels. Engineering Services continues to promote safety projects in order to continue this improvement in safety for motorists.



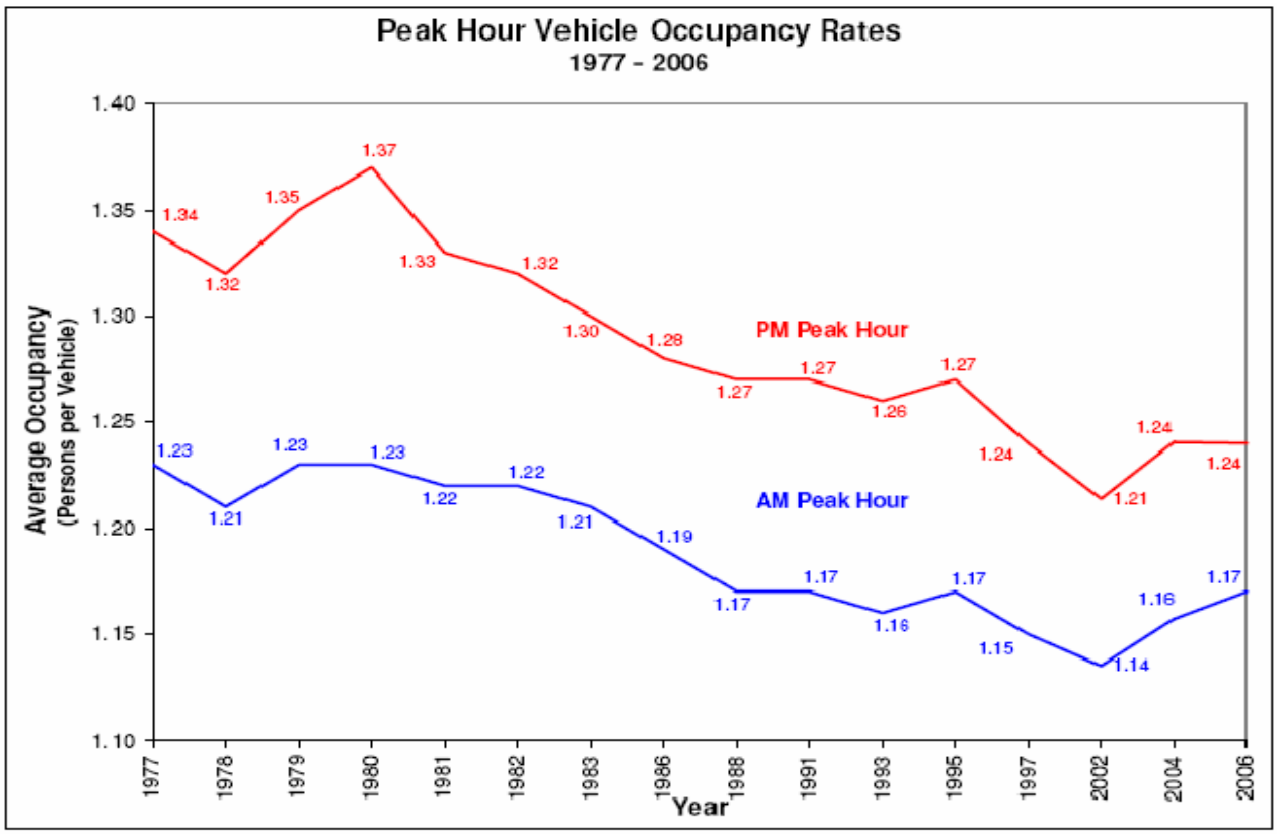


The number of pedestrian and bicycle crashes occurring on an annual basis have dropped considerably since the mid 1990s. Engineering Services has focused considerable attention on pedestrian and bicycle safety, particularly for school-aged children.

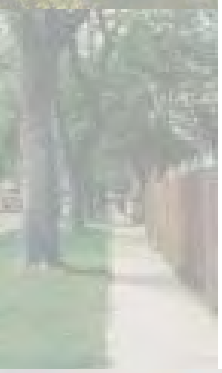


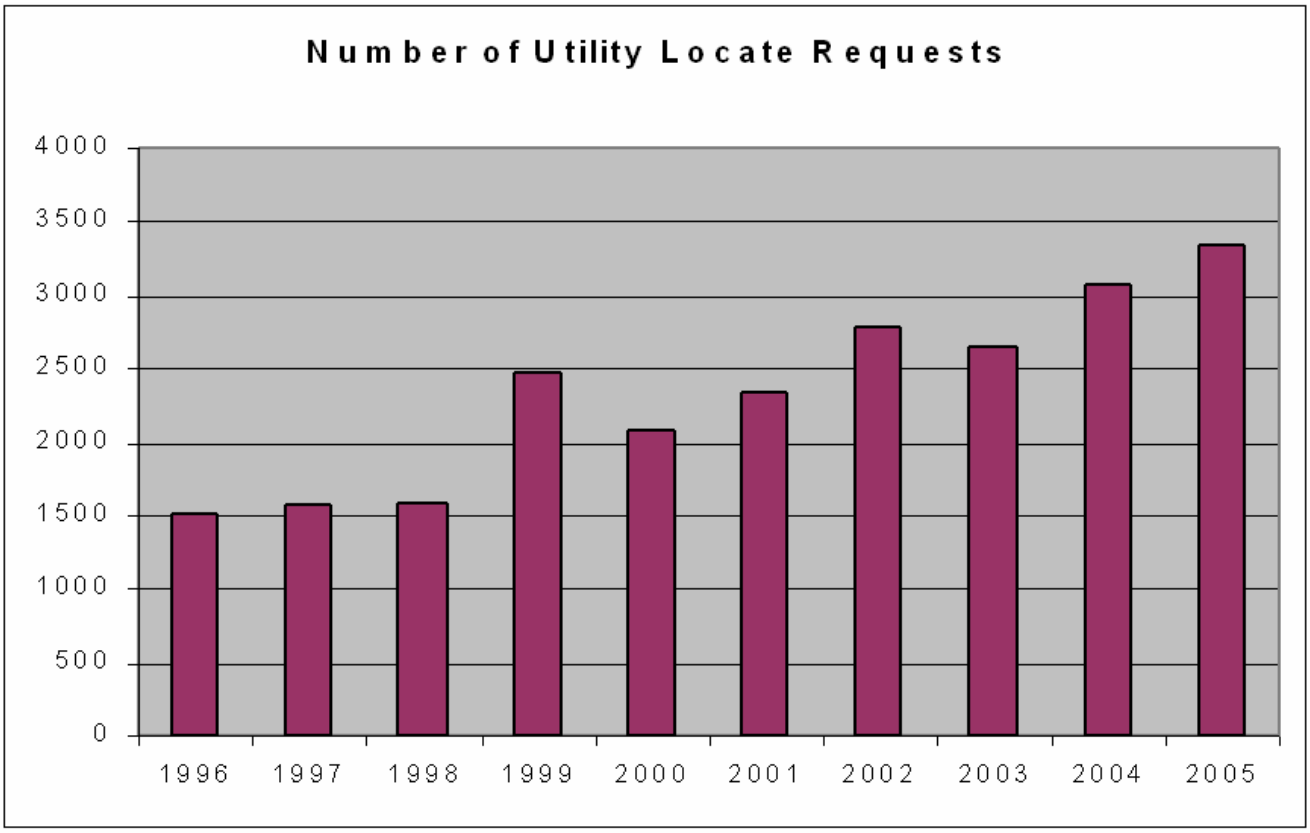


The use of dynamic message signs has proven to be very effective. These signs are used to warn motorists of changed traffic conditions, particularly around construction zones. They have also been used to let citizens know about upcoming meetings, icy bridges, and to help direct football traffic.

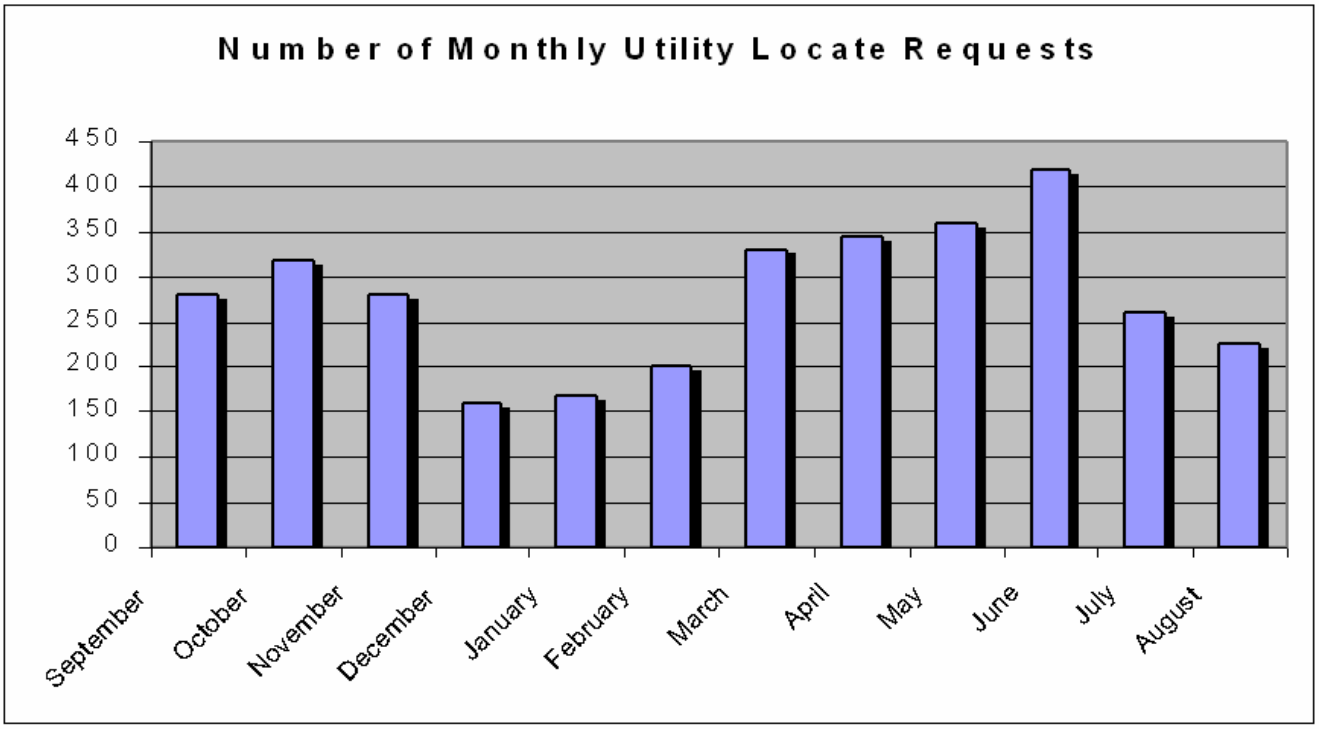


This graph illustrates the average number of people per vehicle driving on a street during the peak times of day. The downward trend of the lines show that more people are driving alone, increasing the number of vehicles on the streets.

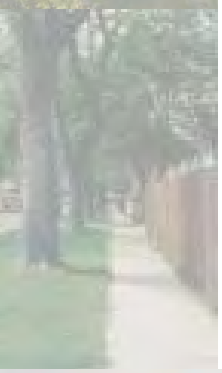


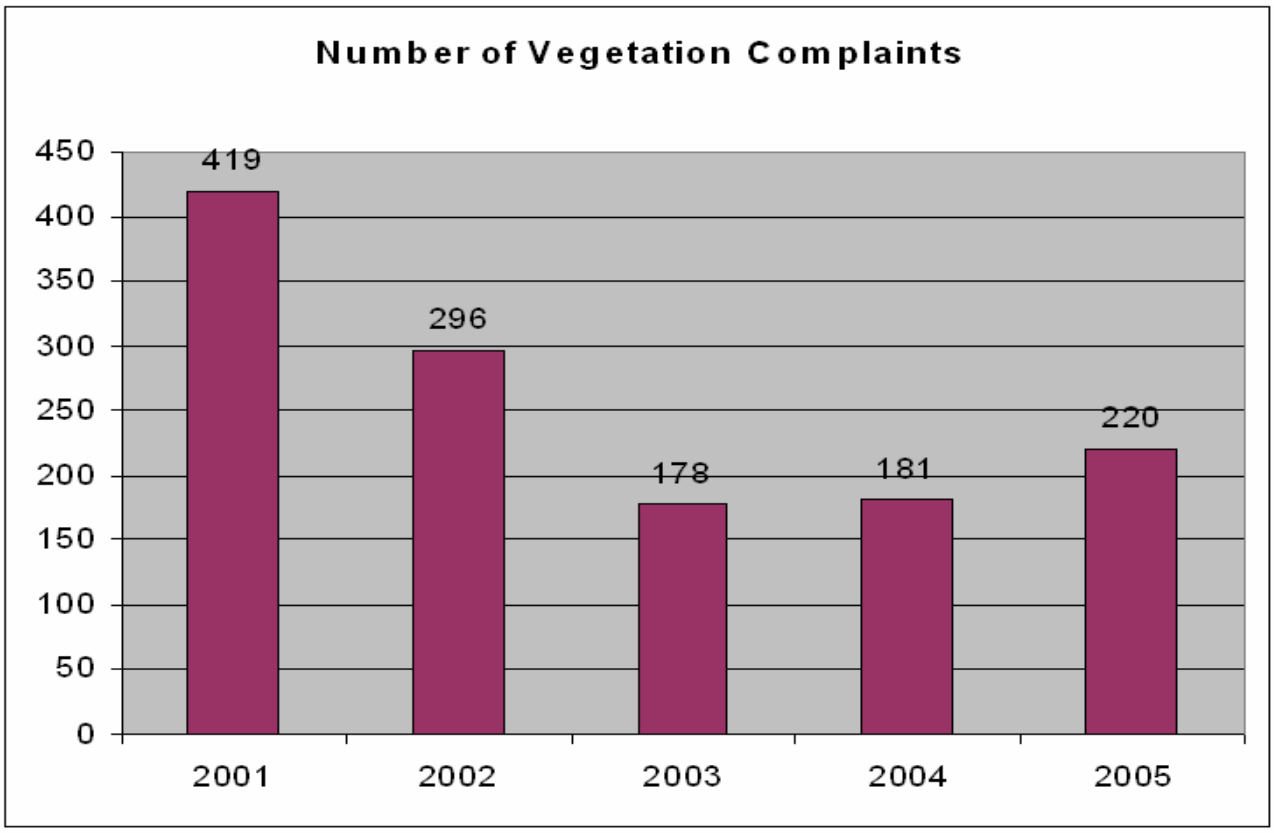


The number of utility locates performed by Engineering Services more than doubled in the period from 1996-2004. In addition to locating all underground equipment for traffic signals, we also have 71 miles of conduit and fiber-optic cable that must be located for Engineering Services and Information Services.

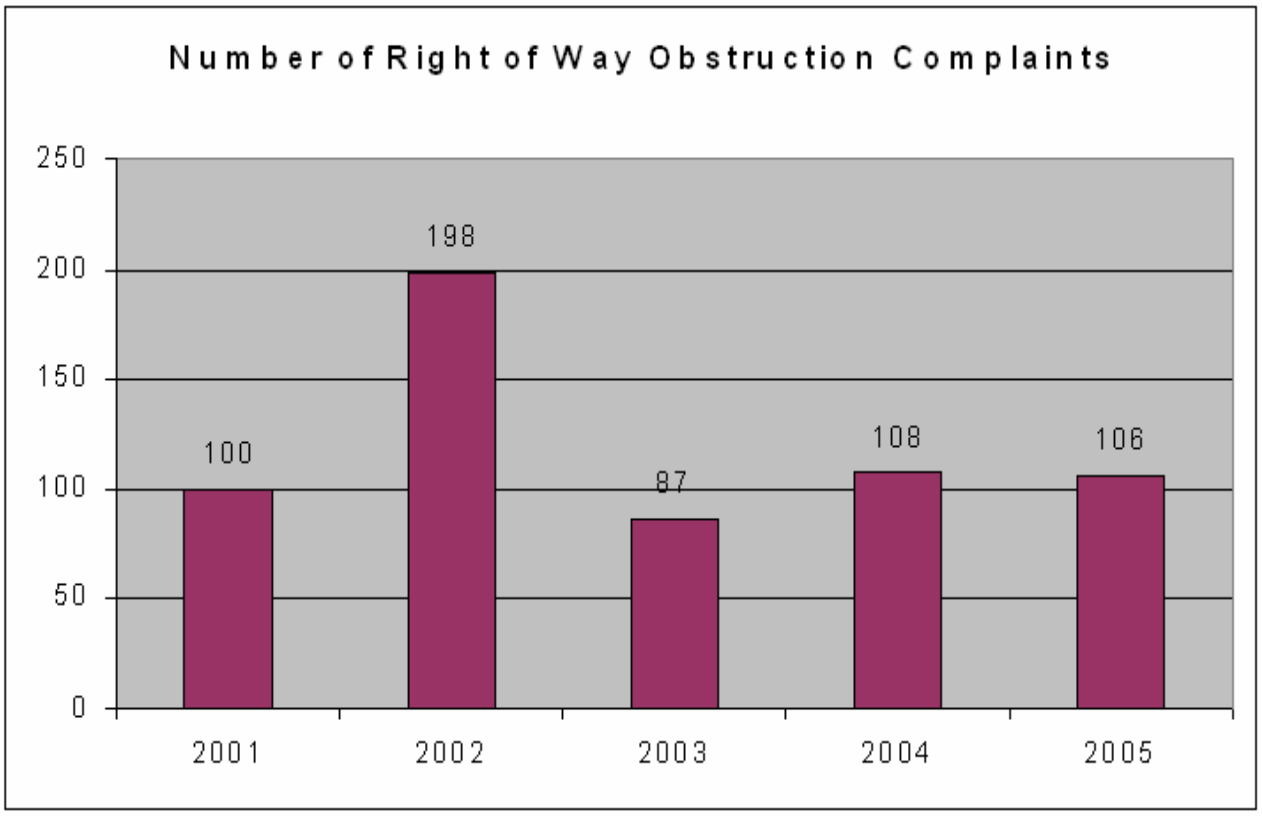


Requests for utility locates peak during the early months of the construction season. The increasing number of requests continues to require more time by the traffic signal crews to provide the locate service.

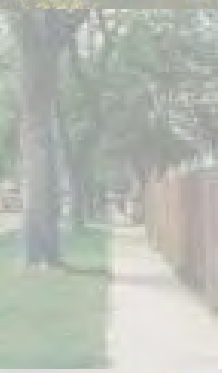




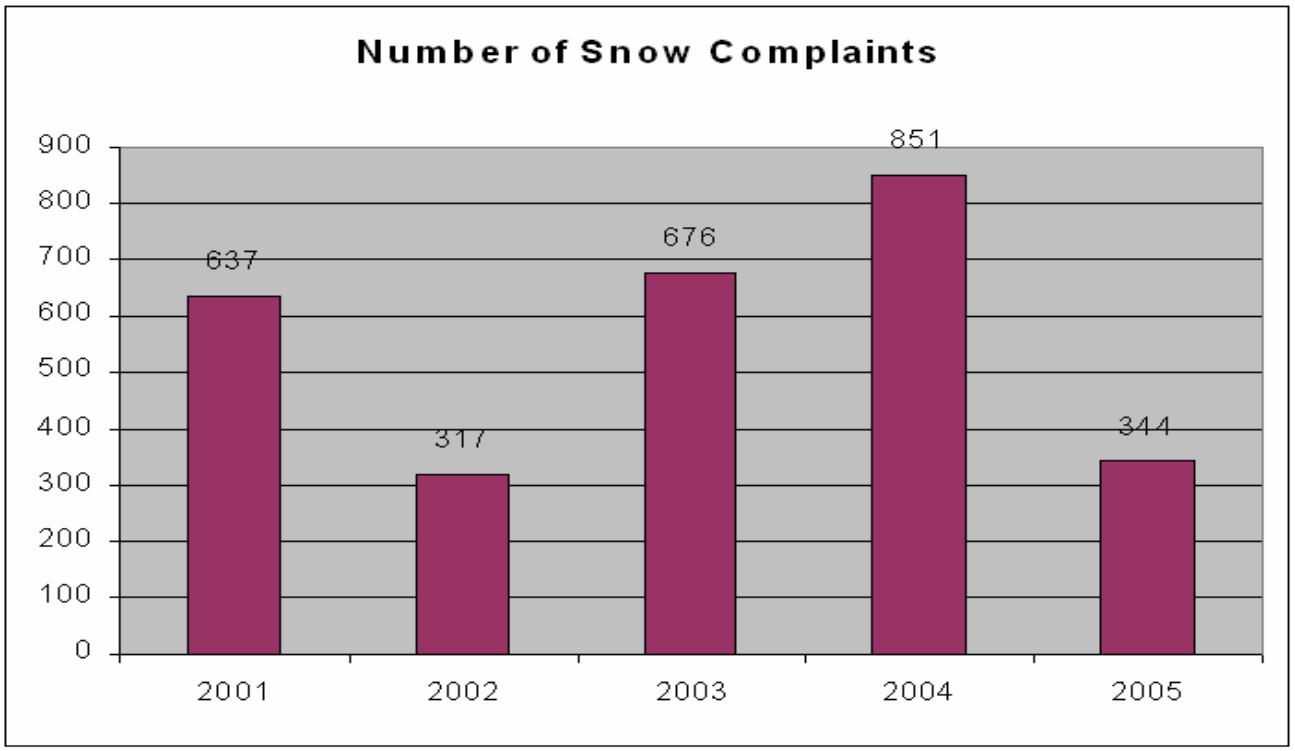
Traffic Operations staff receives and investigates many complaints dealing with obstructions in the right-of-way. Whether this is vegetation hanging over sidewalks or other items that block sight distance or access for traffic, staff goes out and reviews every location received. If an obstruction is found to exist, staff must work through the procedures to get the obstruction fixed.





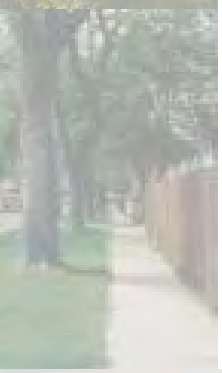
Sight distance obstruction complaints are similar to other complaints received, they are reviewed as they are received and dealt with as needed to remove any obstructions that create safety issues for vehicles or pedestrians.

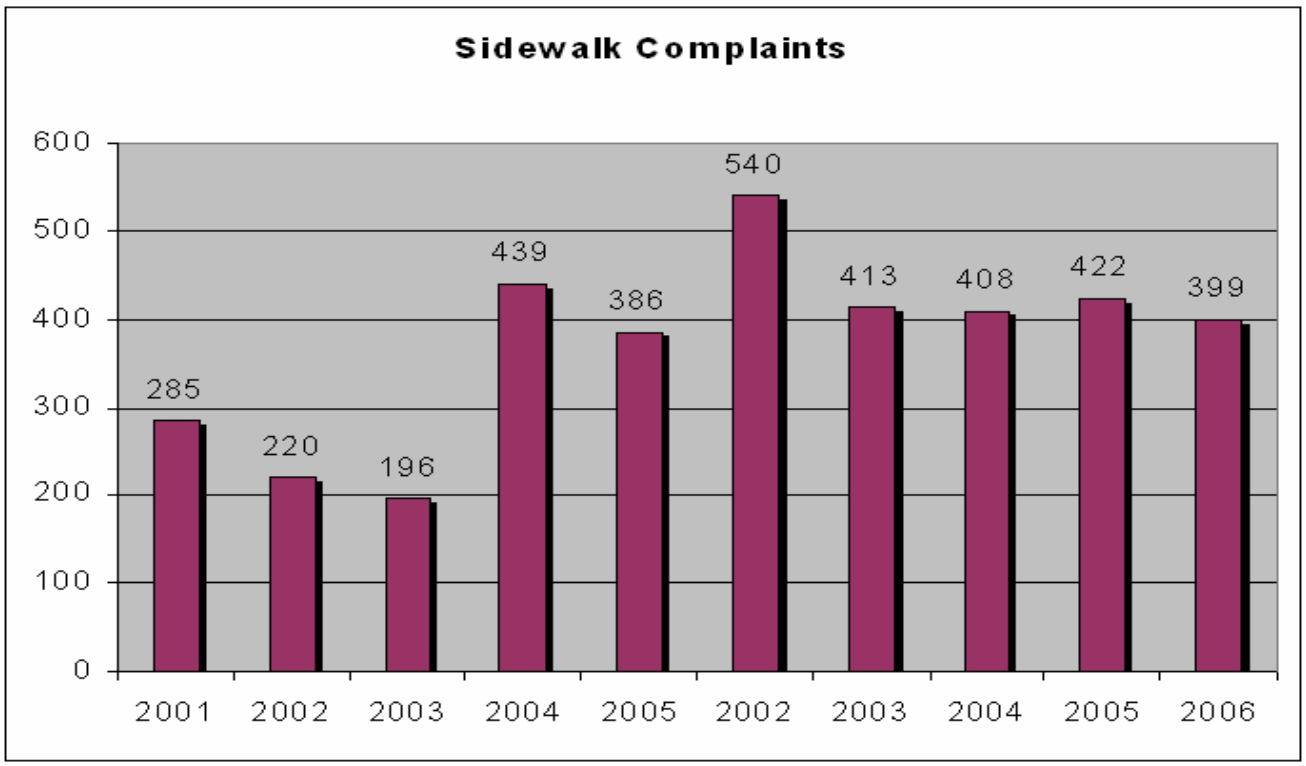


Snow complaints typically involve citizens or businesses who do not remove snow or ice from their property following a snow event. Traffic Operations staff contacts the property owner and follows the process to get the situation resolved, even though it may take several follow-up visits per site.

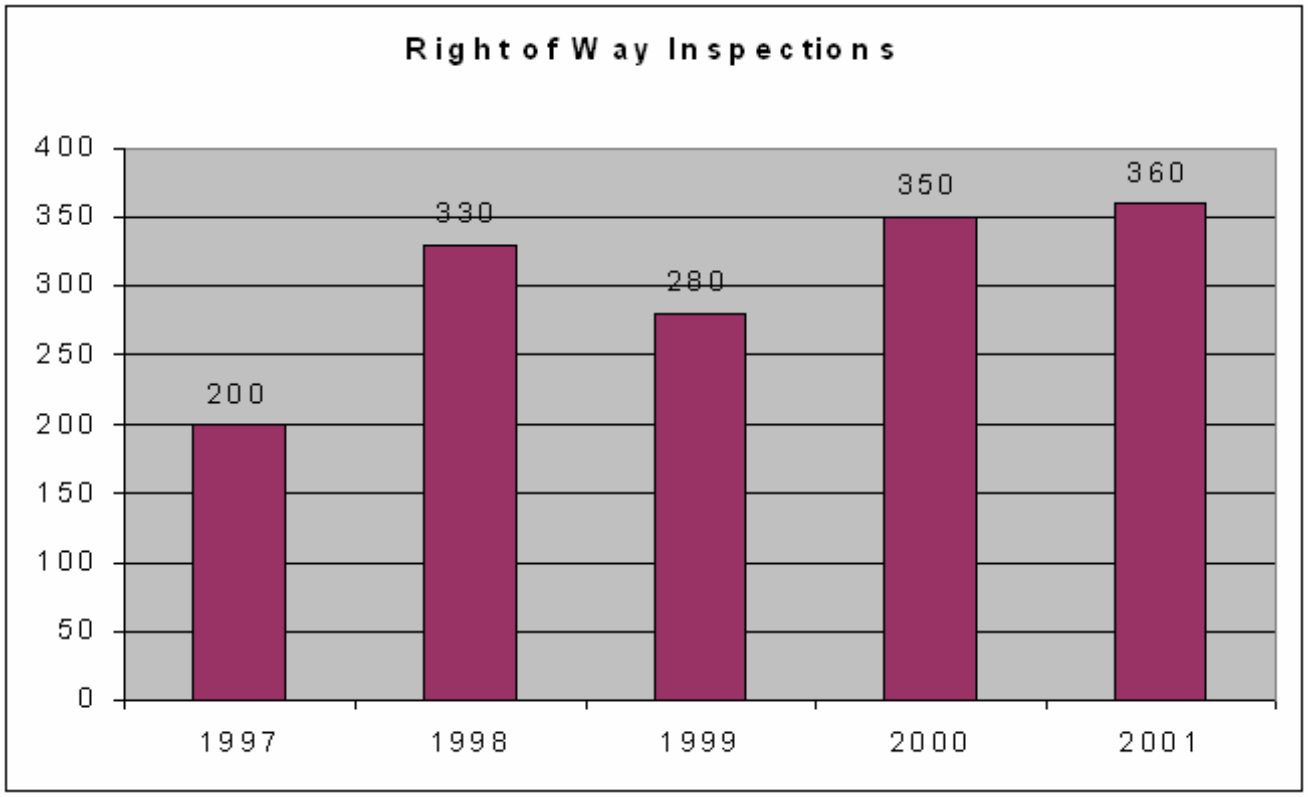




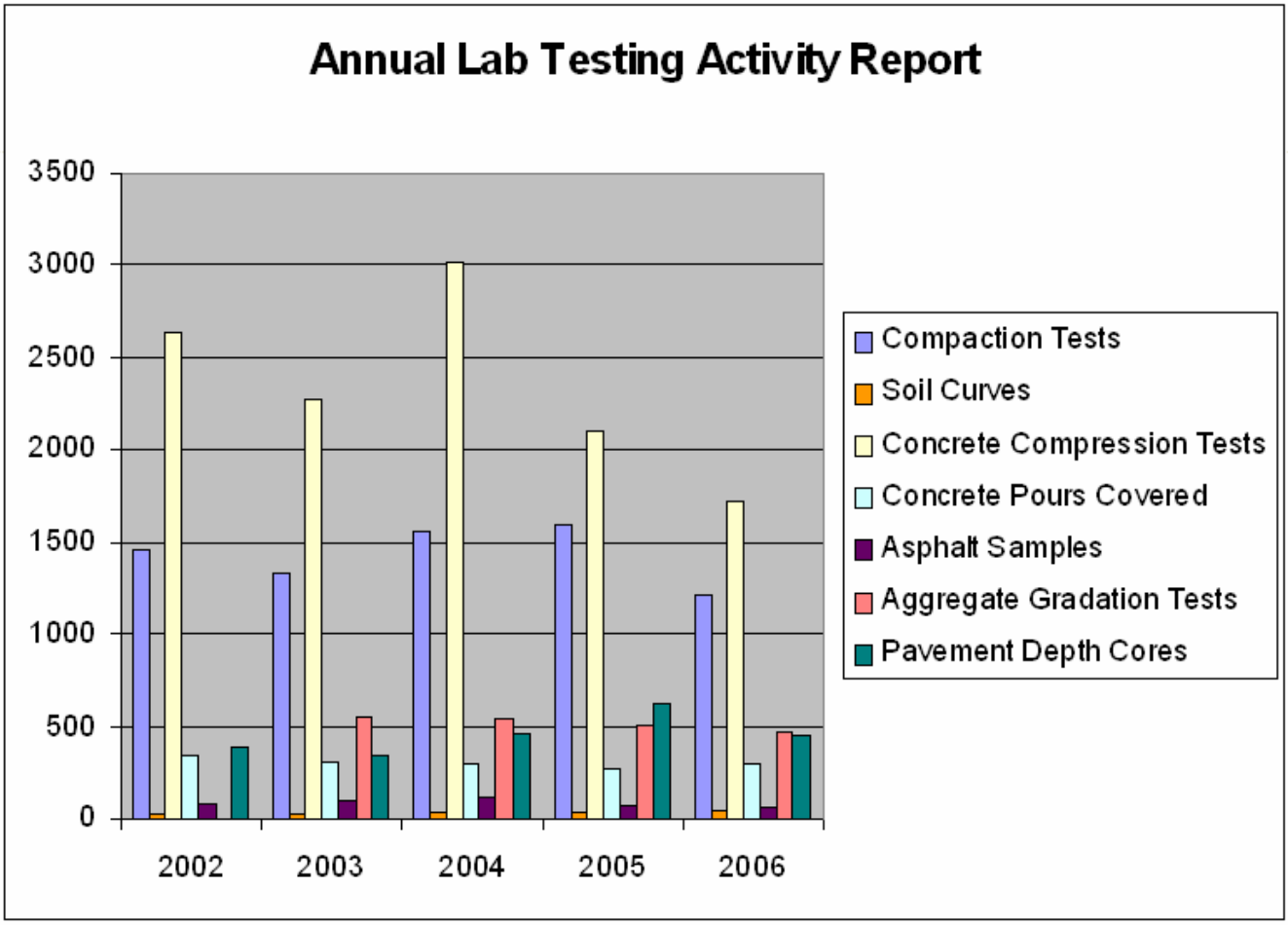





Sidewalk complaints indicate the number of reports received annually regarding deficient sidewalks. This may either be cracked walks, walks that have shifted due to tree roots or trench failures, or locations where pedestrian ramps are needed for handicapped access. These locations are put into a database and scheduled for repair depending upon location, severity and pedestrian usage.



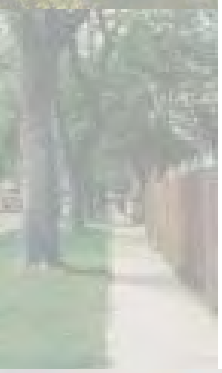
Right-of-way inspections are reviews of the construction of driveways and sidewalks for private properties.

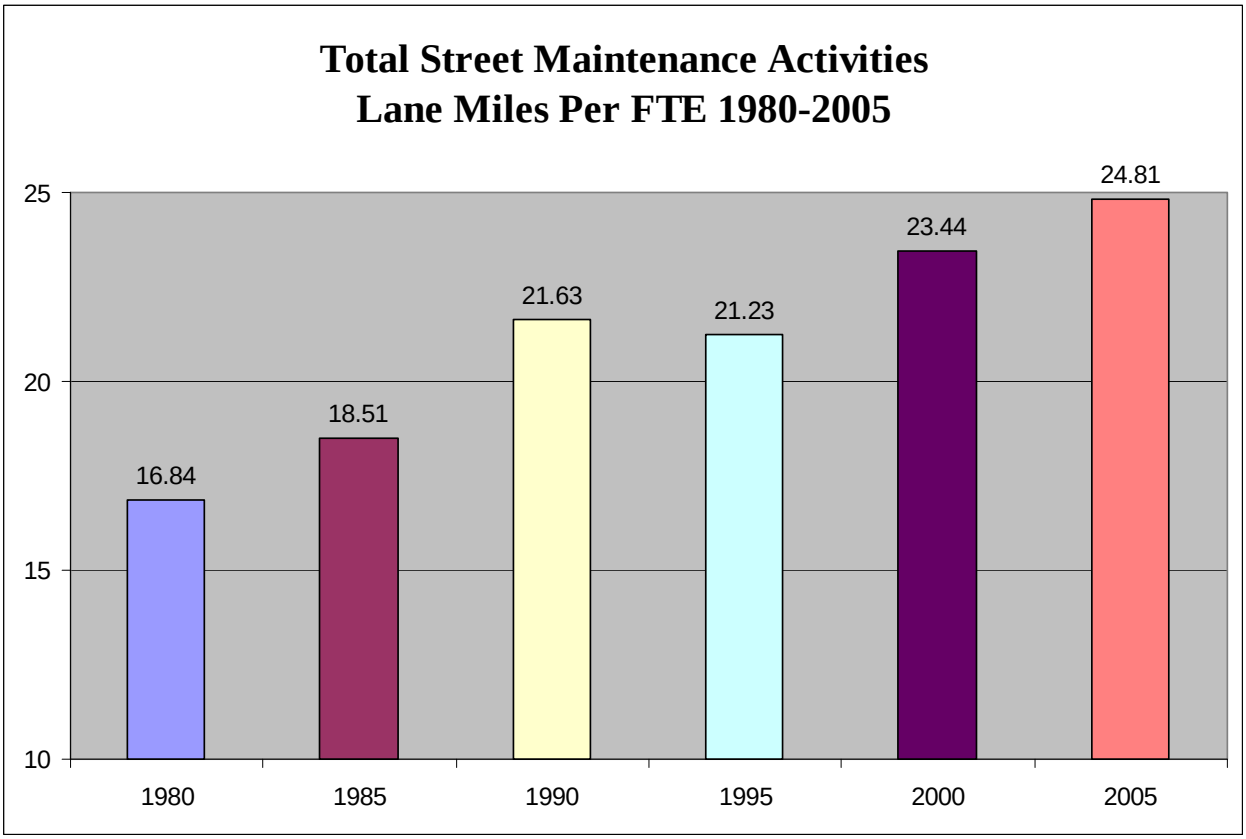


This chart shows the number of various types of tests performed by the Lab staff for the past five years. The declining number of tests is due to a number of changes that have been made: a higher number of projects being inspected by consultants; fewer street rehabilitation projects: and a number of larger projects winding down.

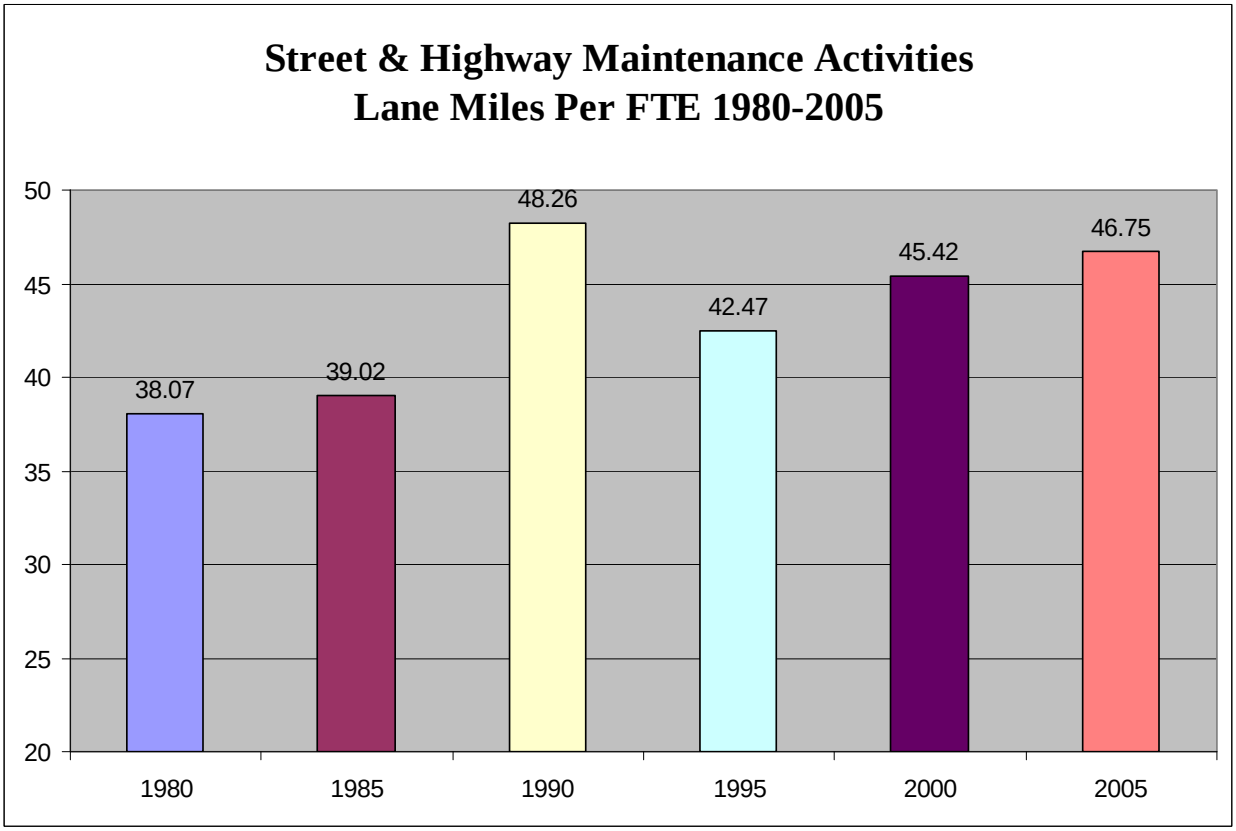
Jim Starck performs the liquid limit portion of the soils plasticity index testing which determines the suitability of the soil upon which a new street will be constructed.

Rex Cornell prepares to break a concrete cylinder to determine the strength of concrete used in the construction of a new street.

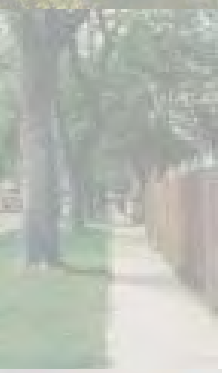


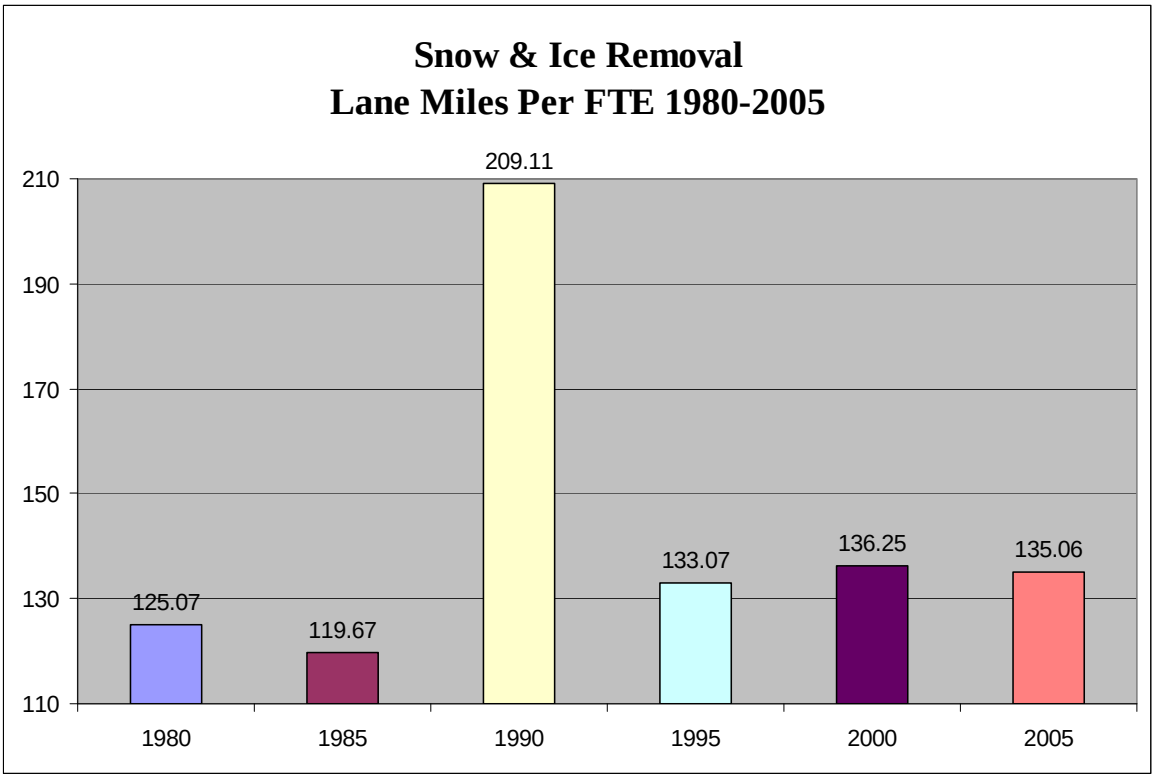


The number of lane miles of streets needing to be maintained has grown nearly 40% while the total number of street maintenance employees has declined since 1980.

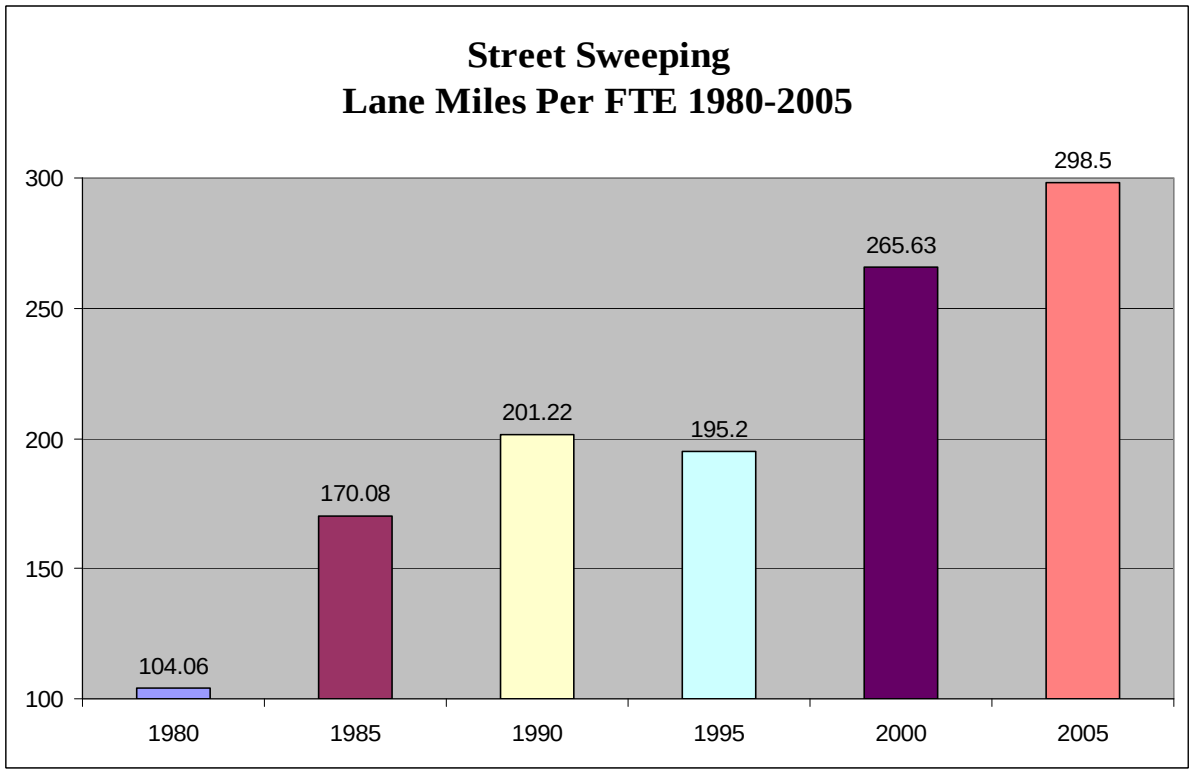


The number of employees dedicated to street maintenance has increased slightly since 1980, though they have not kept up with the growth in the number of lane miles.



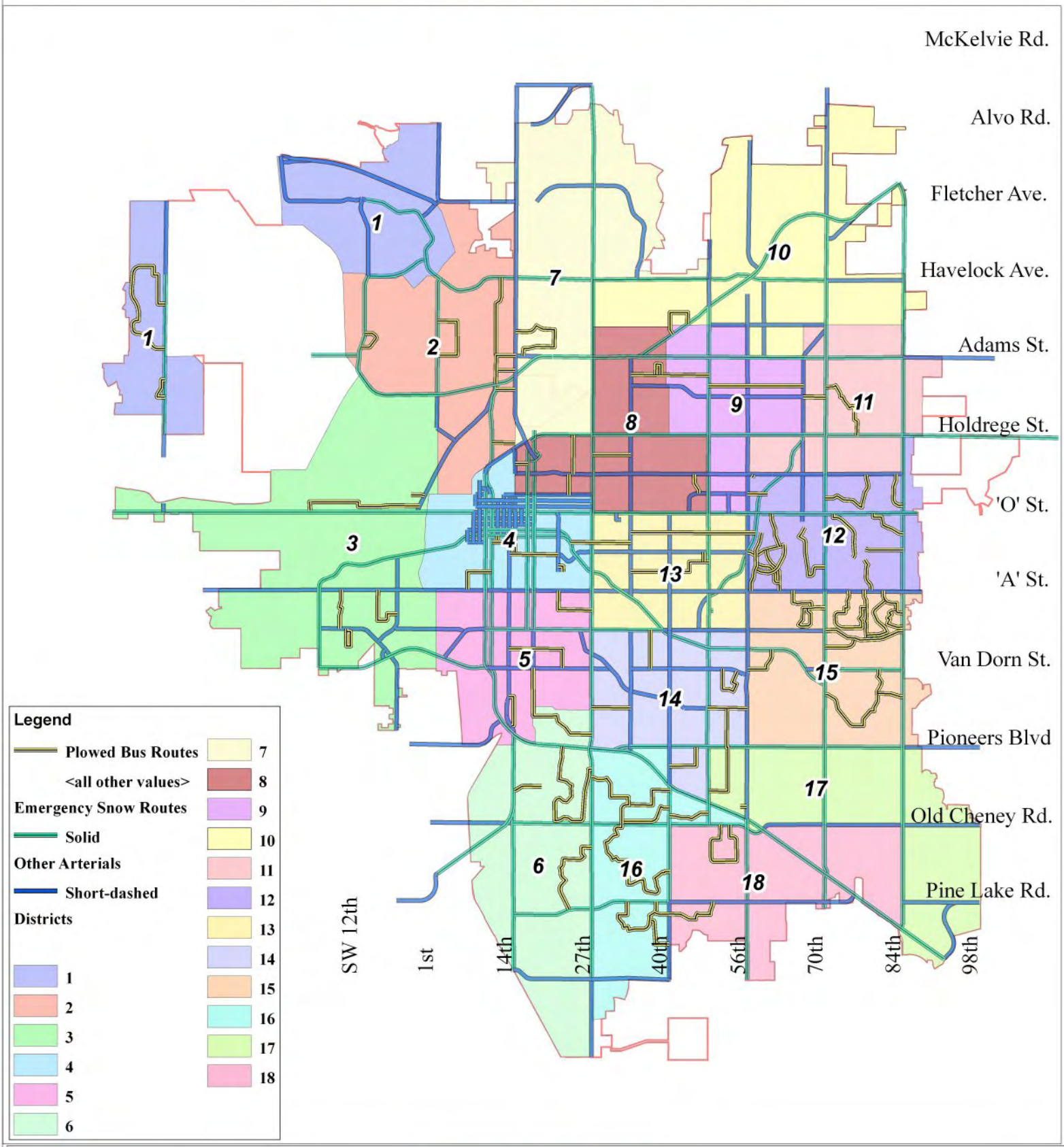


The number of employees dedicated to snow and ice removal has nearly kept pace with the increase in the street mileage since 1980.



The number of street sweeping personnel have been cut in half of the 1980 value, while the number of miles of streets swept have increased by 43%. The number of street sweeping machines has been reduced from 8 to 5. The net result is that streets are not swept as often as they were in the past.

Public Works & Utilities



Snow Operations

CITY OF LINCOLN
NEBRASKA
MAYOR COLEEN J. SENG
lincoln.ne.gov

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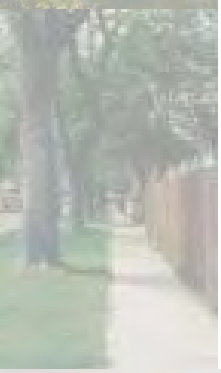
4,900 0 4,900
Feet

Prepared By: SIETLS
Printing Date: October 30, 2006



Public Works & Utilities

Business Office






Public Works & Utilities Business Office
2006 Annual Report

The Lincoln Department of Public Works & Utilities purpose is to serve the community growth, well-being, and economic success. Working together to provide quality services to our customers, the Public Works & Utilities Business Office is responsible for administrative support for our Department, customer billings and collections; permits for new and replacement water and sanitary sewer services; commercial building and fire suppression plan utility review and approval; financial projections for water, wastewater, parking, solid waste funds; cost accounting; inventory, budget and project accounting; financial GAAP reporting for Water, Wastewater, and JAVA; determination and collection of impact fees; and management of public parking facilities.

Statistics for Fiscal Year 2005-06:

•Number of Water Customers: 75,919 resulting in 453,533 billings.

•Number of Wastewater Customers: 75,573 resulting in 452,663 billings.

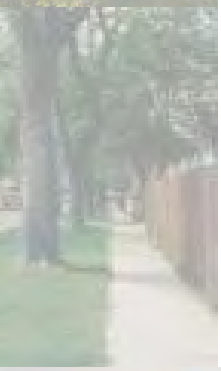
•Of those total customers, 2,488 are signed up for e-billing and 9,505 customers signed up for auto bank payment.

•The Water/Wastewater Customer Service area had 68,455 incoming customer calls handled by 8 Customer Service employees.

•Number of Active Solid Waste charge account customers was 450. Approximately 325 statements were processed each month.

•Bonded indebtedness of Lincoln Water System at August 31, 2006, was $77,550,000.

•Bonded indebtedness of Lincoln Wastewater System at August 31, 2006, was $67,685,000.



•Total number of impact fee applications processed was 1,758.

•Six employees did project accounting for 1,406 Capital Improvement Projects during Fiscal Year 2005-06.

StarTran Division

2006 ANNUAL REPORT
STARTRAN DIVISION

StarTran Organization

StarTran is the only mass transit carrier in the City of Lincoln. StarTran is fully owned and operated by the City as a municipal service through the administration of the Lincoln Public Works & Utilities Department.

EQUIPMENT LIST - (All Accessible)

FULL-SIZE COACHES:

1997 Gillig	15
2001 Gillig	20
2004 Gillig	10
2006 Gillig	15
Total	**60**

HandiVans:

2003 Ford Glaval	9
Total	**9**

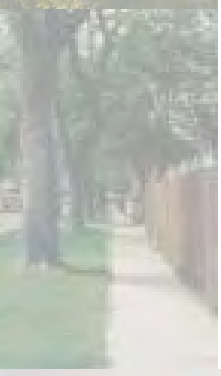
BUS ROUTES - (All Acessible)

Regular Line Service -20
Downtown Circulator - 1
Special Transportation Services Include:
Handi-Van / Brokerage Service

SERVICE HOURS

Weekdays	5:15 a.m. - 7:10 p.m.
Saturdays	5:55 a.m. - 7:10 p.m.

No Sunday Service



EMPLOYEES - FTE 2006-2007

Bus Operators	74.00
Maintenance	19.00
Transit Supervisors	6.00
Administrative	12.00
TOTAL	**111.00**

FUNDING SOURCES BUDGETED 2006-2007

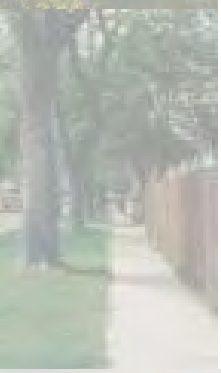
Operating

Federal	$1,434,771
State	$ 553,000
City	$5,915,402
Users Fee	$1,308,850

ANNUAL OPERATING BUDGET 2006-2007

$9,212,023



StarTran Surveillance Information

The following is the available historical ridership and miles driven by the StarTran fixed-route and special services (HandiVan and Brokerage) transit operations, as well as the fuel consumption by the fixed-route buses.

FISCAL YEAR	RIDERSHIP		MILES DRIVEN		FUEL CONSUMPTION
	FIXED-ROUTE	SPECIAL SVC	FIXED-ROUTE	SPECIAL SVC	FIXED-ROUTE BUS (gallons of diesel)
1980-81	3,491,751				
1981-82	3,270,000				
1982-83	3,050,000				
1983-84	2,940,000				
1984-85	2,580,000				
1985-86	2,240,000				
1986-87	2,115,782				
1987-88	1,955,259				
1988-89	1,889,691				
1989-90	1,859,793	99,693	1,332,963		
1990-91	1,824,961	103,104	1,334,334		
1991-92	1,541,499	106,322	1,331,376		
1992-93	1,388,112	92,113	1,188,069		
1993-94	1,399,307	79,690	1,176,607		
1994-95	1,738,214	71,605	1,213,253		
1995-96	1,683,973	63,262	1,273,414	137,030	401,134
1996-97	1,645,208	57,429	1,282,662	305,662	410,019
1997-98	1,650,196	54,680	1,306,424	304,175	375,329
1998-99	1,608,586	54,330	1,305,476	301,232	380,486
1999-00	1,535,025	54,277	1,310,042	314,293	382,487
2000-01	1,550,713	51,901	1,400,762	314,013	384,297
2001-02	1,529,340	52,135	1,402,692	331,284	340,165
2002-03	1,481,211	48,031	1,388,175	326,795	340,875
2003-04	1,508,073	44,719	1,417,901	301,644	335,358
2004-05	1,599,218	49,526	1,539,955	308,483	379,524
2005-06	1,772,712	53,577	1,463,466	330,026	377,911

It is of note that the combined fixed-route bus and special services ridership, since F.Y. 2003-04, has increased by 17.6%. This significant increase in ridership is the result both of increases in fuel prices during that period and the success of the “Ride-For-Five” discounted monthly pass program for eligible low-income persons.






StarTran "Highlights"

Alternate Fuels Program

StarTran is acknowledged nationally as a leader within the transit industry in the utilization and promotion of alternative fuels. The following alternate fuels programs are in place:

•**Ethanol Bus Program** – Between 1994 and 2000, four ethanol-powered (95% ethanol, 5% gasoline) buses were operated in regular transit service. In 2000, the engines were replaced, and are now powered by an 8% ethanol / 92% diesel fuel blend. StarTran continues to be one of few transit systems utilizing ethanol-powered buses.

•**Biodiesel Program** – Since January 1994, two StarTran buses have been powered by biodiesel fuel (75% diesel/25% soybean oil). Utilization of biodiesel significantly reduces the exhaust particulants emitted by the two buses, and lowers the utilization of diesel fuel.

•**02Diesel Fuel Program** – In 2005 StarTran entered into a contractual agreement with 02Diesel Corporation for the provision of blended diesel/ethanol (92%/8%) of fuel in all but two diesel powered StarTran vehicles. The utilization of this blended fuel has been initiated and has resulted in nearly the entire fleet of StarTran vehicles having significant reduction in black smoke, particulate matter and ozone-damaging exhaust gases, at the same cost as regular diesel fuel.

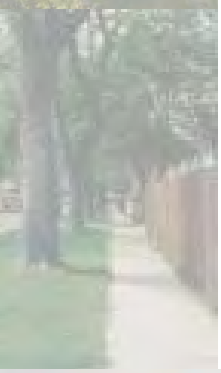
StarTran Services for Persons with Disabilities

StarTran is in compliance with all transit-related regulations of the Americans with Disabilities Act (ADA). The following services are available to maximize transportation opportunities within Lincoln for persons with disabilities:

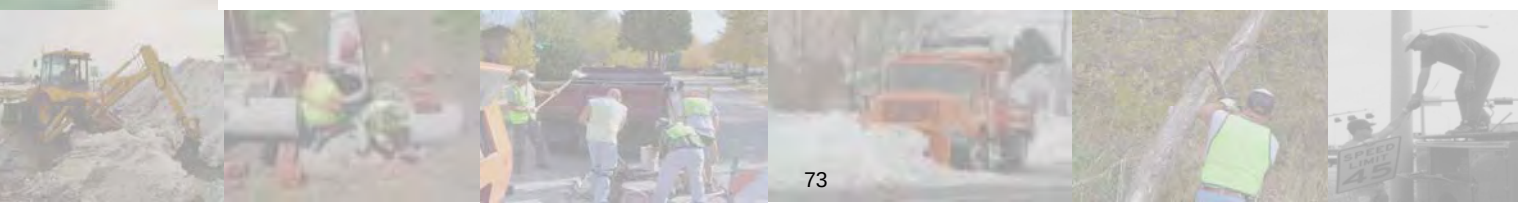
•All StarTran regular route service is accessible to persons with disabilities. StarTran currently operates 60 full-size accessible vehicles, including 45 state-of-the-art "low-floor" accessible full-size vehicles which were included in the StarTran fleet in F.Y. 2001-2002. Currently, the accessibility devices are utilized 250 times per month. Persons with disabilities who utilize all StarTran regular route services are eligible for significantly reduced fares (60 cents/trip or $12 for a 20-ride punch pass).

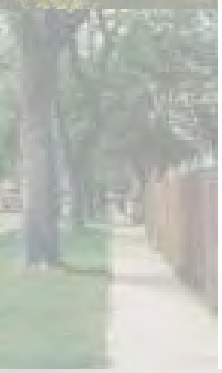
•The StarTran HandiVan and Brokerage afford complementary paratransit services for persons with disabilities. The programs realize a total average ridership of 4,240 per month - 2,695 (HandiVan), 1,545 (Brokerage).

•Accessible formats for bus schedules including large print, braille, computer diskette, and audio tape, are available. In response to customer requests, StarTran has extended the hours that telephone schedule information inquiries are answered. StarTran schedule information service is available 24 hours a day, 365 days a year. StarTran routes/schedules are also available on the Internet.



•Coordination of special transportation services provided by other public and private providers/agencies is encouraged and promoted to maximize the efficiency and effectiveness of available special transportation services.





StarTran Marketing, Promotion, Special and Other Services

Marketing and promotion of StarTran services is "directed" to groups and individuals most likely to utilize those services, i.e., senior centers, students, downtown employees, etc. The following are the marketing promotion, special and other services offered by StarTran:

•**Employee Pass Program** - Twelve employers are participating in the Employee Pass Program, which provide StarTran monthly passports at reduced cost to employees. StarTran contacts other employers to encourage participation in this program.

•**Senior Center Programs** - Presentations to residents of retirement complexes and at senior centers are provided by StarTran staff. Such presentations promote and familiarize seniors with available StarTran services. Seniors are eligible for significantly reduced fares (60 cents/trip or $12.00 for a 20-ride punch pass) on regular StarTran services.

•**StarTran/University of Nebraska Transportation Program** - Contractual agreements have been executed with the University of Nebraska since August, 1994 to operate the StarTran/UNL Transportation Program. This program provides for: 1. Utilization of all StarTran regular transit services by UNL faculty, staff, and students at no cost; and 2. Operation of the #24 Holdrege route service between downtown and UNL East Campus, traversing the UNL City Campus. The costs associated with this program are compensated by UNL to the City of Lincoln. This cooperative program between UNL and StarTran benefits both entities, having addressed UNL parking issues and by increasing StarTran revenues and ridership by approximately 423,400 trips per year.

•**Bus Advertising Program** - StarTran contracts for the sale and placement of advertising on StarTran vehicles. Currently, eleven StarTran buses are being utilized for the painted bus advertising program. This program generates approximately $60,000/year in revenue.

•**Boo at the Zoo** - StarTran provides transit shuttle service from three outlying lots, transporting a total for all five nights, of over 4,000 people, to and from the zoo, for their largest fund raising event.

•**Stuff the Bus** - Promoting to the public to contribute new goods for a charitable organization. Have nearly reached our goal of one full bus for Friendship Home the past four years.

•**Holiday Lights Tours** - Tours of many of the Holiday lights displayed in Lincoln have been conducted each December since 1995. Over 2,000 patrons participate in the tours each December, many of whom are "first-time" bus riders.

•**Speakers Bureau Presentations** - Contacts have been made to over sixty-five local clubs and organizations offering presentations by StarTran staff at meetings of those clubs/organizations.

•**Big Red Express Services** - Express transit services to and from Memorial Stadium are provided for all home UNL football games. Such service is provided at seven locations each football season (Holmes Park, Southeast Community College, Department of Roads, Slumberland/Toys R Us, SouthPointe Pavilions, Westfield Shoppingtown Gateway, and Shopko), averaging ridership of approximately 5,000 trips per game.

•**Passport Saver Program** - StarTran rewards loyal passport users with the Passport Saver Program. Simply save your monthly passes for eleven consecutive months and get the twelfth pass FREE.

•**Low-Income Bus Pass Program** - This program was initiated as a six-month "pilot" program on October 1, 2004. Due to the success of the program and securing additional funding the program has become a standard type of fare offered by StarTran. The program enables eligible low-income individuals to purchase StarTran monthly passports at the reduced price of $5 (bus) and $10 (HandiVan). Low Income patrons are eligible for the Passport Saver Program also.

•**Passport Drawing** - All patrons with a monthly passport can write their name and phone number on the back of their passport each month and deposit it in the farebox on their last trip of the month to be entered in a drawing for a free monthly passport.

•**Smart Commute** - Patrons who utilize StarTran can increase their home-buying power. It rewards homeowners who purchase a home within one-quarter mile of a public bus stop by adding a portion of potential transportation savings to their qualifying income. When you qualify for the Smart Commute Initiative you also receive three free StarTran monthly passports.

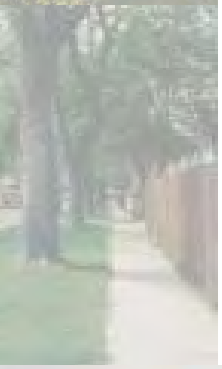
•**Star Pass** - StarTran offers a discounted summer youth pass, which is valid for the months of June, July, and August. Children, ages 6-18, are not only entitled to unlimited rides on StarTran buses with this pass, but also receive special offers from participating sponsors.

Upcoming StarTran Programs/Projects

In 2006 a Transit Development Study was initiated to identify near and long-term policies and action items for transit services in Lincoln. A number of service changes are expected in 2007 and in subsequent years that will enhance services. The Transit Development Study is addressing the following areas as part of the analysis:

•Development of transit service area characteristics
•Development of transit service alternatives
•Updated service standards and policies
•Management and funding options

In 2007 StarTran will be implementing an Automated Vehicle Location System on all buses and supervisor vehicles. The AVL system will enable StarTran to more effectively and efficiently monitor and manage bus fleet operations, resulting in improved scheduling and services to the community.

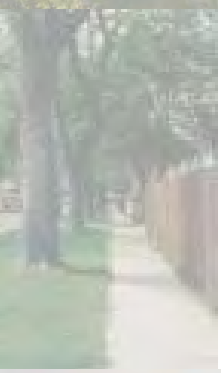


In 2007 all fareboxes will be replaced with "Smart Card" fareboxes. This technology will enable patrons to utilize a debit card to make fare transactions. Such technology has the potential to be implemented with other services such as paying parking fares.

In 2007, the 11th & "O" Streets bus passenger transfer center will be rehabilitated, to include improved passenger amenities.

In 2007, the StarTran fleet radio system will be replaced, which will interface with the AVL system.



Watershed Management Division

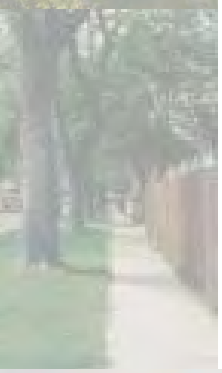
CITY OF LINCOLN
Public Works & Utilities
WATERSHED MANAGEMENT











Watershed Management Division

Watershed Management

Watershed Management's primary purpose is to improve water quality, manage stormwater runoff, reduce flood hazards, and to ensure that the City meets Federal requirements relative to stormwater quality. The division does this through the implementation of capital improvement projects that address these issues and through other efforts such as watershed education, watershed master planning, floodplain mapping, and enforcement of City standards.

Capital Improvement Projects

In 2006, nearly $1.4 million in construction of urban pipe projects were completed to reduce localized flood hazards and replace failing infrastructure. Design was substantially completed for another $2.4 million of urban drainage projects that will be constructed in 2007. In addition, $1 million in water quality and stream stability projects were completed throughout Lincoln. One of the largest projects was the rehabilitation of a channel in Antelope Park near 33rd and South Street. Stream bank erosion in the park was threatening Memorial Drive and also degrading water quality in the immediate area and downstream.

Memorial Park Stream - Before

Memorial Park Stream - After

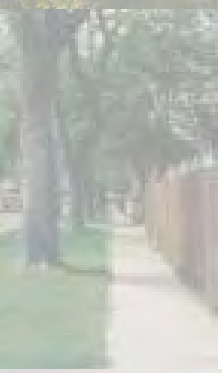
Watershed Master Planning

In the last year Watershed Management along with the Lower Platte South NRD initiated two watershed master plans, one for the Cardwell Branch watershed and another for Deadmans Run. Both master plans will identify capital improvement projects to address stream stability, water quality, and floodplain management. These studies also provide the City and the NRD with tools, such as updated floodplain maps, that can be used to promote sustainable growth in the watersheds. The Cardwell Branch master plan will be complete in the spring of 2007 and the Deadmans Run master plan will be complete in early fall of 2007.

Floodplain Mapping

The City of Lincoln entered a Cooperating Technical Partnership with the Federal Emergency Management Agency (FEMA) in 2003 for updating flood hazard information in the Lincoln area. The City of Lincoln is one of more than 20,000 communities which participate in the National Flood Insurance Program. In 2006, Watershed Management continued updating floodplain information for more than 90 miles of streams located in the Beal Slough, Stevens Creek, Southeast Upper Salt Creek, Cardwell Branch, Salt Creek, and Deadmans Run watersheds. In early 2006 floodplain maps were adopted for local regulation in the Beal Slough, Stevens Creek, Southeast Upper Salt Creek and Cardwell Branch watersheds.



Public Education and Outreach

The Watershed Management Division had many public education and outreach initiatives in 2006 related to stormwater and floodplain issues. These included an accredited class for realtors that focused on local floodplain standards and floodplain mapping in Lincoln. Presentations were made to homeowners associations regarding the maintenance of privately-owned stormwater detention facilities and stream channels, and Watershed staff volunteered at a booth during the Home and Garden show to help educate the public on stormwater issues. To address state and federal water quality standards, Watershed Management worked with builders, developers and contractors to gather input and guidance on an erosion and sediment control program for Lincoln through a series of meetings and the development of a working group. On June 10, 2006, approximately 3,000 people attended a Waterfest Event at Holmes Lake Park coordinated by the division to learn about water quality issues and enjoy the recently renovated lake. There were also significant enhancements to the Watershed Management website in 2006, including the addition of a 'Virtual Tour' for stormwater projects associated with the 2005 storm bond issue.

Erosion & Sediment Control Working Group

Waterfest - June 2006

Plan Review

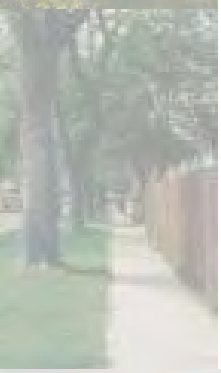
In 2006 the Watershed Management Division reviewed approximately 130 private development plans and other planning proposals. Other reviews included site visits and reviews of over 40 grading certificates, and technical assistance to Building and Safety on approximately 20 floodplain permits.

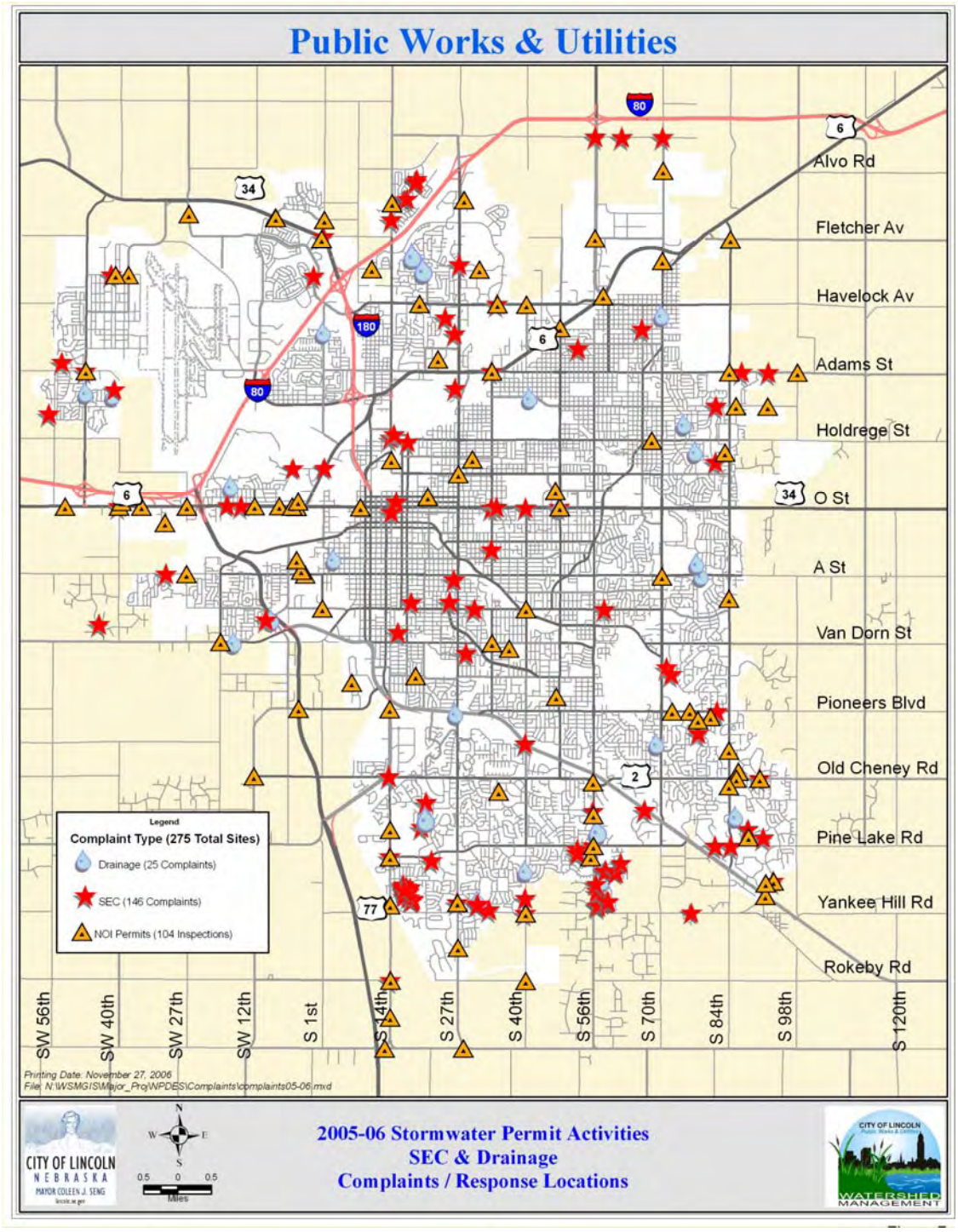
Inspections and Enforcement

The Watershed Management Division has inspection responsibilities for construction site erosion and sediment control, private stormwater detention facilities, municipal yards, and industrial facilities. In 2006, the Division responded to approximately 170 complaints regarding drainage issues or sediment in the public right-of-way. Approximately 80 detention/retention cells were inspected in cooperation with maintenance and staff from the Lower Platte South NRD. In addition, over 20 municipal maintenance facilities and over 90 industrial facilities were inspected with appropriate staff to evaluate pollution prevention plans.

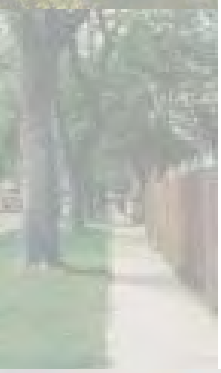
NPDES Compliance

To ensure that the City meets Federal requirements relative to stormwater quality the Watershed Management Division is the lead agency regarding compliance to state and federal regulations on the federal NPDES (National Pollutant Discharge Elimination System) stormwater permit. This involves many of the items mentioned above for education and inspection/enforcement, and includes some of the elements for capital improvement programs, watershed master planning and plan review. The City also accomplishes required stormwater monitoring programs and provides the state an annual report regarding NPDES compliance.







Lincoln Water System Annual Report

March 2007






Mayor Seng
City Council Members
Karl Fredrickson, Director of Public Works & Utilities

Fellow Citizens

I am pleased to submit the annual report of the Water Operations Division of the Public Works & Utilities Department for fiscal year 2005/2006. This report serves as a valuable resource for the community to understand the division's work.

As the City of Lincoln, Nebraska continues to grow, the community's demand for safe, clean, affordable water will increase. Lincoln Water System will strive to meet this increased demand by adding facilities and infrastructure; efficiently allocating and adding personnel as needed to meet growth; building staff's technical skills; increasing the security of the water system; and seeking additional water supply sources. These changes and additions will be made in phases, as described in the Lincoln Water System Facilities Master Plan.

Lincoln Water System is dedicated to providing quality customer service throughout our community. The department is a team-oriented organization, emphasizing safety, communication, and respect for individuals.

Increasing demands cannot be continuously met by a limited water supply. Lincoln Water System must obtain new sources of supply and must continue to educate customers about water conservation.

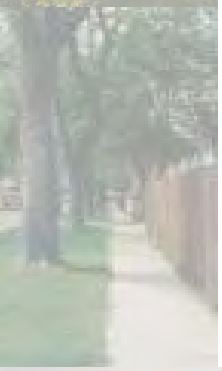
Growing concerns about terrorism require facilities to be secure. Employees now have the extra responsibilities of focusing their time and attention on the security of the water system. Additional equipment and staffing may be required to help keep the water system safe and secure.

Increasing energy costs require the purchase of energy-saving equipment for new and replacement projects and we are placing new emphasis on efficient modes of operation, to hold down the level of rate increases.

Stricter water quality regulations will require the addition of new and modified treatment plant processes and techniques. This will involve purchasing replacement equipment and training staff. Pilot studies will be necessary to determine the most efficient treatment process changes.

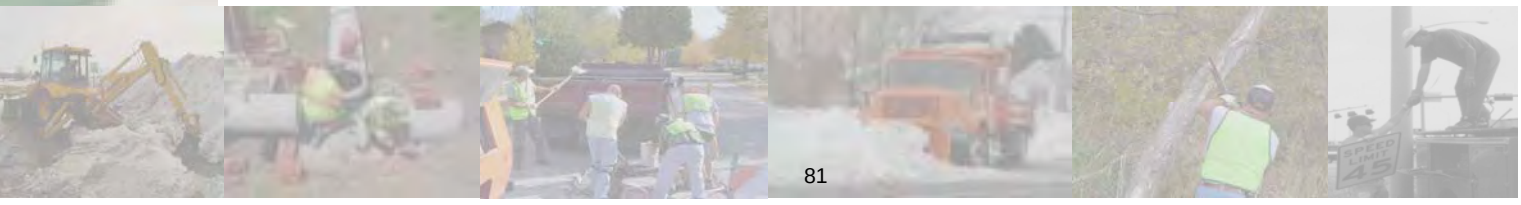
The expansion of the water distribution mains, treatment and pumping facilities, and the imposition of stricter water quality regulations will result in a larger amount of work to be done by Water Division staff. The number of Lincoln Water System employees may increase to handle the addition of facilities and the increased workload.

The Lincoln Water System and its dedicated employees look forward to continue to provide an adequate quantity of quality water and to serve you, our customers in the years ahead.

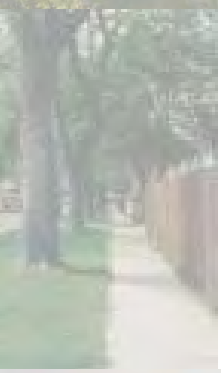


Sincerely,

Jerome G. Obrist, P.E.
Lincoln Water System





LWS Mission Statement

Mission

Lincoln Water System's mission is to produce and distribute an adequate supply of high-quality water to meet the demands of customers efficiently and at the least cost.

Vision

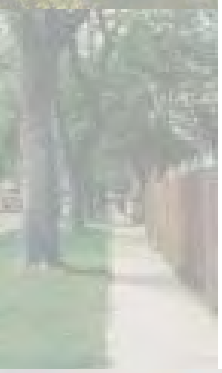
As the city of Lincoln, Nebraska continues to grow, the community's demand for safe, clean water will increase. Lincoln Water System will strive to meet this increased demand by adding facilities and infrastructure, adding personnel, building staff's technical skills, increasing the security of the water system, and seeking additional water supply sources. These changes and additions will be made in phases, as described in the Lincoln Water System Facilities Master Plan.

Operating Philosophy

Lincoln Water System is dedicated to providing quality customer service throughout our community. The department is a team-oriented organization, emphasizing safety, communication, and respect for individuals.





Water Operations

Jerry Obrist - Utilities Coordinator

- Budget Preparation & Implementation
- C I P
- Project Management
- Planning
- Regulatory Monitoring
- Conservation
- Safety
- Security

Goals (06-07)

• Continue to manage energy usage to control operational costs.

• Maintain the department's finished water quality. Continue to meet all state and federal regulations.

• Increase the security level of the city's water supply and water infrastructure. A Strategic Security Master Plan is in the process of development.

• Decrease peak customer water usage through water conservation education.

• Maintain the current high level of service as the City of Lincoln, Nebraska continues to grow.

• Reduce downtime, costs, and inefficiencies relating to the operation of equipment and facilities, through a well managed Preventative Maintenance Program.

• Increase the amount of professional training and development offered to staff to utilize changing Technologies. Encourage mentoring programs to benefit junior staff members.

• Increase the number of wells serving the city. Water Supply Study is in progress.

• Increase water transmission capability. Project is currently under Design.

• Modify the East Treatment Plant to treat 100 % Horizontal Well water.

• Increase water storage capacity. Identified in the Long-Range CIP.

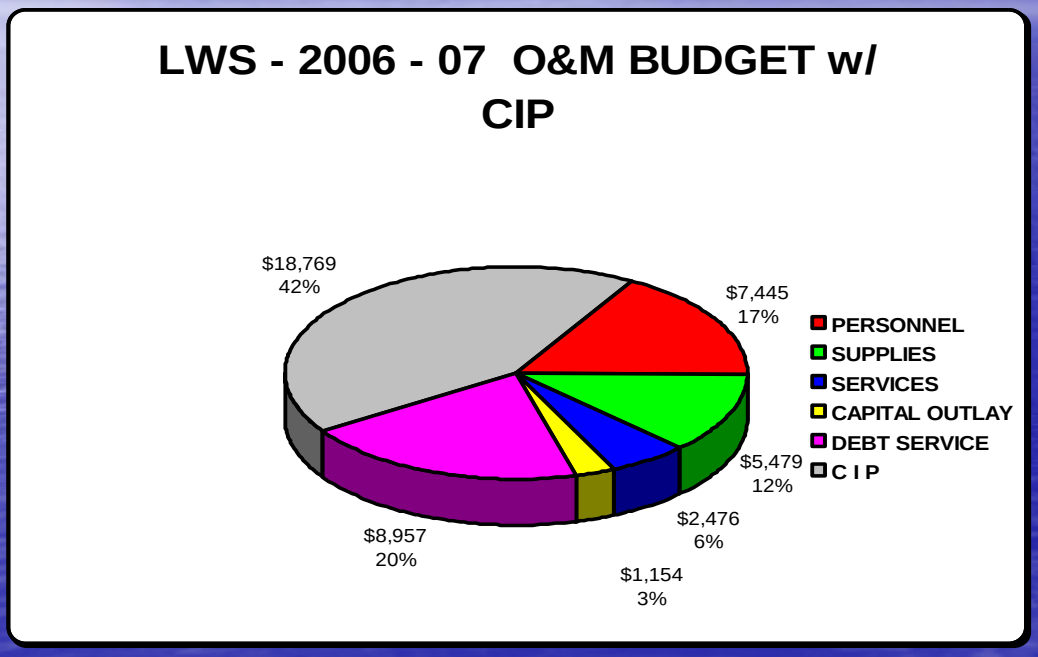
• Evaluate current treatment capabilities through Pilot work and the timing for Treatment Plant expansion.

• Implement an Asset Management Plan

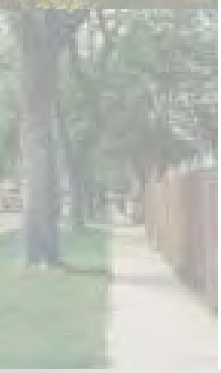
Financial Overview

LWS O&M Budget w/ CIP

FY 2006-07 - $44.3 Million

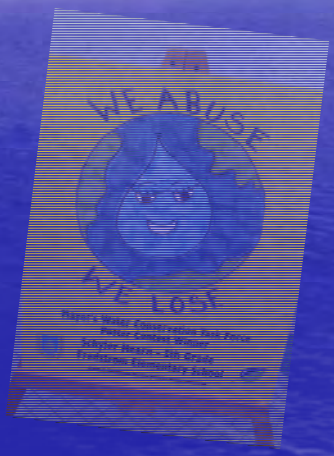


62% of the Total Budget for LWS is spent for CIP Projects and for Debt Service for CIP Projects completed in prior years.



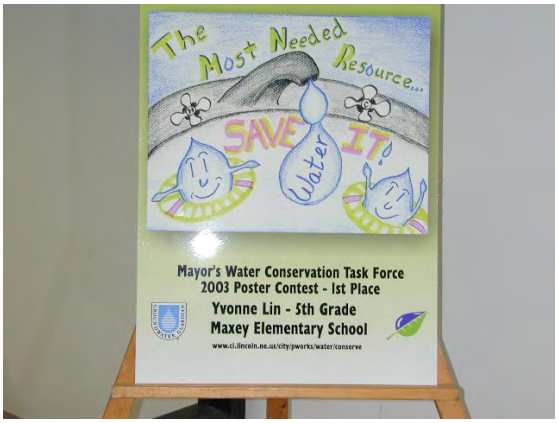
Water Conservation Task Force

- Public Education
- Encourage Indoor & Outdoor Conservation
- Trade Shows
- Printed Material
- 5th Grade Coloring Contest
- Water Management Plan



The Mayor's Water Conservation Task Force leads the community in its water conservation efforts.

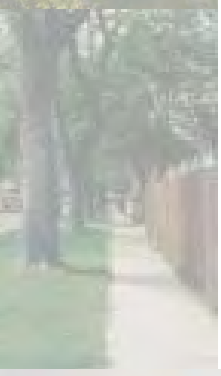
Water conserving landscape at LWS Operations center at 2021 N 27th St.



400+ area fifth graders participate in the Mayor's Conservation Task Force's Coloring Contest.

Volunteers from the Mayor's Water Conservation Task Force staffed a booth at several area trade and home and garden shows each year.

Information on water conserving practices, irrigation scheduling, mulching, and landscape materials was distributed at local nurseries and posted on the City's web site.



Production
John Miriovsky - Manager

Ashland Production - $4.6 Million - 29.7 FTEs

- Treatment Plant, Water Quality,
- Wells, Transmission, Control System
- 40 Million Gallons per Day - Annual Average

Lincoln Production – $2.8 Million - 11.6 FTEs

- Antelope Valley Wells and Ashland Wells
- 8 Pump Stations, 10 Reservoir Sites, 6 Pressure Districts

Water Production

Vision - As the City of Lincoln, Nebraska continues to grow, the community's demand for safe, clean water will increase. Environmental and technical regulations will become more numerous and strict. Lincoln Water System will strive to meet these increased demands by adding facilities and infrastructure, adding personnel, building staff's technical and professional skills, increasing the security of the water system, and seeking additional water supply sources. These changes and additions will be made in phases, as set forth in the Lincoln Water System Facilities Master Plan.

Philosophy - Lincoln Water System is dedicated to providing quality customer service throughout the community. We are team-oriented professionals who emphasize efficiency, cost-effective organization, safety, open communication, and respect for individuals.

Long Term Goals

• To increase the volume of raw water supply.

• To increase water transmission capability.

• To increase the levels of the staff's technical knowledge and skills for both individual positions and water system day-to-day operations.

•To reduce peak customer water usage.

• To increase the security level of the city's water supply and water infrastructure.

• To increase the City's water storage capacity.

•To increase communication among LWS sections.

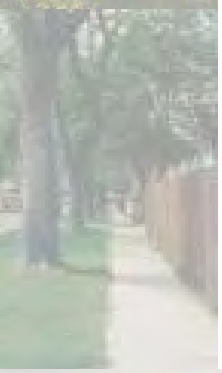
• To reduce energy usage of treatment, transmission, and distribution processes in an effort to control costs.

• To maintain the department's finished water quality while continuing to meet all state and federal regulations.

• To maintain the current high level of service as the City continues to grow.

• To reduce downtime, costs, and inefficiencies related to the operation of equipment and facilities.



Accomplishments

Water production staff members were responsible for the following activities during the past year:

- Delivery of 14 billion gallons of water to LWS customers
- Maximum water delivery of water for one day of 75.7 million gallons – July 19, 2006
- 2574 water samples collected and tested for coliform bacteria
- 119,767 "Water Quality Brochures" were mailed to LWS customers.
- 123 wells, pumps, and motors were maintained in working order.

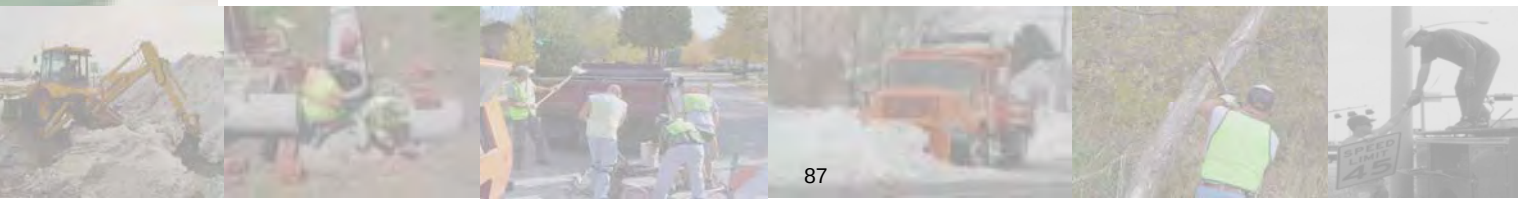
Inside a pump station in Lincoln.

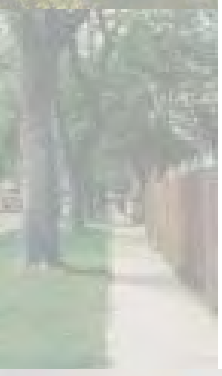
- 7826 separate work orders were completed for repairs and scheduled maintenance activities.
- No water quality violations requiring public notification.
- Two replacement wells were constructed and placed into service for the summer 2006 pumping season.
- Pumping improvements were completed at the Northeast Pump Station providing increased capacity for future growth.
- Security improvements at various LWS facilities locations.

New Security Camera

Did you know?

- LWS spends nearly $3.0 million per year for energy costs, most of this being spent for electricity and diesel fuel to pump water to and around Lincoln.
- Energy management efforts have resulted in energy savings of nearly $150,000 per year from previous years.
- For reliability purposes, each pump station is designed to meet the needs of its service area with one of its largest capacity pumps out of service.
- Lincoln's water is delivered to the customers with a temperature range of 50 to 25 degrees C.
- Lincoln's water is considered moderately hard, with a hardness of 10 grains per gallon.
- An un-abandoned well, the Rice Well, 24 feet in diameter and 75 feet deep, which was dug in the 1890s, was discovered, and properly abandoned.
- The capacity of the existing water supply system for LWS is 100 million gallons per day (MGD).
- The average water use is 161 gallons per person per day.





Distribution

Steve Owen - Manager

$5.7 Million - 40.6 FTEs

Construction	Service
• Water Mains, Valves, & Hydrants	• Meters & Backflow Preventers
• Contractor Services	• Tapping
• Supplies	• Service Lines
	• One-Call Locates
	• Customer Service

Water Distribution

Vision - The water distribution system and demand for high quality drinking water will continue to grow as the community develops and the City implements the Comprehensive Plan. The number of aging water mains and service lines will continue to require adequate staff and funding to perform repairs and respond to emergency failures. Based on past trends, customers will continue to expect safe, high quality water along with prompt response to water quality and water service concerns. The Section will meet growing challenges through a workforce dedicated to the community and the customers it serves by continuous professional training, by the use of efficient and proven technologies, and by diligent long range planning.

Philosophy - The Distribution Section prides itself in being a full service, knowledgeable, professional team that is deeply committed to the Lincoln community. The Section is dedicated to providing responsive, reliable, and efficient services utilizing best practices, proven technology, and consistent staff training to deliver safe and adequate water to all citizens. The Section will continue to employ and develop productive, responsible and safe staff to carry out its mission and deliver high quality service to the customers of Lincoln for the long term.

Long Term Goals

• To increase the use of efficient new technologies and data management so that productivity, timeliness, and accuracy of customer service responses are improved and disruptions to customers are minimized.

• To increase proficiency in emergency response so that staff can respond to real situations in a competent and safe manner.

• To increase the quality of construction observation performed by the Distribution Section and by City Engineering staff through providing adequate resources so that mains are properly constructed with minimal defects, failure and disruption of service.

• To reduce lost productivity caused from increasing travel times for crews as the distribution system expands.

• To increase the use of electronic work order handling and customer service tracking so that responses are timely and documented, total costs are known and payroll entry is more efficient. A move towards real time data acquisition, GIS implementation and GPS use should be anticipated in future budgets and training.

• To reduce the number of work requests that do not currently have a service charge so that costs are adequately recovered for services rendered.

Accomplishments

Water Distribution staff members were responsible for the following activities during the past year:

- 53,209 Service calls made
- 164,700 miles driven to get to these service calls
- 5748 backflow prevention devices tested

- 9613 meters tested

- 1324 new residential service taps with meters made
- 66 new non-residential service taps made

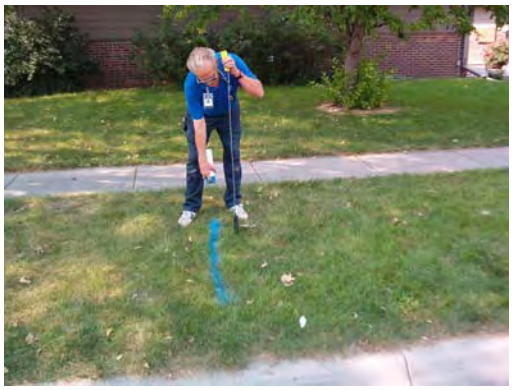
- 9532 residential meters replaced with new radio read units, completing the 9th year of the 10 year meter replacement program.
- Lincoln uses Automated Meter Reading (AMR) technology so that meters can be read by driving by rather than walking up to read each customer's meter.

• Approximately 9700 hydrants were inspected and operated

…..to assure that they will work when needed for fire fighting.

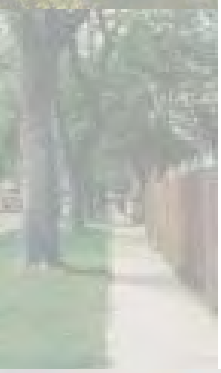
• 5891 valves were inspected and operated to assure they will work when needed to repair broken water mains

• 144 broken water mains repaired
• 1183 miles of water distribution main in the system to serve over 74,000 customers
• 2.4 miles of water main replaced.
• 23 miles of water main added to the distribution system.
• 19,697 field locations made as part of our involvement in the statewide One-Call system.



Did you know?

• LWS customers range in elevation from 1150 feet to 1440 feet above sea level
• LWS has 6 different pressure districts to meet the needs of customers at these varying elevations.
• The LWS service area is over 85 square miles.



Operations Support

Nick McElvain – Manager

$1.3 Million - 15.3 FTEs

- C I P & Project Management
- Developer Negotiations
- Maps & Records
- Safety
- One-Call Tickets
- Computer Network & Software Support
- System Maps / GIS / Asset Management

Water Operations Support

Vision –

The Operations Support Maps & Records Unit provides appropriate information and tools for LWS employees and managers to complete work in a timely and efficient manner. The Infrastructure and Facilities Management Unit provides management of the Capital Improvements Program (CIP) so customers receive maximum value for dollars invested in projects that maintain the existing infrastructure and provide for community growth.

A larger Capital Improvements Program, coordinated with extension of other public improvements, will be necessary to meet the needs of a growing community with a deteriorating infrastructure. Skilled craftsmen in the industry will retire from service and fewer talented workers are available to maintain acceptable standards of workmanship. Planning for sources of water supplies 25 to 50 years into the future will be necessary to maintain a thriving community and to remain a good neighbor to the surrounding water users in the Platte River Valley

Philosophy –

Operations Support is a dedicated professional team that enjoys its work while providing responsive and effective services to the community and co-workers throughout the city. The staff will seek more knowledge and strive to solve problems in an innovative, organized, and team-oriented approach. We are committed to developing a high level of collaboration to take advantage of the expertise available in the department, in other City departments, and in organizations throughout the community.

Long Term Goals –

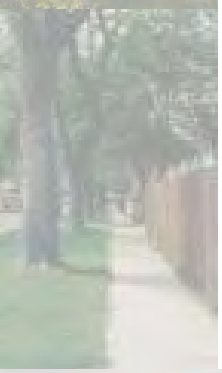
To reduce the number of projects built with defective components and improve the quality of construction of LWS infrastructure projects.

To reduce the number and amount of damages caused by improper locates.

To increase the quantity and quality of project information provided to the customers so that they will be informed regarding the requested rate increases to finance infrastructure improvements.

To increase the level of communication and coordination in the development of the Capital Improvements Program to include more and better information from the development community, Planning Department, and Engineering Services Division.

To increase the understanding of the water distribution system design and operation.



Accomplishments

• Water Operations Support staff members were responsible for the following activities during the past year:

• 33,252 One-Call tickets received from Digger's Hotline of Nebraska, and were processed within the required 48 hours.

• 83.8 percent of tickets received were cleared by staff using utility maps for water, wastewater, storm water, traffic, and the downtown business improvement district.

• 1,100 emergency locates were cleared or located in the field within the required 2 hours.

• 45 Capital Improvements Program (CIP) projects were in the design or construction phase

• $17,400,000 was spent on CIP projects, including reservoirs, pump stations, and water mains.

• Negotiations with developers of new subdivisions which resulted in 11 new annexation agreements.

• Worked with LPED to identify potential locations for large industrial sites and to determine the cost to install water mains for water service to these sites.

• The project to convert LWS maps by a consultant from CAD format to GIS format was approximately 60 percent complete.

• A project was begun to convert the existing asset management and work order system to a more current version.

• A Safety and Training coordinator was hired to focus on Water and Wastewater division safety concerns.

• 6 monthly safety and security meetings were conducted with sections of LWS and LWWS.

• 15 different safety topics were presented to employees attending specific training sessions with respect to safety and security in the work place.

• All LWS Employees completed National Incident Command System (NIMS) training to meet Department of Homeland Security compliance requirements.

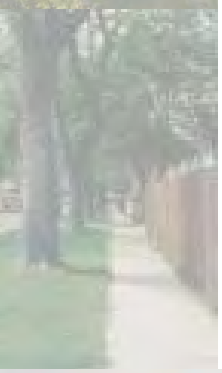
• Provided training on LWS pressure districts to Lincoln Fire and Rescue management personnel for application to fire suppression capabilities.

• Conducted a Unified Command Tabletop Exercise for a water contamination incident. Included representatives from Lincoln Fire and Rescue, Lincoln-Lancaster County Health Department, Citizens Information Center, and Lincoln-Lancaster County Emergency Management.

• Conducted preliminary security site assessments at LWS and LWWS facilities for development of improvements.

• Evaluation of water main break history with respect to annual rainfall.

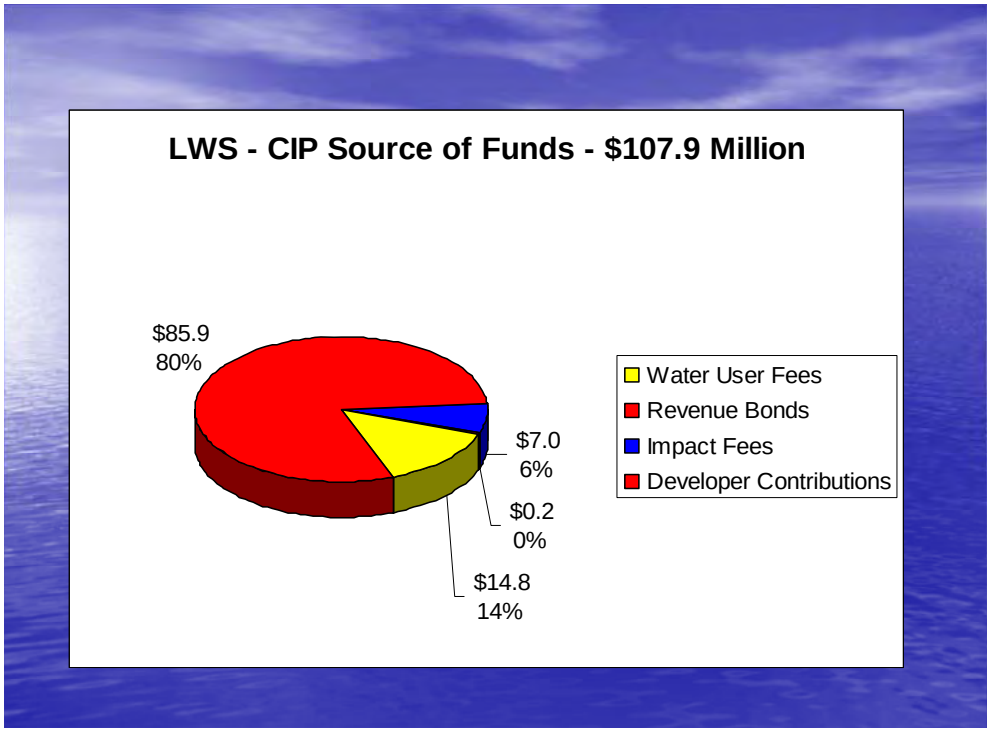


Major CIP Projects in 6 Year CIP

- Water Transmission Main – Greenwood to Lincoln – 2006-09
- Additional Wells at Ashland – 2007-10
- Treatment Plant Expansion – 2008-12
- These make up $51 million of the 6 year CIP Total $108 million

Greater than 45% of the $108 million 6 Year CIP is projected to be spent on additional wells, treatment capacity, and transmission mains.

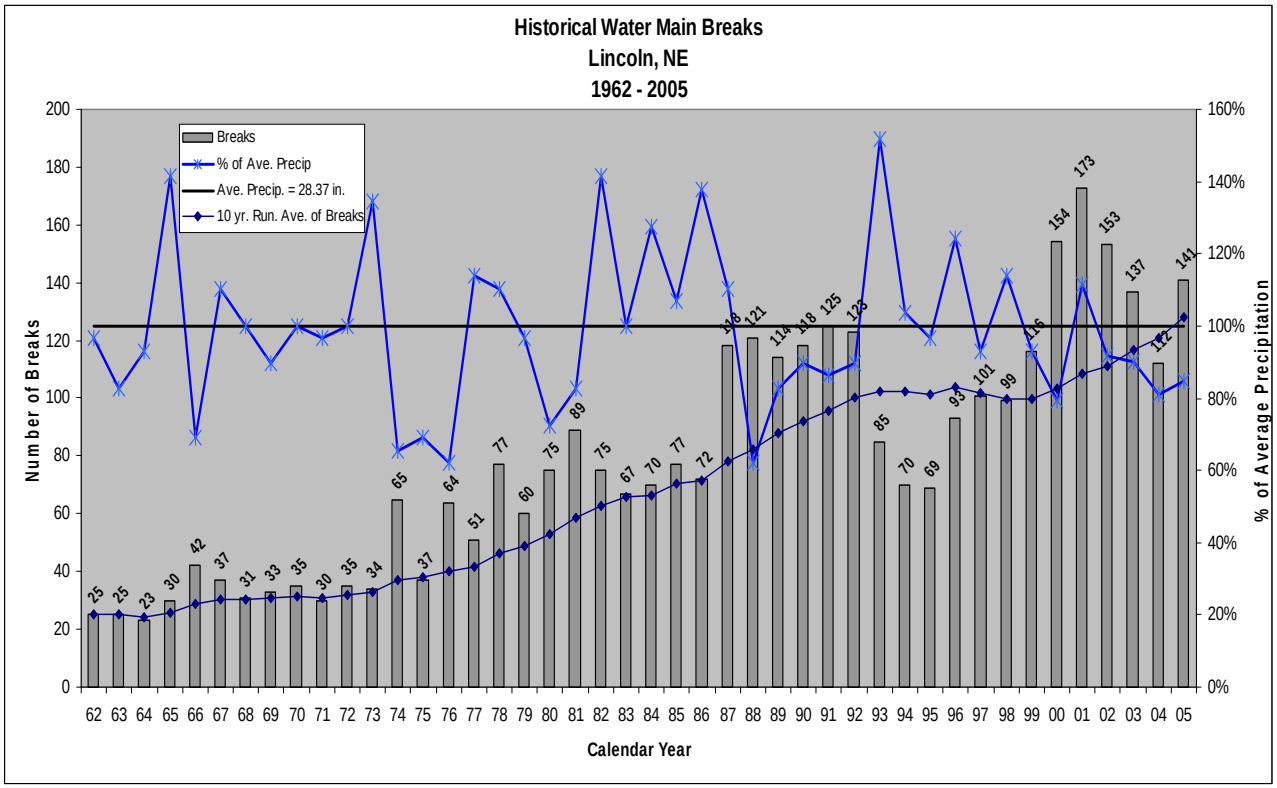


The CIP is funded primarily from Revenue Bonds, allowing future customers to share in the cost of Infrastructure Improvement Impact fees that are generated from new homes and businesses, these generate approximately $1.0 million per year. These funds are spent to build improvements necessary to meet the growth of the community.






24 inch steel pipe being delivered for new water main project in northwest Lincoln.

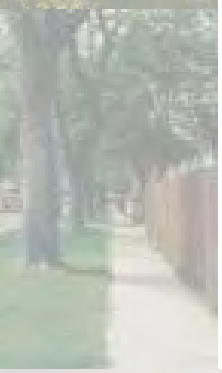


Graph of broken water mains from 1962 to 2005.

Vertical bars represent the number of water main breaks each year (scale on the left). The continuous line sloping up from left to right is the 10 year moving average of the number of broken water mains. The line at the top of the graph is the annual precipitation as a percentage of average precipitation (scale on the right). During periods of below average precipitation, the number of broken water mains generally increases. The cause of most broken water mains is corrosion. The metal pipes corrode as a result of the interaction with corrosive soils and moisture in the soil. When the ground is dry during drought periods, Lincoln's clay soils shrink, causing movement and stresses on the pipes. LWS has stepped up its water main replacement program in the past several years to begin to replace those pipes which have served their useful life. LWS has many miles of mains that are 100 years old. LWS averages between 12 and 13 broken mains per 100 miles of water main.

American Water Works Association has identified a target of 25 to 30 breaks per 100 miles.



Water Staff Qualifications

Certifications and Licenses

The LWS staff must maintain many licenses and certifications to remain proficient and competent to perform the duties and to meet the mission of LWS. One or more LWS staff possess the following Licenses, Certifications, and Trade Skills.

List of Professional Licenses / Certifications / Trade Skills

Professional License or Certificate

Professional Engineer License
Grade I, II, III, IV, VI Water Operator License
Micro Computer Technology Certificate
MS Certified Database Administrator,
MS Certified Systems Engineer,
MS Certified Trainer,
Master Certified Novell Engineer,
Cisco Certified Network Associate,
Cisco Certified Academic Instructor,
Comptia A+ Certification,
Comptia Network + Certification,
Oracle Certified Database Administrator
Certified GIS Professional CGISP
Certified Professional in Storm Water Quality CPSWQ,
Certified Floodplain Manager,

Technical Certificates or Licenses

Associate in Loss Control Management Certification,
Confined Space Entry Permits
Supervisory/ Management Training Certificate
Computer Application Certificates
IMSA or ATSSA Workzone Traffic Control Certification

Maintenance/Trade Skills

Nebraska Electrical Journeyman License,
Certified Maintenance Electrician,
Master/Contractor Electrician License
Pump Installers Certificate
Advanced Programmable Logic Control (PLC) Certificate

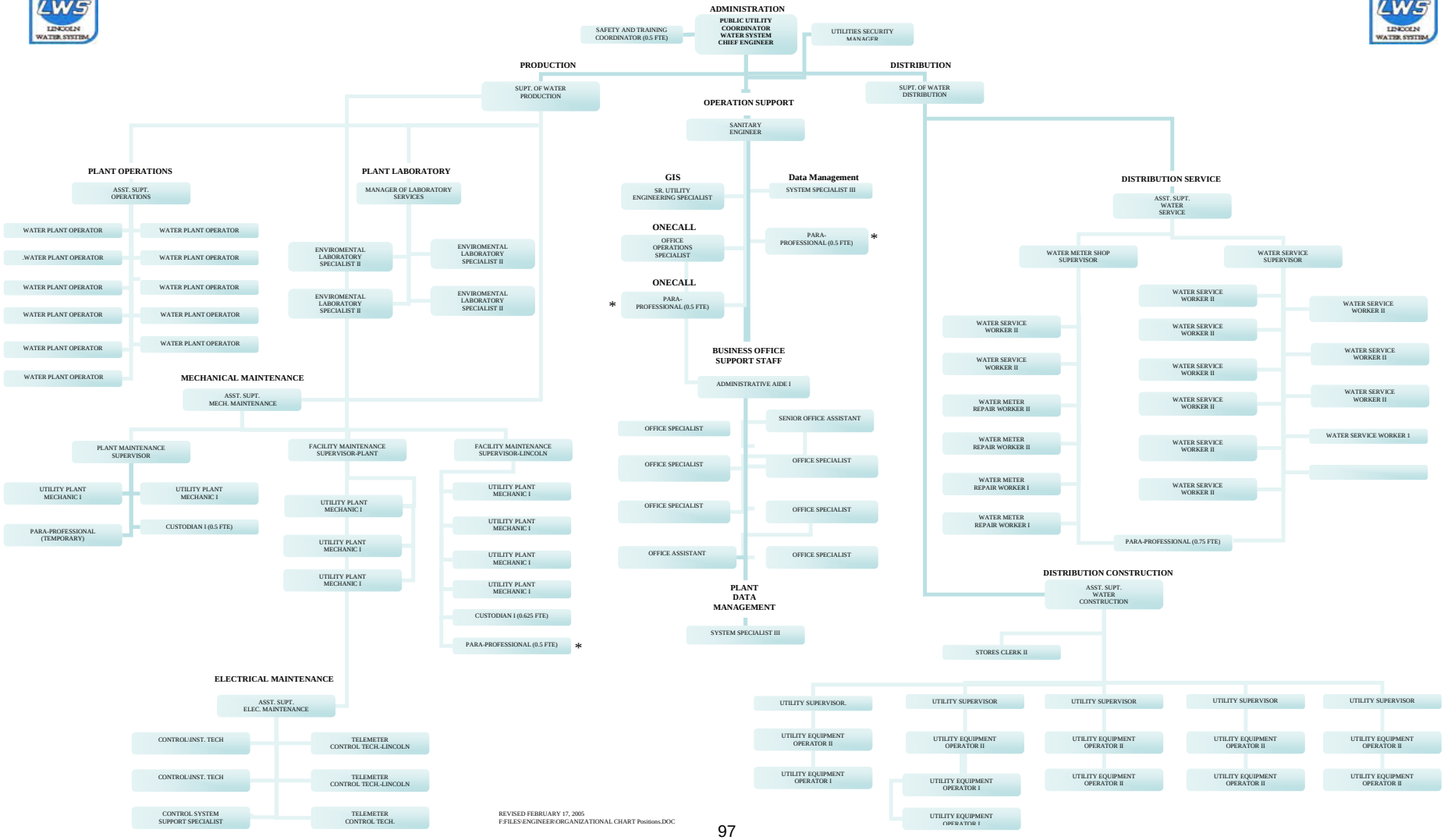
Operation Skills

Commercial Drivers License
Instrument / HVAC certification
Customer Service
Forklift Operator
Chemical/Pesticide Applicators License
Hazardous Waste Operations (HAZWOPPER)






ORGANIZATIONAL CHART
LINCOLN WATER SYSTEM 2005/2006



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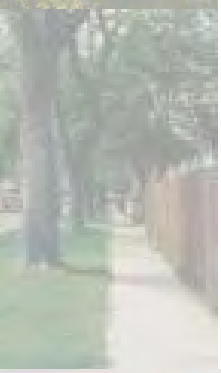


Solid Waste Operations

Solid Waste Operations

City of Lincoln

Public Works and Utilities Department






Solid Waste Operations Annual Report FY 05-06

MISSION

Solid Waste Operations, (SWO) provides responsible and economical management of all solid wastes generated within Lincoln and Lancaster County in order to ensure the protection of human health and the environment. Solid Waste Operations provides effective waste reduction, waste diversion, material reuse and recycling programs, and efficient waste transfer and waste disposal operations that comply with local, state and federal regulations and the Lincoln – Lancaster County Integrated Solid Waste Management Plan.

VISION

Solid Waste Operations will emphasize solid waste management hierarchy concepts and the Integrated Solid Waste Management Plan to develop and maintain waste disposal facilities and recycling programs for Lincoln and Lancaster County residents. Our waste reduction, material reuse, and recycling programs, and waste transfer and disposal facilities will remain environmentally sound and operate economically efficient far into the future. We will develop innovative methods to provide stable funding for solid waste management programs and ensure quality solid waste management services and programs remain available to the residents of Lincoln and Lancaster County.

OPERATING PHILOSOPHY

We emphasize efficiency, cost effectiveness and resource conservation in all aspects of our operations. We seek networking opportunities and participate in professional development training in order to remain technically competent in all aspects of solid waste management. We respond to the demands and challenges of a constantly changing industry in a collaborative, service – oriented manner. We encourage public – private partnerships and welcome opportunities to partner with businesses in providing economical services.

As a result of this public private partnership, waste collection in the community is provided by the private sector through waste hauling firms and the City is responsible for the disposal of the waste and operation of the City's disposal facilities.

YEAR IN REVIEW

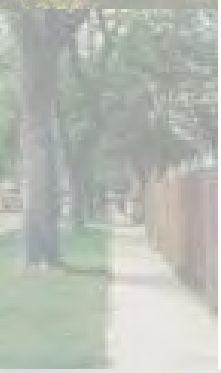
Solid Waste Operations provided for the environmentally safe disposal of 285,445 tons of municipal solid waste in FY 05-06. This included 10,143 tons of special waste from Lincoln's businesses and institutions and 7,264 tons of waste through the 48th Street Small Vehicle Transfer Station. A total of thirty people work for Solid Waste Operations.

Managed 86,159 tons of construction and demolition debris at the North 48th Street Construction & Demolition (C & D) Landfill.
SWO experienced 44,872 customer visits at the 48th Street Small Vehicle Transfer Station and 81,973 customer visits at the Bluff Road Landfill in FY 05-06.
Managed a total of 18,722 tons of grass, leaves and wood waste through the Bluff Road compost facility.
Managed 546,988 gallons of leachate (liquids from the garbage) generated at the Bluff Road Landfill.

SWO collected 6,881 tons of recyclables from residents through the network of voluntary recycling drop-off sites in the City and County.
SWO assisted in administering the Biosolids Land Application Program, which applied 41,529 tons of biosolids on farm ground in Lancaster County.
SWO provided "Garbology" curriculum to 1,725 second grade students in Lincoln and Lancaster County.
SWO recycled a total of 711 tons of scrap metal through the Bluff Road Landfill and North 48th Street Transfer Station.
SWO removed freon, PCB Ballasts, and mercury switches from 3,307 appliances.
SWO recycled a total of 6,400 car passenger tires through the Bluff Road Landfill and North 48th Street Transfer Station.
Initiated the final capping and closure of Phase 3 at the Bluff Road Landfill.
Initiated the development of a new solid waste cell (Phase 10) at the Bluff Road Landfill.

EXEMPLARY PROGRAMS

Appliance De-manufacturing: FY 05-06 was the first year of operation for the new Appliance De-manufacturing Facility at the North 48th Street Transfer Station. Staff have been trained to remove Freon from Freon containing appliances to insure that there are no accidental release of greenhouse gases. All appliances entering the 48th Street Transfer Station had technicians remove the Freon gas as well as any PCB capacitors, and mercury switches. The recovered Freon is recycled while the other material is disposed of through a hazardous waste disposal contractor. A total of 3,307 appliances were processed through the de-manufacturing facility. A total 711 tons of scrap metal was recycled through the two disposal facilities.



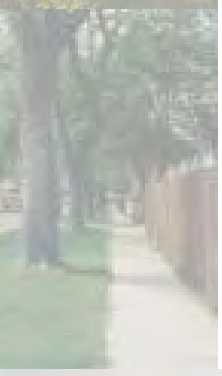
North 48th Street Transfer Station: This facility serves as a one-stop center for solid waste disposal and recycling needs for Lincoln and Lancaster residents with small vehicles. In addition to disposing of household waste, the facility can accept construction and demolition debris, and recycles the following material: used oil, batteries, tires, appliances, scrap metal, yard waste, brush, newspapers, cardboard, residential mixed paper, glass food and beverage containers, tin cans, aluminum cans, and plastic #1 & 2 containers. Residents can also obtain wood chips and LinGro compost from the facility.

Special Waste Permit Program: Solid Waste Operations works closely with the Lincoln-Lancaster County Health Department to coordinate the special waste permit program with local businesses and institutions. A total of 2,288 special waste permits were processed in FY 05-06. This program helps to divert toxic and hazardous waste generated by local businesses. In addition to the special waste permit program, SWO inspects loads of waste coming into the facility on a random basis to ensure that no hazardous or banned materials enter the landfill. In FY 05-06 a total of 158 random load inspections were undertaken.

In FY 05-06 SWO contributed $746,289 to the Health Department to help defray the cost of the special waste permit program, the clean-up of illegal dump sites, refuse hauler licensing, solid waste nuisance complaints and other solid waste related services provided by the Health Department.

Space Saving Efforts: The operating permit for the Bluff Road Landfill allows the use of alternative daily cover of the waste at the close of the day instead of 6 inches of dirt. The City utilizes tarps as daily cover instead of the 6 inches of dirt whenever possible. In FY 05-06 SWO was able to deploy the tarps as daily cover of the waste 172 days. This represented 47.5 % of the days that the landfill was open. This effort has resulted in significant space savings for the landfill.

Grants: In an effort to reduce operating costs the SWO seeks grants whenever feasible. In FY05-06, SWO successfully secured four grants from the Waste Reductions and Recycling Incentive Fund administered by the Nebraska Department of Environmental Quality totaling $340,830. These grants included recycling containers for three new recycling sites; recycling containers for public buildings; recycling education funds; and a landfill compactor.



Recycling Drop-off Program: SWO manages a network of 29 recycling drop-off sites in the City and County. In FY 05-06 a total of 6,681 tons of recyclables were received at the recycling sites. This amount represented the largest quantity of material received at drop off sites in its history. In addition, the City received the most revenue from the sale of recyclables during the year. A total of $221,903 in revenue was received for the recyclable material. Revenues covered 60% of the annual operating costs of the program. The net cost to SWO to service the recycling drop-off sites was $21.68 per ton collected for the fiscal year. The program is close to breaking even due to the avoided disposal costs of $21 per ton if the material were disposed of.

Biosolids Land Application Program: In FY 05-06 41,529 tons of biosolids from the Theresa Street Waste Water Treatment plant were applied on 49 farm fields totaling 2,030 acres. This program saves valuable landfill space and provides farm cooperators with a cheap source of fertilizer and organic matter for their fields. SWO works with the Wastewater Division and the University of Nebraska Extension Service in Lancaster County to coordinate the program.

SOLID WASTE OPERATIONS PROGRAM OVERVIEW

Bluff Road Landfill:

The Bluff Road Landfill is the second largest landfill in Nebraska. The operation of the landfill is often used as a model by the state solid waste industry. SWO staff are highly trained and have many years of experience in effectively managing Lincoln's municipal solid waste in an environmentally sound manner. It complies with all local, state and federal regulations regarding the operation and closure of a solid waste disposal facility. The life of the landfill is projected to be until 2030.

The Bluff Road Landfill has a tipping fee of $14 per ton that became effective January 1, 2007. This charge is the lowest disposal fee in the State. In order to better manage capital improvement projects at the landfill, SWO issued revenue bonds for the final capping project of Phase 3 and the new phase development for Phase 10. The total amount of revenue bonds used on this project was $2.85 million. This has allowed the City to keep the landfill tipping fee low.

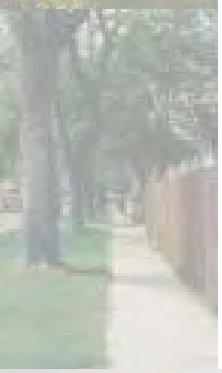
The facility is open 362 days out of the year. The National Solid Waste Association of North America has certified the Superintendent and Assistant Superintendent as Managers of Landfill Operations (MOLO).

48th Street Transfer Station:

This is located at the old landfill that closed in 1988. In order to provide a safe and convenient location for residents with small vehicles to dispose of their waste a small vehicle transfer station was developed at this site. Waste is transferred to a semi-trailer, which is then transported to the Bluff Road Landfill for disposal. This reduces traffic at the main landfill.

In addition to handling solid waste, the facility operates a recycling drop-off site, an appliance de-manufacturing facility, used oil, automobile battery, and tire recycling services. The facility also has wood chips and LinGro compost available to distribute to the public.

The facility is open seven days per week and is open a total of 359 days a year.



Construction and Demolition Debris Landfill:

The 48th Street disposal facility served as Lincoln's depository for municipal solid waste from 1956 through 1988. Due to the decomposition of the waste, the landfill has settled. In order to obtain proper slopes and drainage on the facility, the City received permission to dispose construction and demolition waste on top of the old landfill. This action has saved the City from purchasing over one million cubic yards of fill dirt to properly cap the landfill. It is projected to last until 2023.

Revenue bonds totaling $2.15 million were also issued in FY 05-06 to cover closure costs of old landfill portions at the 48th Street Facility. This helps to keep disposal costs low at the Construction and Demolition Debris Landfill. Construction and demolition debris can be disposed at this facility for $4.00 per ton.

Yard Waste Composting Facility:

The Nebraska Integrated Solid Waste Management Act requires that grass clippings and leaves be banned from disposal from April 1- November 30 of each year. The City has developed a 16 acre composting facility next to the Bluff Road Landfill to process 18,000 to 20,000 tons of organic material. SWO produces a wood chip landscape mulch and "LinGro" compost from this operation. In FY 05-06 SWO generated $53,334 in revenue from the sale and delivery of compost and wood chips. In addition, SWO had a tipping fee charge of $15.75 per ton for the yard waste deposited at the composting facility.

Recycling:

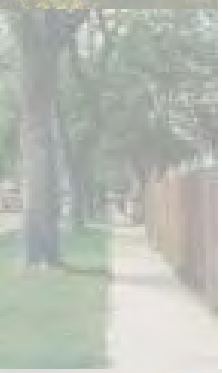
SWO operates on-site recycling services at its disposal facilities as well as the recycling drop-off sites throughout the City and County. These programs are financed through revenues from disposal facility fees, sales of recycled materials and the occupation tax.

The following materials are recycled at the disposal facilities: tires; lead acid batteries; used oil; appliances; and scrap metals. In FY 05-06, 711 tons of scrap metal, 6,400 tires and 4,325 gallons of used oil were recycled at the disposal facilities.

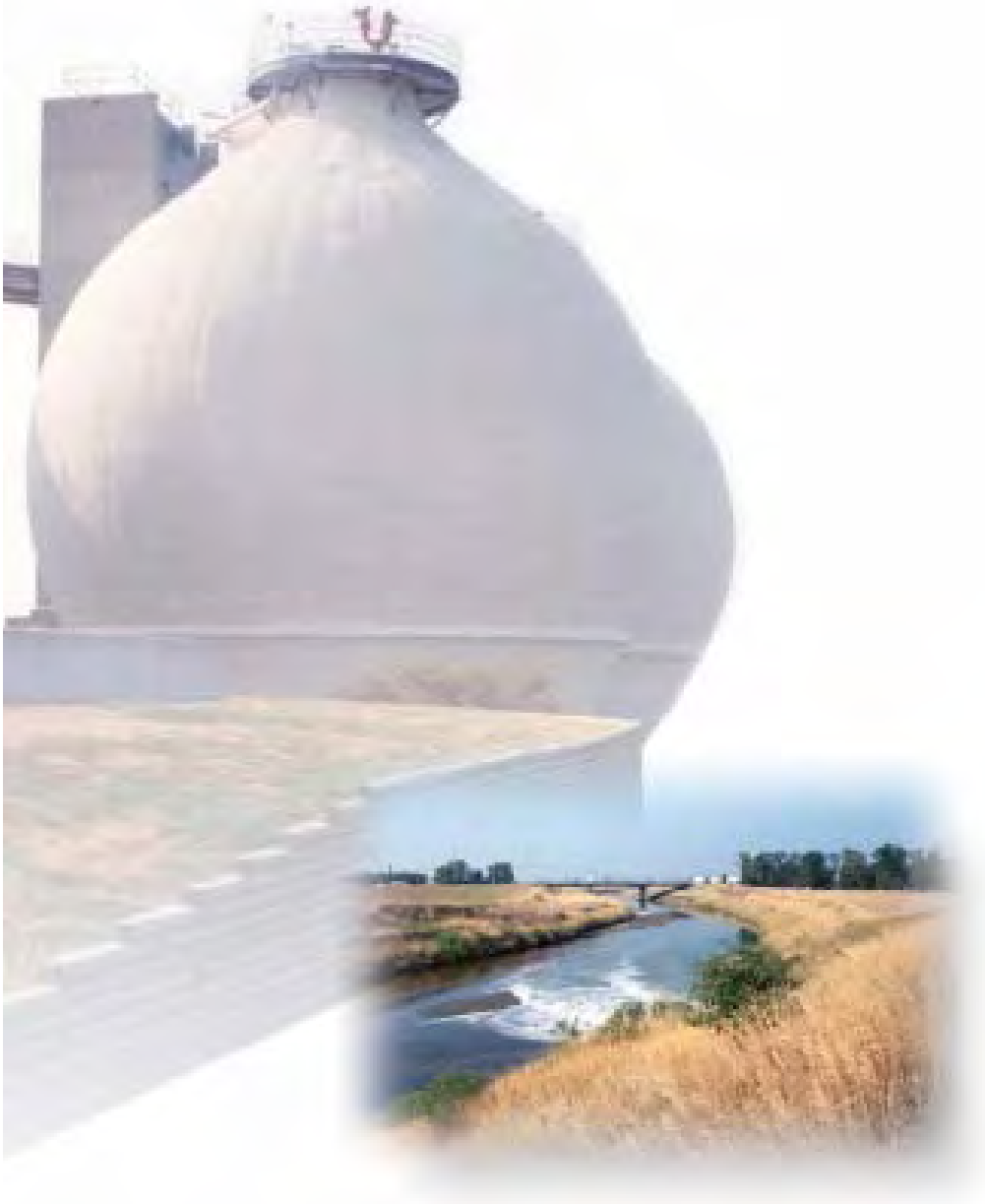
The Recycling office is responsible for the recycling drop-off sites as well as promoting recycling in the business community and public education activities related to recycling. Roughly two-thirds of the recycling office budget is related to the operation of the recycling drop-off sites in the City and County. Revenues from the recyclables received at the recycling sites covered 60% of the cost of the program in FY 05-06. SWO collected 6,881 tons of recyclables.

Public education efforts include a "garbology" curriculum that all 2nd grade students in Lincoln Public Schools participate in. The program explains how waste is managed and stresses the importance of practicing the three R's of reduce, reuse and recycle. Through the "Lincoln Recycles" education campaign, SWO encourages the public to do the right thing and recycle. They publish an annual guide to recycling and increase awareness about recycling through print and electronic media advertisements.

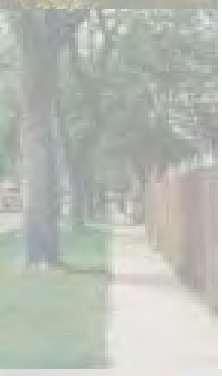
SWO also supports business recycling through WasteCap Nebraska, which promotes waste reduction and recycling in the private sector. Last year businesses that participated in the WasteCap program recycled over 15,580 tons of waste.



Lincoln Wastewater System





Lincoln Wastewater System
Sanitary Engineering
2005-2006 Annual Report

The Sanitary Engineering Section of Wastewater provides technical support services for the Wastewater and Solid Waste Divisions of the City of Lincoln. These services include laboratory analysis, regulatory compliance monitoring, industrial pre-treatment program management, operations and maintenance support, computer and SCADA support, and engineering services for the department. There are 20.5 FTEs in this section.

Laboratory

The laboratory provides analysis of industrial effluents, liquid dump-station samples, and treatment plant processes, injection site analysis, and Bluff Road Solid Waste Leachate analysis. These analyses are in support of meeting Federal Requirements and Nebraska Department of Environmental Quality permits. A total of 61,874 analysis were completed by nine laboratory staff personnel.

Industrial Pre-treatment and Collection System Monitoring

This Team monitors the effluent from 41 industries within Lincoln. Effluent samples are collected daily from industries on a predetermined schedule. 1,300 samples were collected in 2005-2006. Industrial treatment concerns are addressed and industrial operations are supported to enhance the operation of the industry and the wastewater system. The goal is to meet with each industry on a one on one basis at least once a year to discuss operational impacts on both entities.

Sanitary sewer flows are monitored on each drainage basin to determine infiltration and inflow of water into the system. These evaluations also determine design formulas for new sewers and determine capacities of existing sewers. This analysis also helps determine treatment requirements for additional city growth. 14,900 monitoring station days of hydraulic evaluations of sanitary sewers were completed.

Monitoring of hydrogen sulfide gas and pH conditions are done to reduce safety and corrosion issues on and in the collection system. 3,320 station days of gas and pH monitoring were completed. This section consists of six environmental specialists.

Technical and Engineering Support

This team provides engineering support to the Wastewater and Solid Waste Department. This includes collection system design and review, records keeping, CAD services, computer and program application support and safety and training coordination for the department. Support of the UNL Master Plan, the Lincoln Airport Authority Master Plan, and the Wastewater Facility Master Plan have been major projects in the past year. This area has also been involved with air and ground water studies for the Bluff Road Landfill and reviewing the performance and compliance of the Northeast Treatment Plant and Theresa Street Treatment Plant Nitrification Projects. The Utility Support Specialist has been instrumental in creating a basic template for all maps for the Water, Wastewater, and Watershed Management Departments. This support group consists of the Sanitary Engineer, Assistant Sanitary Engineer, Associate Engineer, Utility Engineering Specialist, Control System Support Specialist, and a .5 Safety/Training Coordinator shared with the Water Department.






Lincoln Wastewater System
Wastewater Treatment
Operation & Maintenance
2005-2006 Annual Report

The Operations & Maintenance sections within Wastewater Treatment provide reliable treatment of domestic, industrial, and commercial waste generated within the City of Lincoln which consists of 85.76 square miles and an estimated population of 241,700. The Theresa Street Wastewater Treatment Facility located at 2400 Theresa Street and the Northeast Wastewater Treatment facility located at 7000 North 70th Street treat an average combined wastewater flow of approximately 26 million gallons per day. 8.2 billion gallons of wastewater were treated in 2005-2006. There are currently a total of 38 full time employees within Wastewater Treatment.

Theresa Street WWTP

Operations

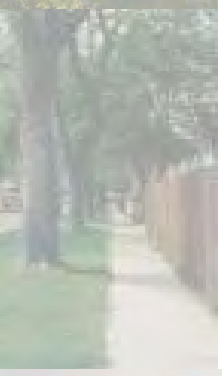
Thirteen full-time certified Grade IV operators ensure that both treatment facilities are operating as intended and that both facilities are complying with regulated effluent limitations. Operational control and surveillance is greatly enhanced with a Supervisory Control and Data Acquisition (SCADA) system that allows for remote control and instantaneous plant status via an intra-City fiber optic network. Due to the development of this SCADA system, unattended plant operations during night time hours can occur at the Northeast facility and still provide for reliable operations leading to lower staffing requirements and savings to Lincoln customers.

Maintenance Northeast WWTP

Maintenance staff (25) are involved in numerous disciplines: process equipment maintenance, electrical maintenance, control and instrumentation maintenance, records management, and materials and equipment procurements. Staff are positioned at each facility maintaining grounds, structures, and over 3,800 pieces of equipment that must be maintained and replaced in a timely manner to ensure reliable treatment operations. Besides the two plants, 14 sanitary sewer lift-stations and four storm water pumping-stations are operated and maintained by wastewater personnel.

Northeast WWTP



Wastewater System
Collection
Annual Report 2005-2006

The Collection section performs all maintenance activities of the existing sanitary sewer collection system, manages all new sanitary trunk line capital improvement projects, and carries out one-call functions for sanitary sewer and storm sewer.

The sanitary sewer collection system is comprised of 978 miles of piping (August 2005), 16,500 manholes and various other components. There are approximately 25 miles of new piping and 400 new manholes added yearly to the collection system.

Maintenance activities

There are four main activities involved in the maintenance of the collection system. The first is line jetting. This is the process of introducing high pressure/velocity water hoses into the pipes to clean out accumulated grit, grease, soil, roots and other debris. Line jet cleaning is currently on a two-year frequency for most pipe line segments. Trouble spots are identified and cleaned more frequently, some as often as quarterly. The second maintenance activity is TV video inspection of the interior of the collection system. This is the process of inserting a TV camera into the pipe segments and recording the condition of the pipe. This information is used to determine what further maintenance/rehabilitation/replacement activity may be needed. Collection is currently on a 12-year cycle of TV video inspection, performing 80 miles annually. TV video inspection is also performed on all new sanitary sewer construction, approximately 20 miles a year, to check for quality of work. The third maintenance activity is sanitary sewer line and manhole repair. Collection performs approximately 66 line spot repairs, 140 manhole repairs, and 300' of line replacement annually. The fourth maintenance activity is root control in the sanitary sewer. It is the process of injecting a foaming chemical into the sanitary sewer to kill roots inside of the piping and inhibit their return growth. All these activities together keep the City's sanitary sewer collection system running as efficiently and backup free as possible.

CIP Management

Collection managed $29,797,284 in CIP Projects for the 05/06 fiscal year. The CIP projects designed and constructed large diameter trunk lines in the Salt Creek, Upper SE Salt Creek, Beal Slough, and Stevens Creek drainage basins to serve growth areas. Other CIP projects are Oak Creek, Northeast Salt Creek, and Middle Creek Also included in the CIP are rehabilitation projects for the existing system.

One Call

Collection responded to 6,700 requests for sanitary sewer and storm sewer locates. This involves reviewing maps of the area in question and either clearing the call (no facilities present) or going out into the field and physically marking facility locations.

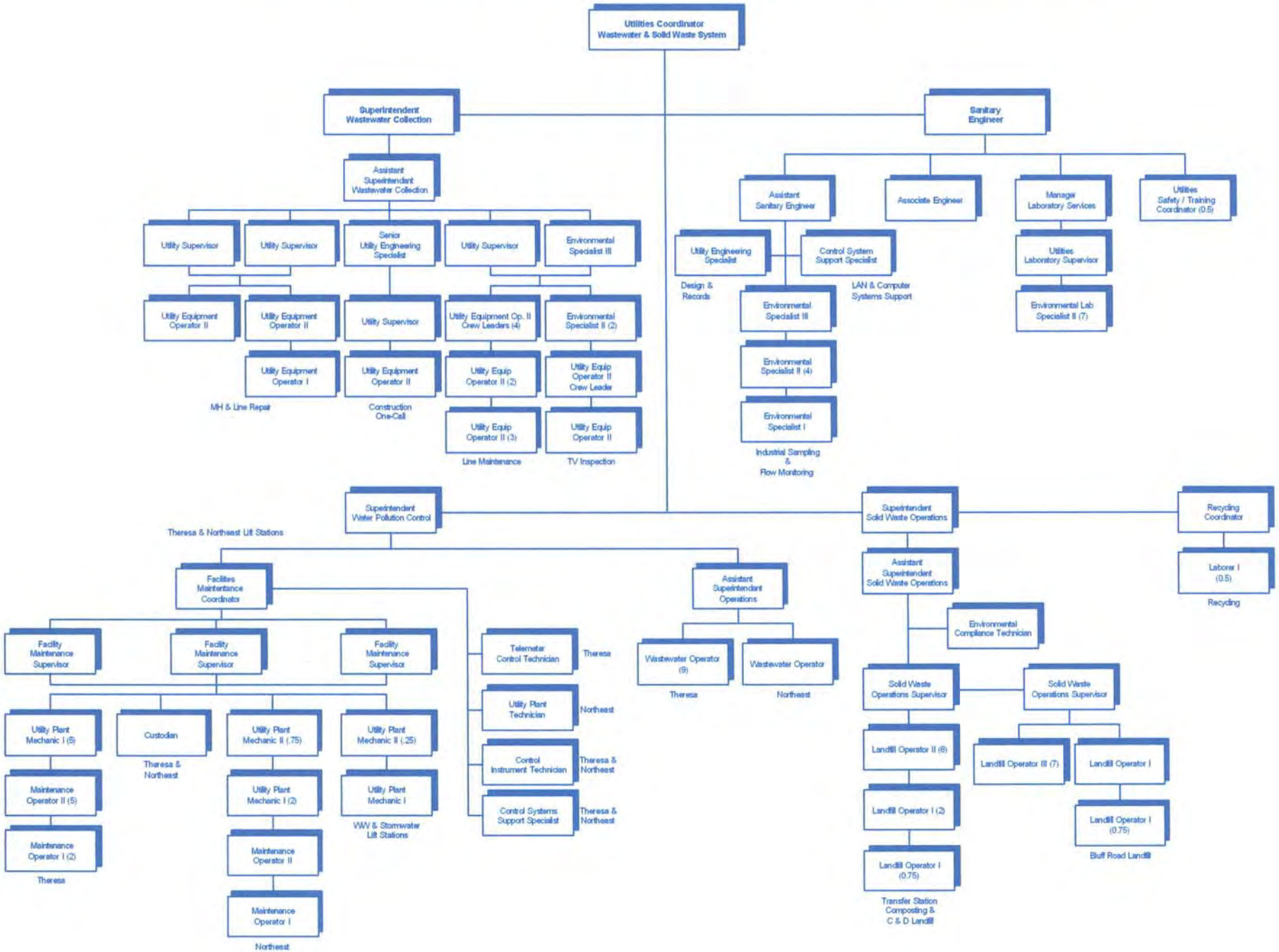
Future Issues

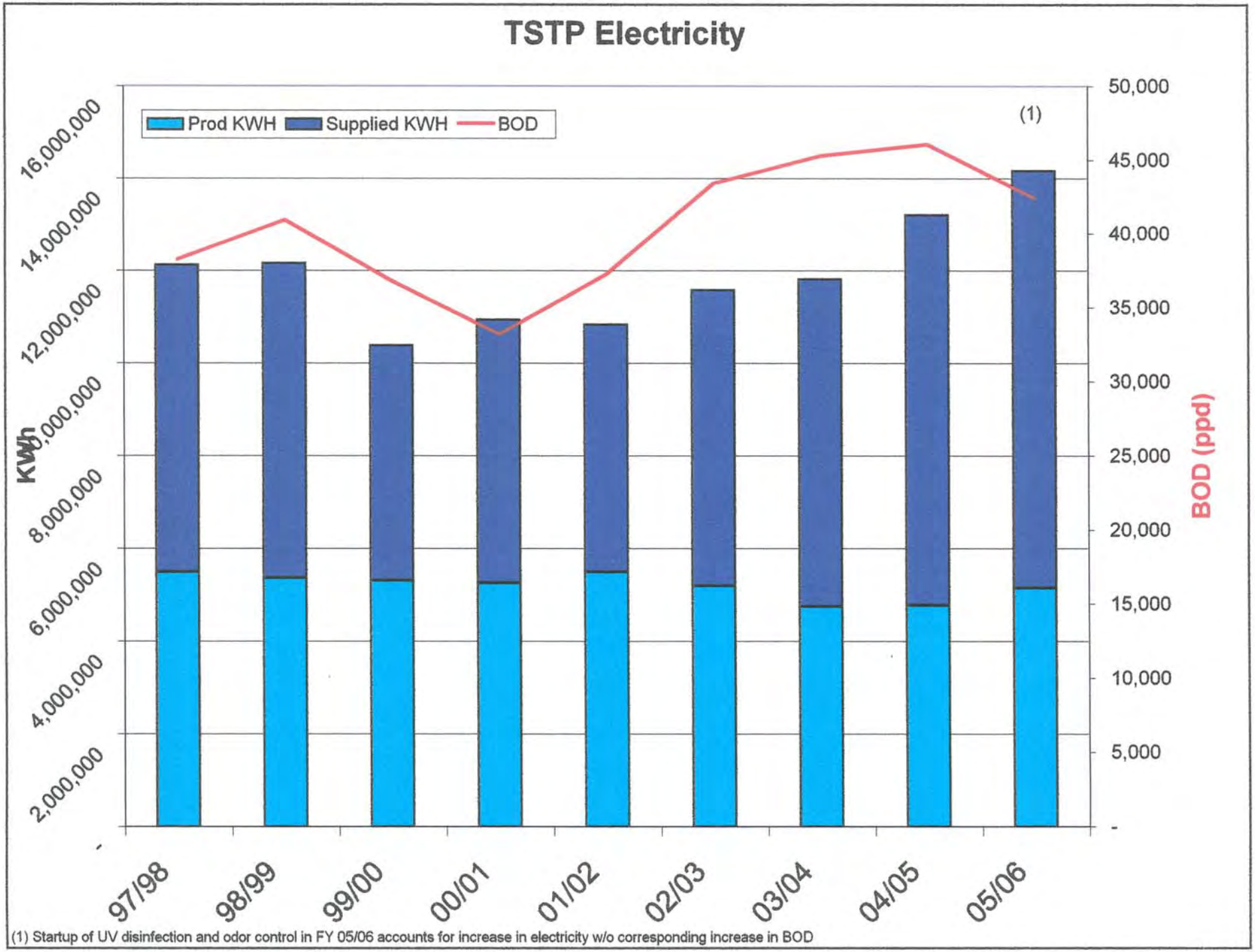
While the miles of newly constructed sewer continue to increase on a yearly basis, personnel have not and have been reduced 6 employees over the last 25 years. This divergent trend is leading toward either additional personnel needing to be hired and capital outlay equipment purchased, or accepting a lesser level of maintenance activities, which may lead to more sanitary sewer backups and property damage claims against the City.

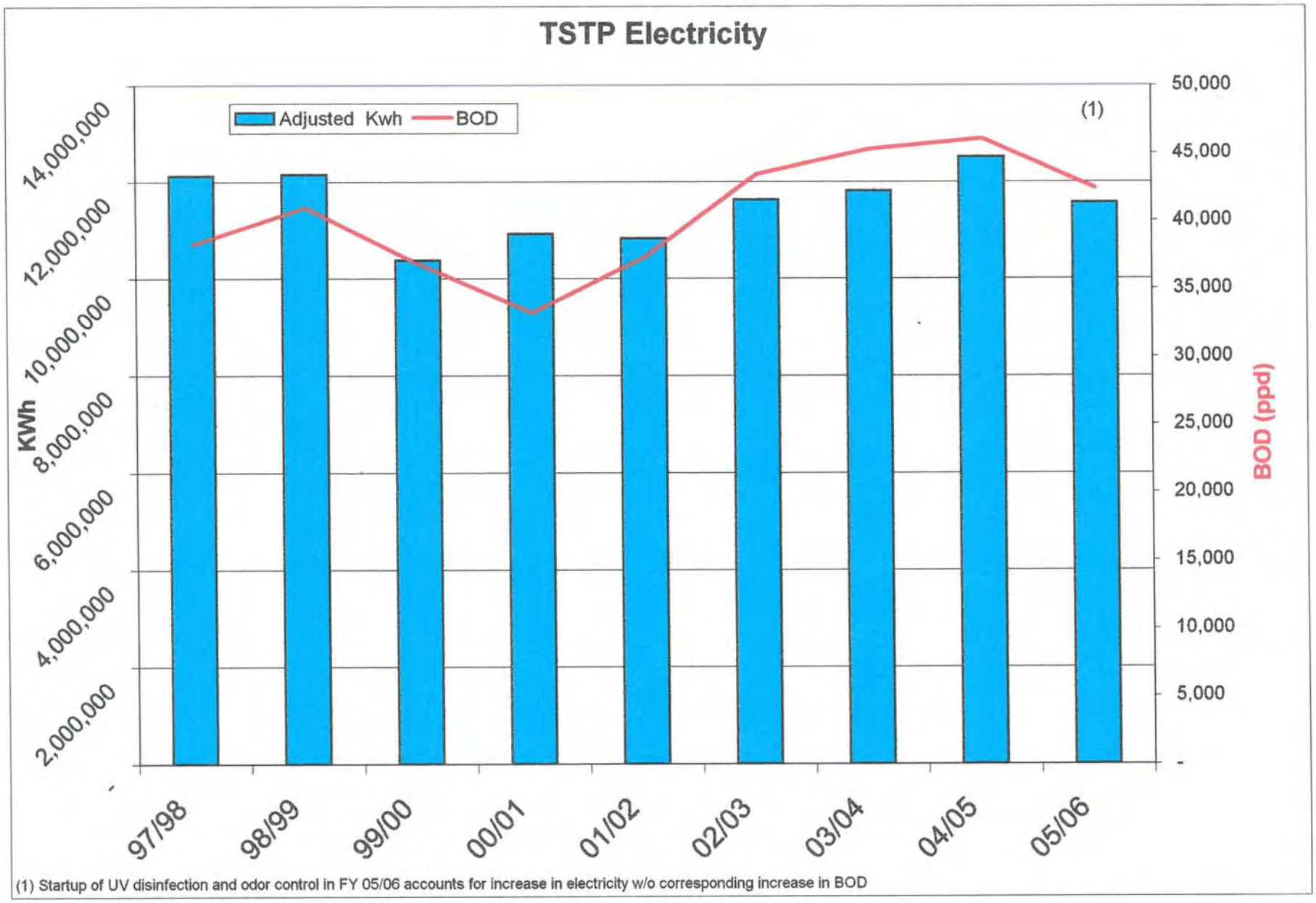


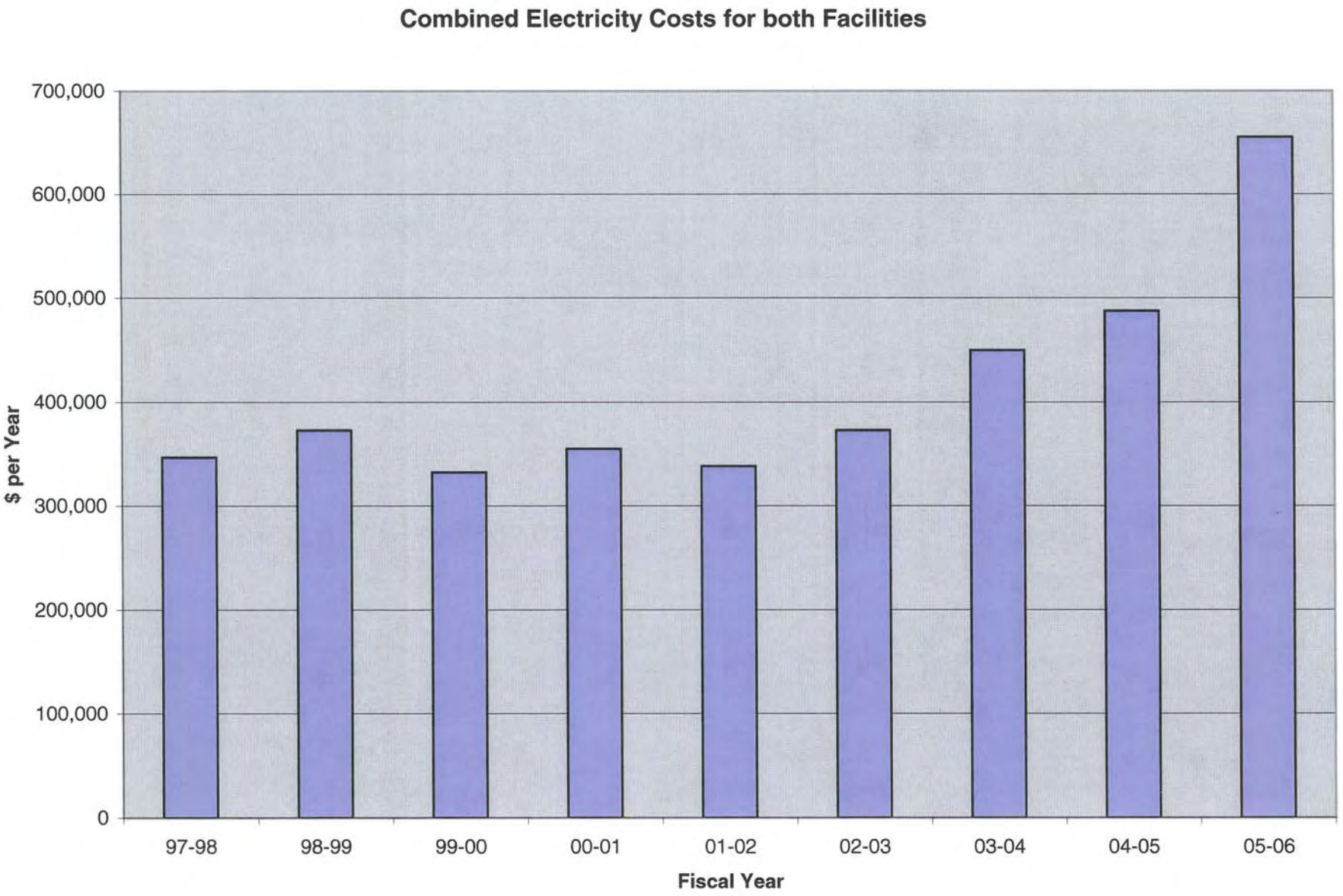


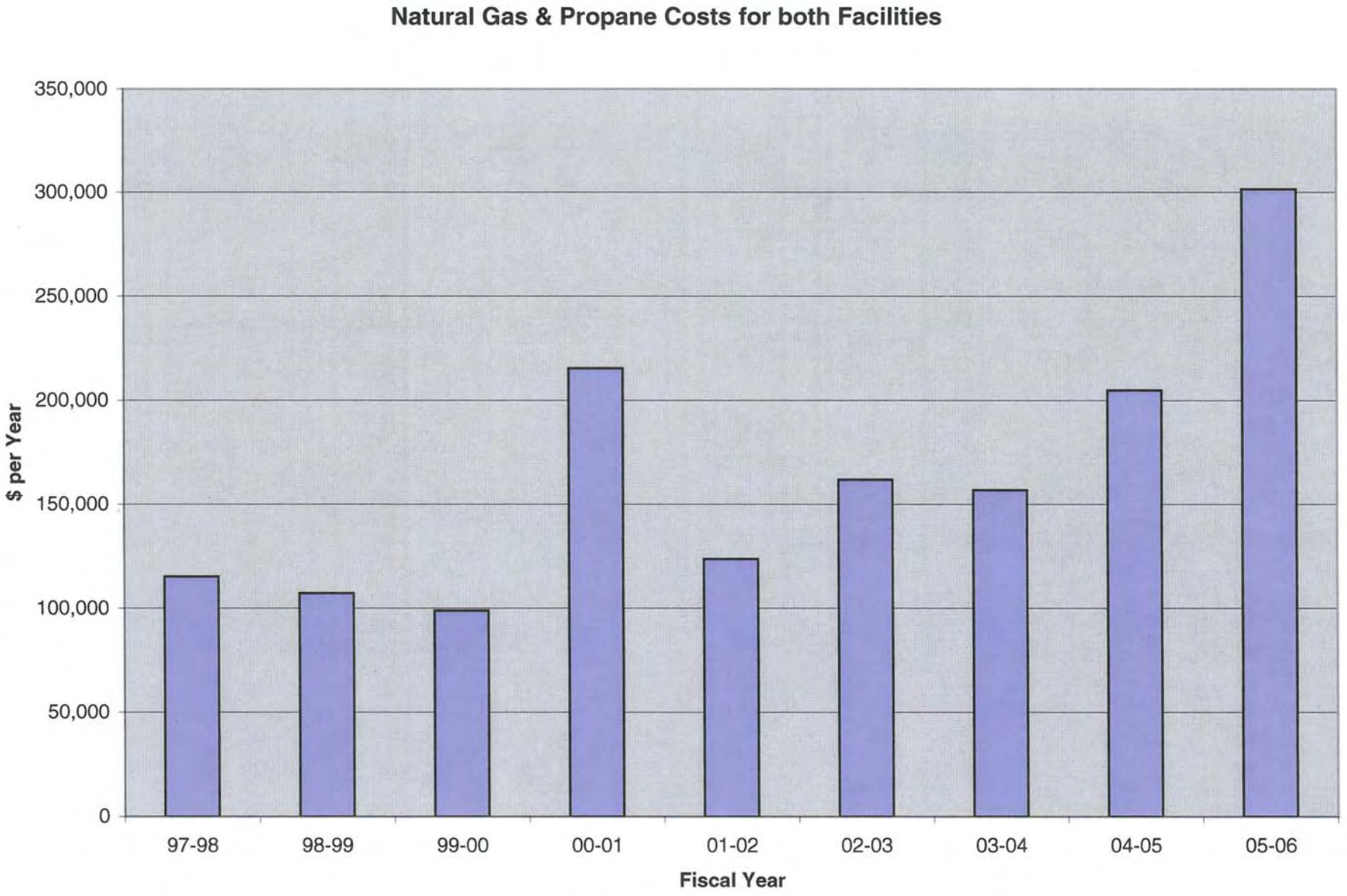

Lincoln Wastewater & Solid Waste System Proposed FY 2005 - 2006

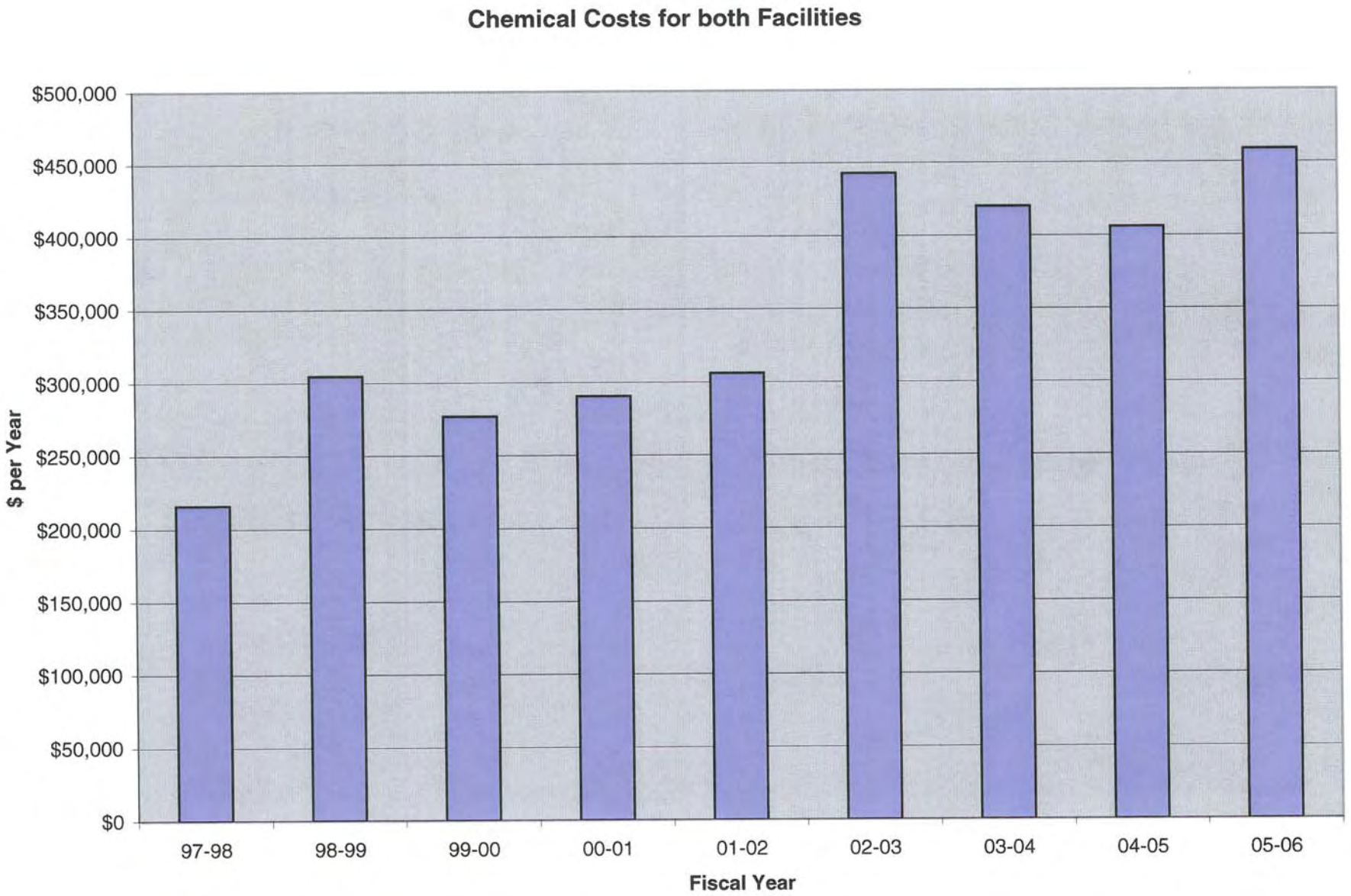



TSTP Electricity
Prod KWH
Supplied KWH
BOD
(1)
KWH
BOD (ppd)
16,000,000
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
-
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
-
97/98
98/99
99/00
00/01
01/02
02/03
03/04
04/05
05/06
(1) Startup of UV disinfection and odor control in FY 05/06 accounts for increase in electricity w/o corresponding increase in BOD

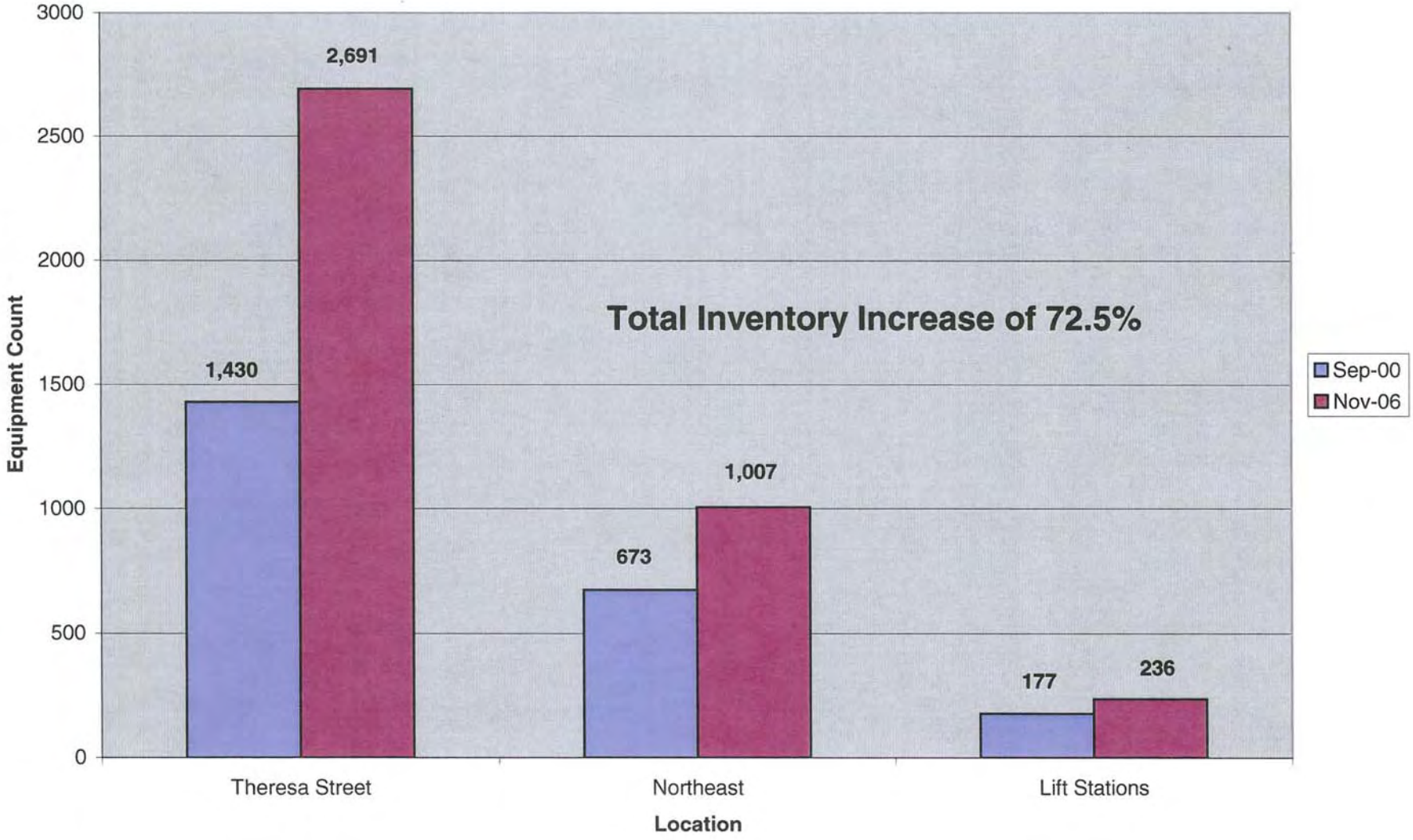

TSTP Electricity
Adjusted Kwh
BOD
(1)
KWh
BOD (ppd)
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
-
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
-
97/98
98/99
99/00
00/01
01/02
02/03
03/04
04/05
05/06
(1) Startup of UV disinfection and odor control in FY 05/06 accounts for increase in electricity w/o corresponding increase in BOD

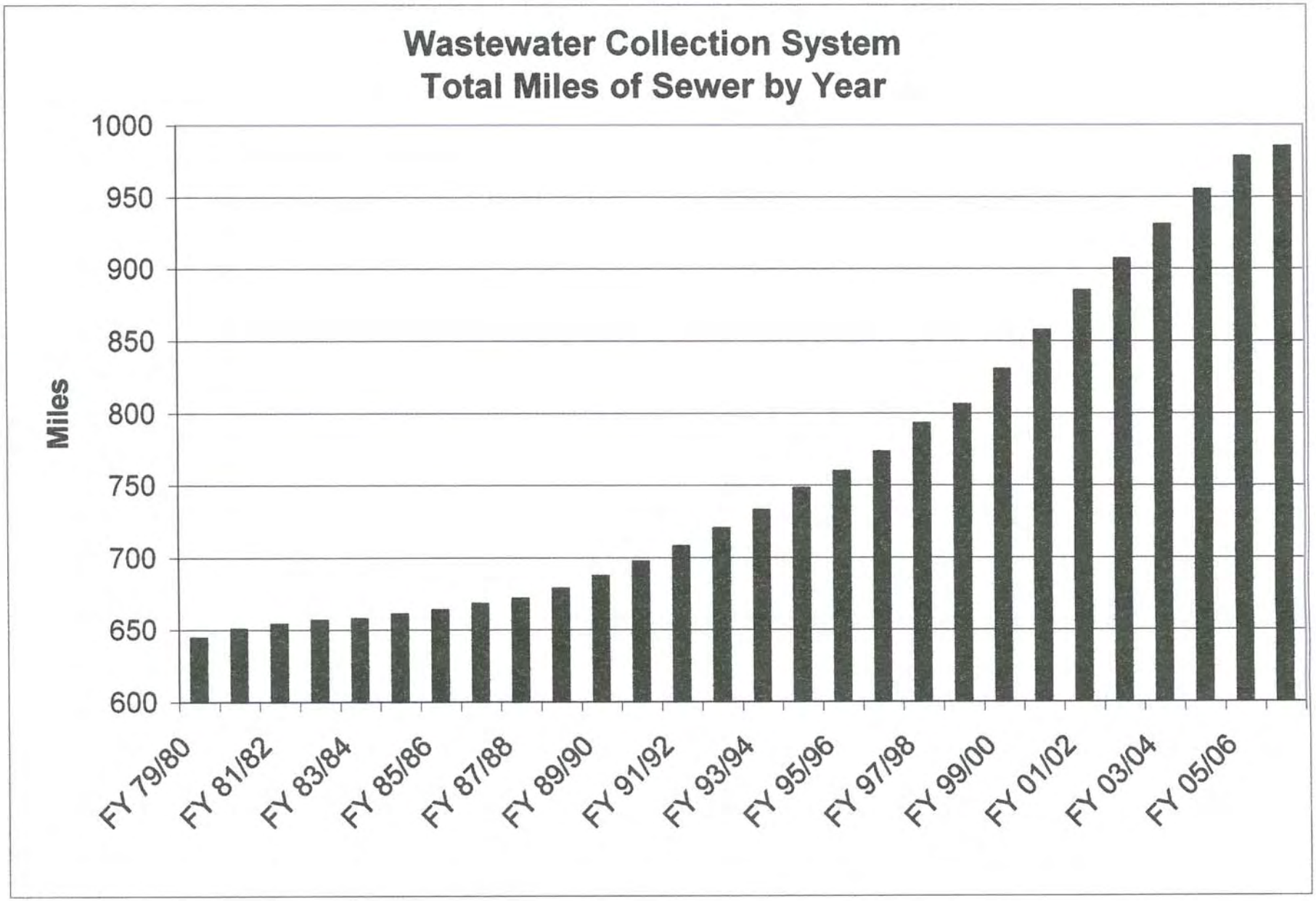

Combined Electricity Costs for both Facilities
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
$ per Year
97-98
98-99
99-00
00-01
01-02
02-03
03-04
04-05
05-06
Fiscal Year

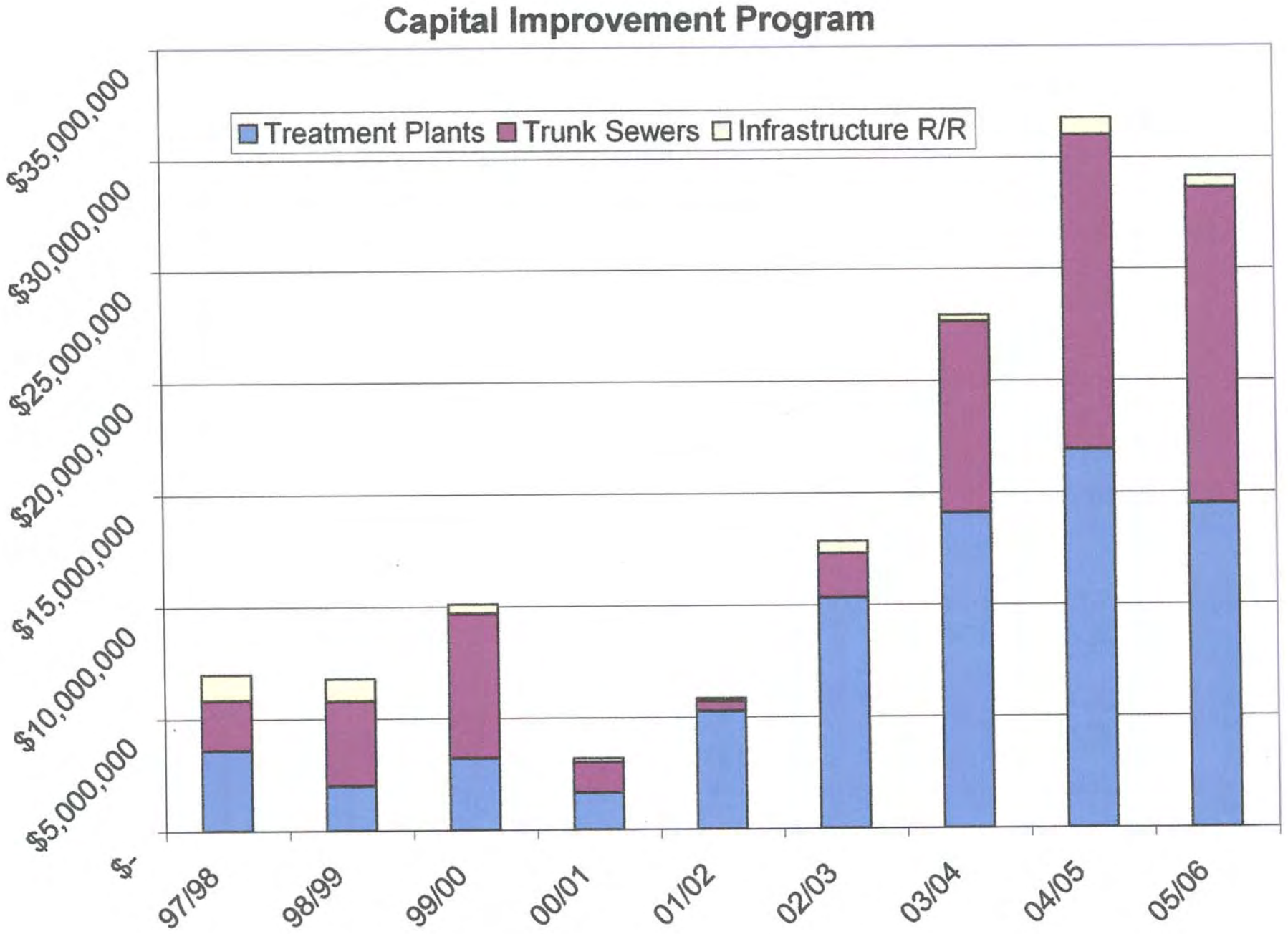

Natural Gas & Propane Costs for both Facilities
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
$ per Year
97-98
98-99
99-00
00-01
01-02
02-03
03-04
04-05
05-06
Fiscal Year

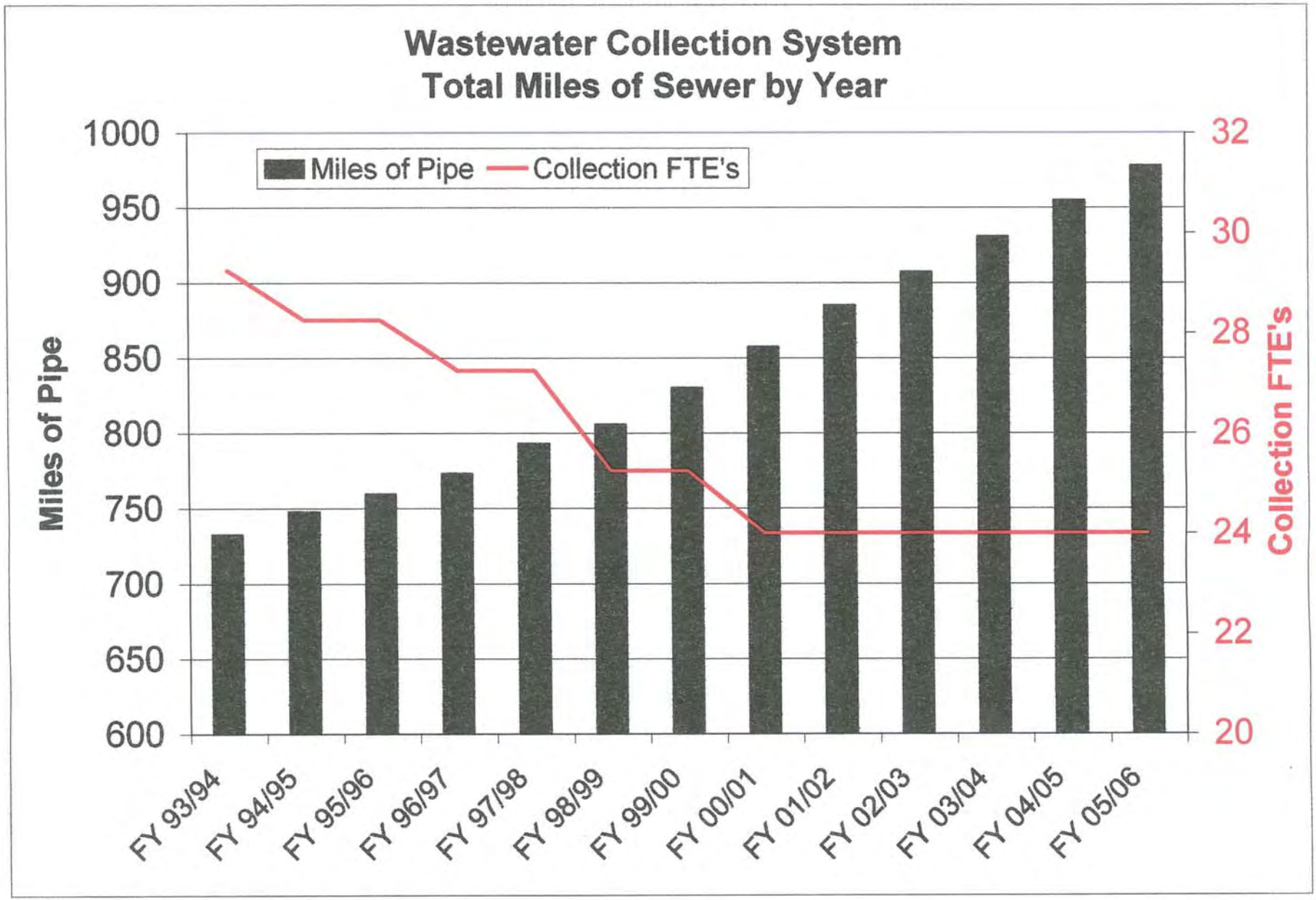

Chemical Costs for both Facilities
$500,000
$450,000
$400,000
$350,000
$300,000
$250,000
$200,000
$150,000
$100,000
$50,000
$0
$ per Year
97-98
98-99
99-00
00-01
01-02
02-03
03-04
04-05
05-06
Fiscal Year

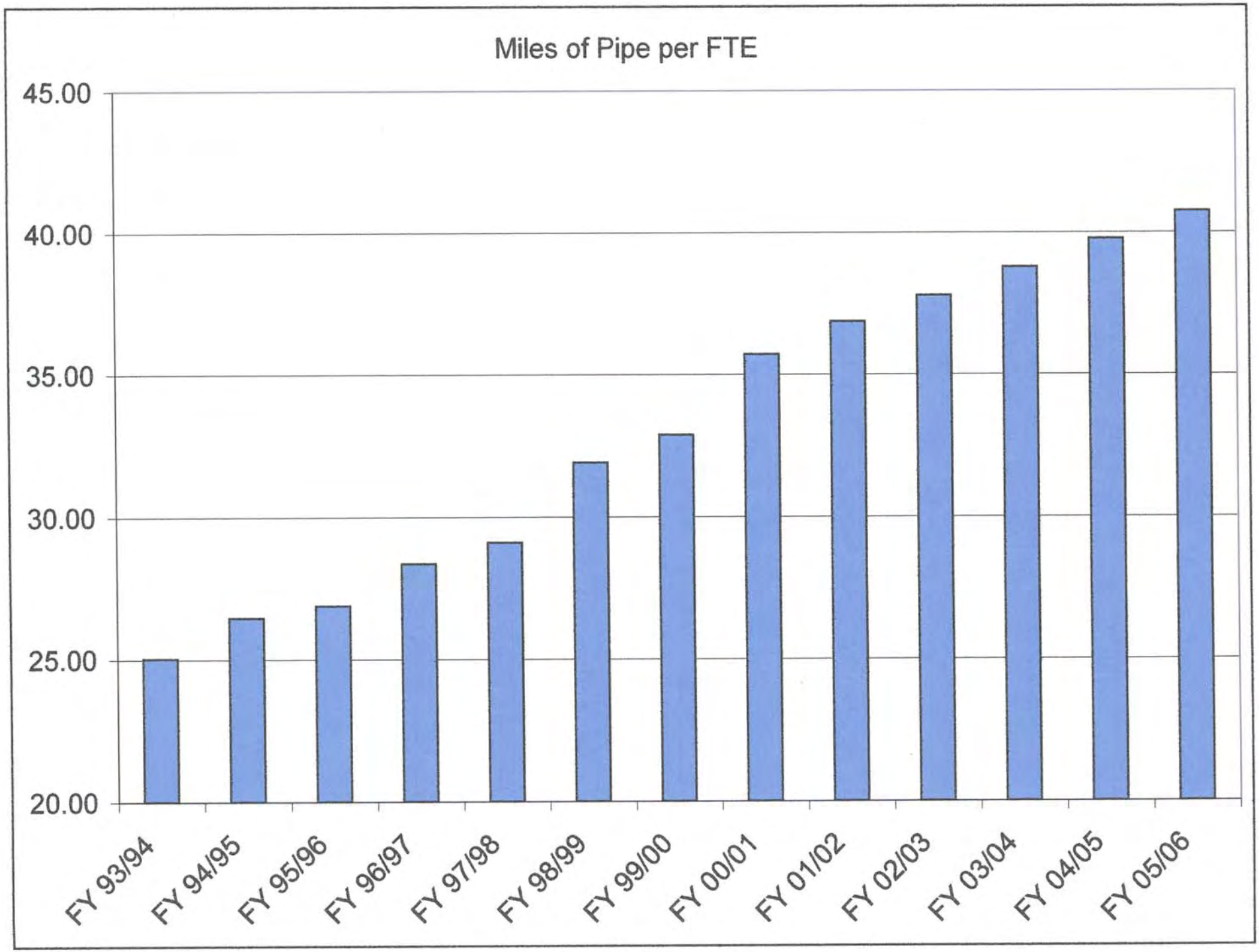
Increase in Equipment Inventory due to Capital Improvements

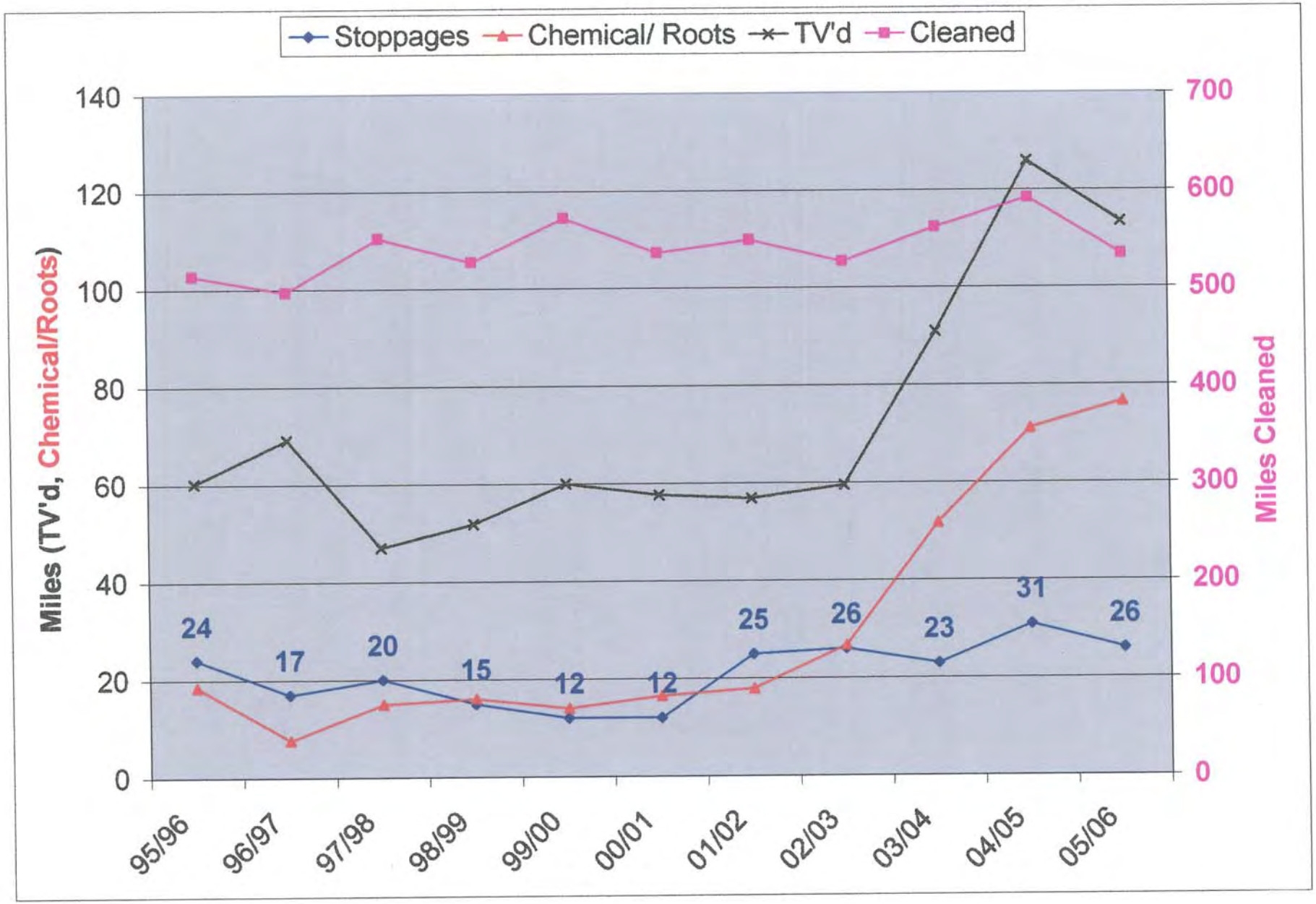


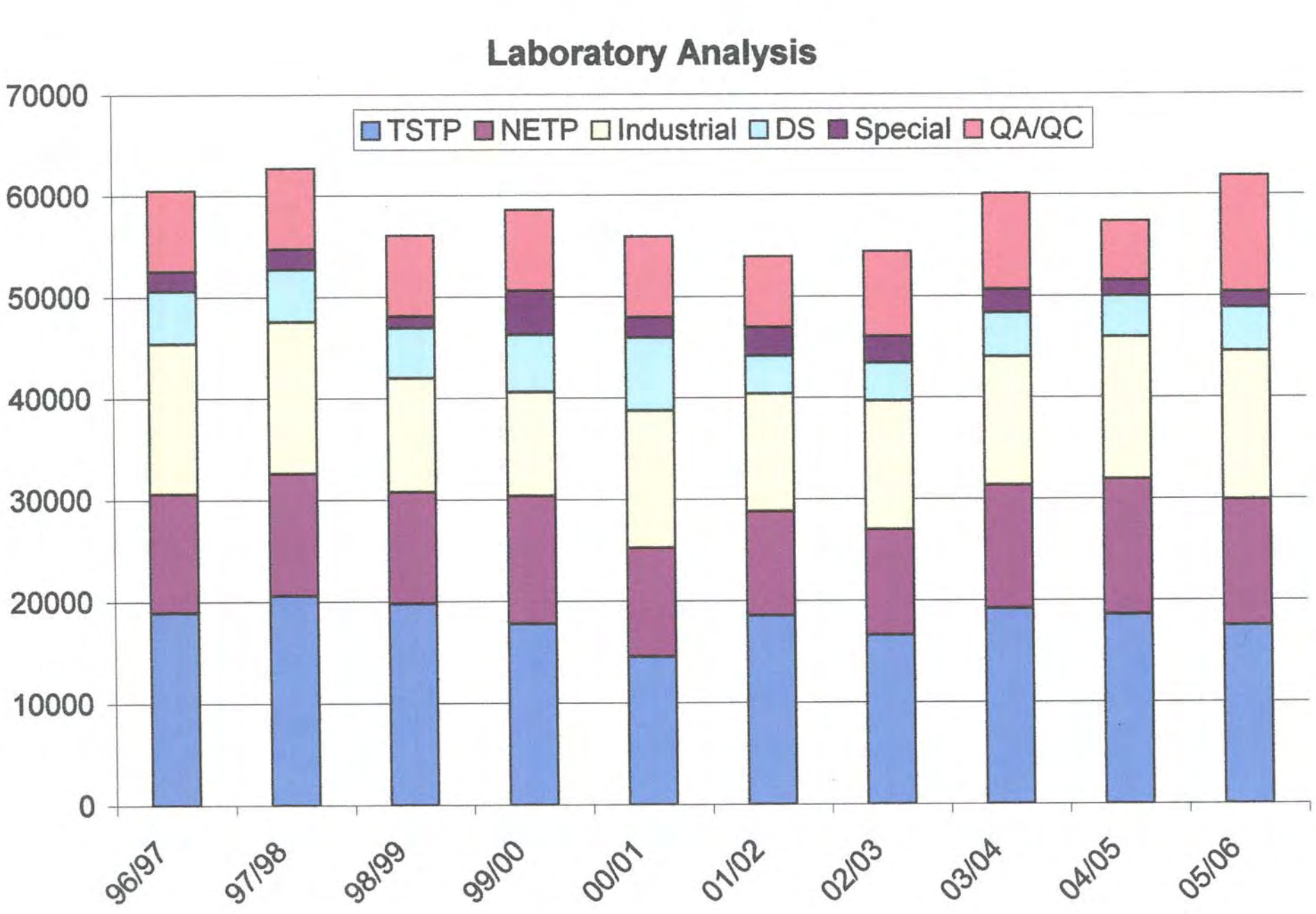

Wastewater Collection System
Total Miles of Sewer by Year
Miles
1000
950
900
850
800
750
700
650
600
FY 79/80
FY 81/82
FY 83/84
FY 85/86
FY 87/88
FY 89/90
FY 91/92
FY 93/94
FY 95/96
FY 97/98
FY 99/00
FY 01/02
FY 03/04
FY 05/06

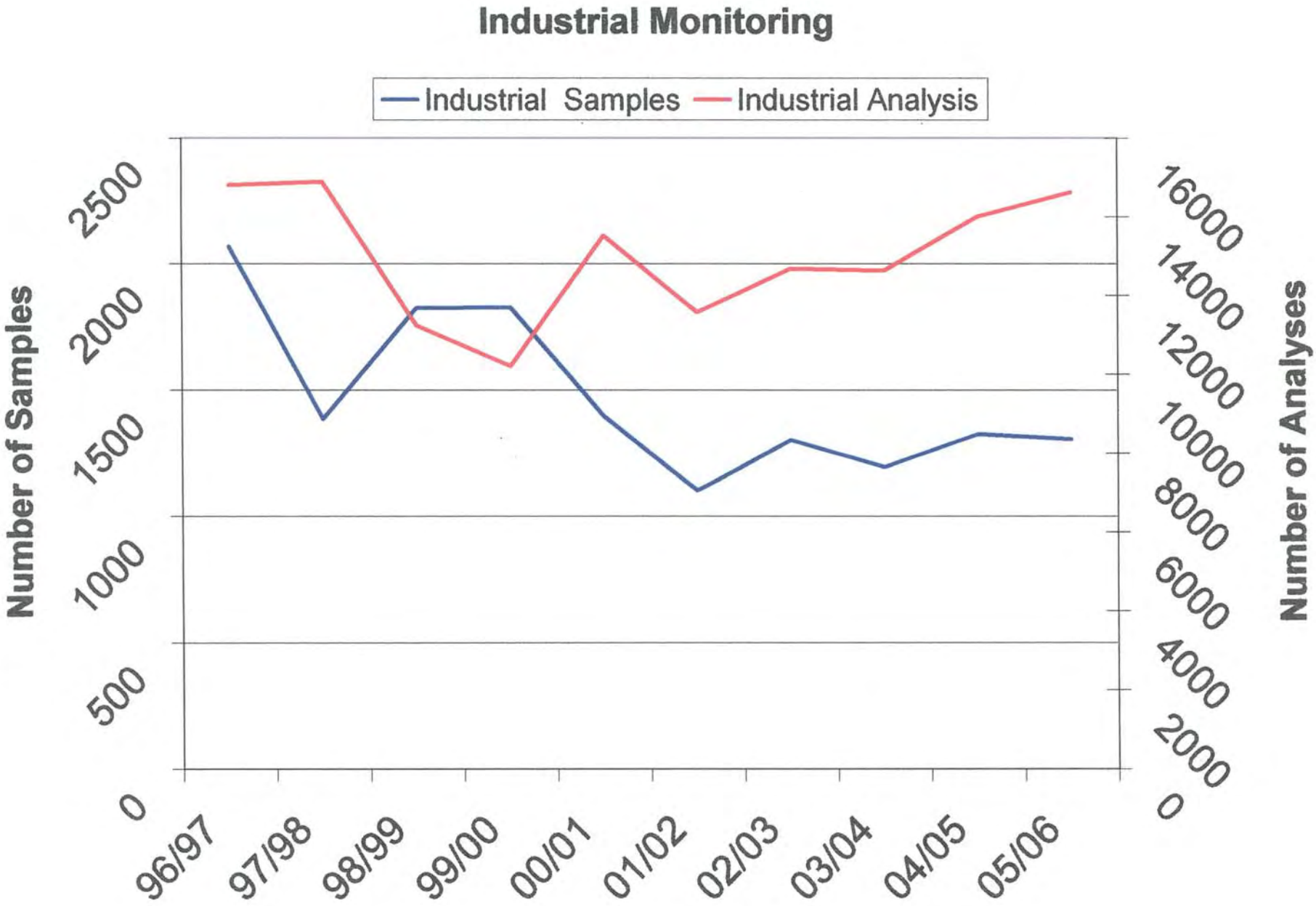

Capital Improvement Program
Treatment Plants
Trunk Sewers
Infrastructure R/R
$35,000,000
$30,000,000
$25,000,000
$20,000,000
$15,000,000
$10,000,000
$5,000,000
$-
97/98
98/99
99/00
00/01
01/02
02/03
03/04
04/05
05/06

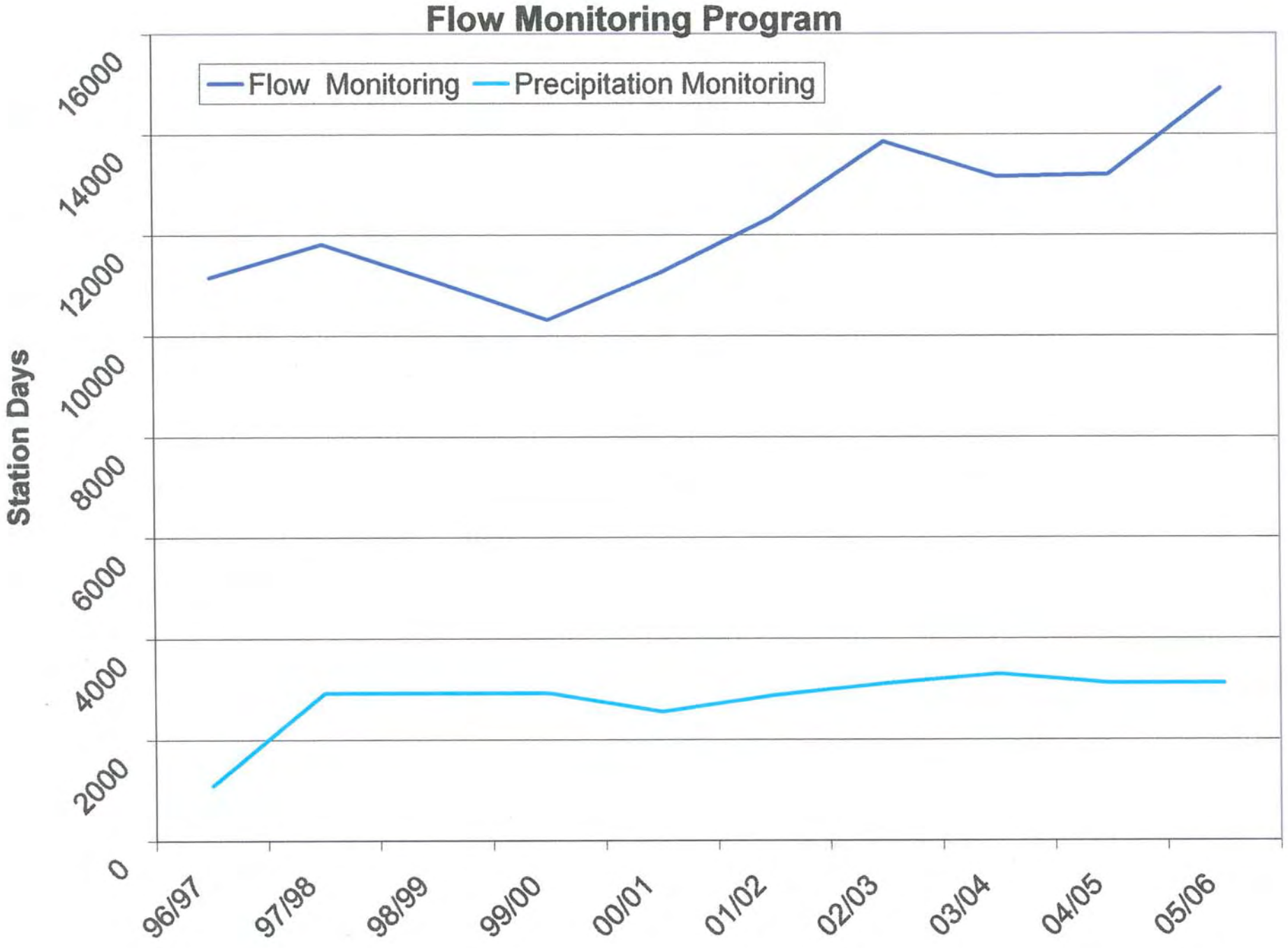

Wastewater Collection System
Total Miles of Sewer by Year
Miles of Pipe
Collection FTE's
1000
950
900
850
800
750
700
650
600
32
30
28
26
24
22
20
Miles of Pipe
Collection FTE's
FY 93/94
FY 94/95
FY 95/96
FY 96/97
FY 97/98
FY 98/99
FY 99/00
FY 00/01
FY 01/02
FY 02/03
FY 03/04
FY 04/05
FY 05/06


Miles of Pipe per FTE
45.00
40.00
35.00
30.00
25.00
20.00
FY 93/94
FY 94/95
FY 95/96
FY 96/97
FY 97/98
FY 98/99
FY 99/00
FY 00/01
FY 01/02
FY 02/03
FY 03/04
FY 04/05
FY 05/06


Stoppages
Chemical/ Roots
TV'd
Cleaned
Miles (TV'd, Chemical/Roots)
Miles Cleaned
140
120
100
80
60
40
20
0
700
600
500
400
300
200
100
0
24
17
20
15
12
12
25
26
23
31
26
95/96
96/97
97/98
98/99
99/00
00/01
01/02
02/03
03/04
04/05
05/06


Laboratory Analysis
70000
60000
50000
40000
30000
20000
10000
0
TSTP
NETP
Industrial
DS
Special
QA/QC
96/97
97/98
98/99
99/00
00/01
01/02
02/03
03/04
04/05
05/06


Industrial Monitoring
Industrial Samples
Industrial Analysis
Number of Samples
Number of Analyses
0
500
1000
1500
2000
2500
0
2000
4000
6000
8000
10000
12000
14000
16000
96/97
97/98
98/99
99/00
00/01
01/02
02/03
03/04
04/05
05/06


Flow Monitoring Program
Flow Monitoring
Precipitation Monitoring
Station Days
16000
14000
12000
10000
8000
6000
4000
2000
0
96/97
97/98
98/99
99/00
00/01
01/02
02/03
03/04
04/05
05/06