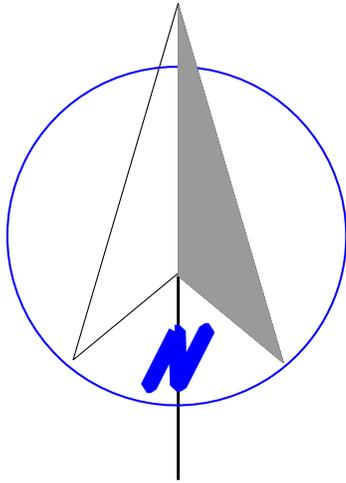
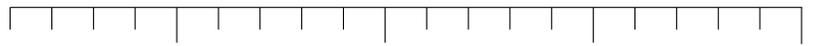


Engineering Services Division



*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 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.



The finished Yankee Hill Road looking east from 27th Street

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.

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.



Pedestrians fill the streets following a Husker Football Game



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.

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.



The Big T Portion of the Antelope Valley project

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

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.



Installing a countdown pedestrian head near UNL

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

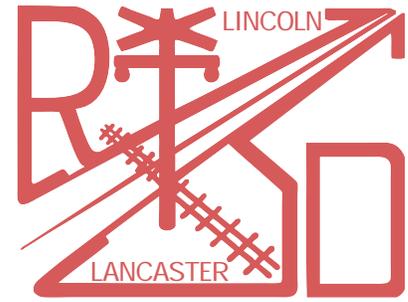
Light Emitting Diode (LED) signals have been used to retrofit the use of incandescent bulbs in more and more traffic signals around town. LED signals provide several advantages over other types of signal lighting. The LEDs use a fraction of the energy used by other bulbs, resulting in large power savings. 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

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.



Big T

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

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.



Street Operations staff installing new high visibility crosswalks near a school

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
Douglas 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 Elikor
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

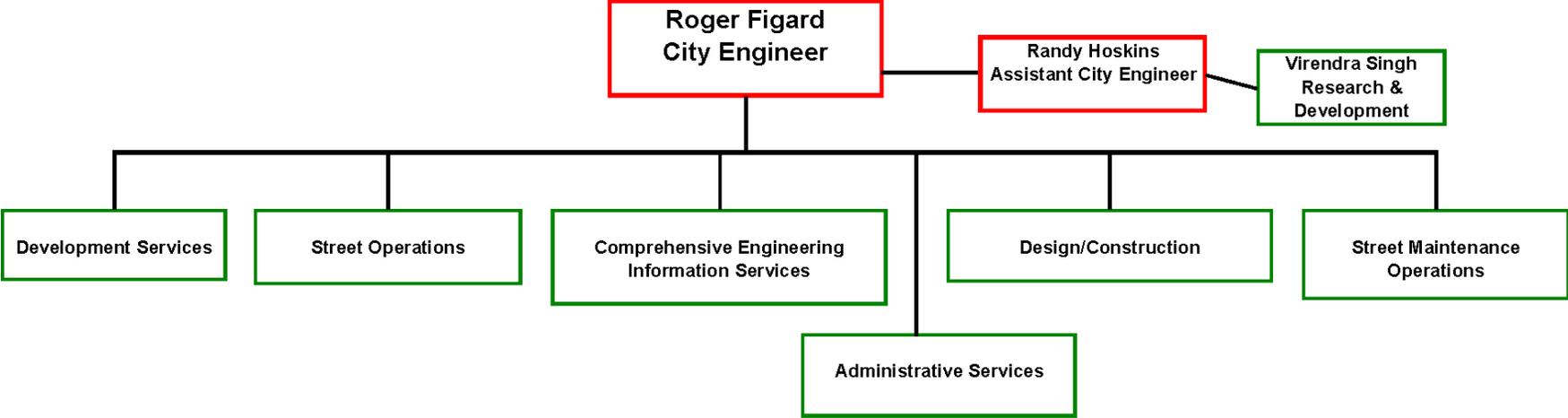
Rex Cornell
Dan Hassler
Andy Ruder



**Department of
Public Works & Utilities
Engineering Services Division**



**Roger Figard
City Engineer**



Administrative Services

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.

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.



Maggie Kellner
Administrative Aide
Engineering Services



Carol Dormer
Administrative Aide
Street Maintenance



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 responsible 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.

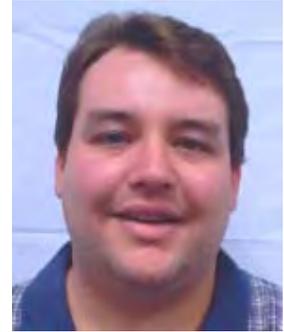
CEIS Staff: Ryan Axmann, Julie Dahlke, Mark Fischer, Shannon Ideus, Frank Larson, Kathie Neemann, Tracy Schuppan, Brian Schwinck, Steve Titus and Michelle Zuhlke.



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.

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.



Dennis Bartels
Manager of Development Services

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.

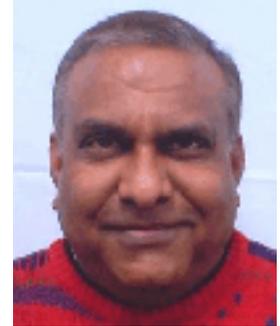
Development Services Staff: Charles "Buff" Baker, Chad Blahak, Bruce Briney, Elmer Cole and Dave Rathjen.



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.

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.



Virendra Singh
Manager of
LTP/MPO

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.

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.

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.

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 Elikier, 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.



Bill Nass
Street Maintenance
Manager



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



Fleet Services garage at 901 N. 6th Street



**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**

**Wes Nelson
Labor Supervisor 1**

**Mike Ham
Maintenance
Repair Worker II**

**Gary Tillman Dave Campbell
Labor Supervisor I**

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.

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 Elikor, E. O. I		Dennis Markowski E. O. I	Jerry Sanford, E. O. I	
Seasonal Temp				

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

Vacant, Maintenance Repair Worker I
Seasonal Temp
Seasonal Temp

Maintain facility, grounds & downtown improvement district.

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.

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.



Scott Opfer

Manager of Street Operations

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.

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.



A bicyclist uses the bike lane on 11th Street

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 Tompssett 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

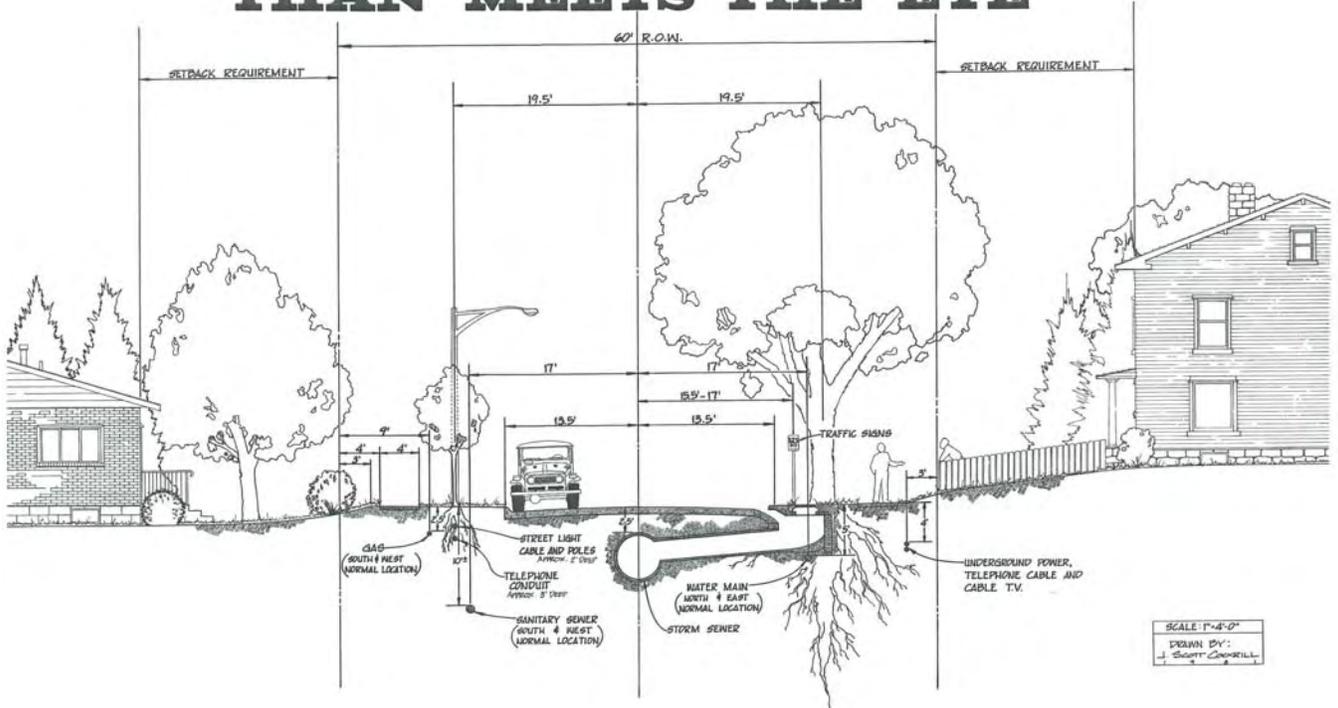


The new interchange at US-77 and Capitol Parkway was a joint City / Nebraska Department of Roads project.



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

THERE'S MORE IN A STREET THAN MEETS THE EYE



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)

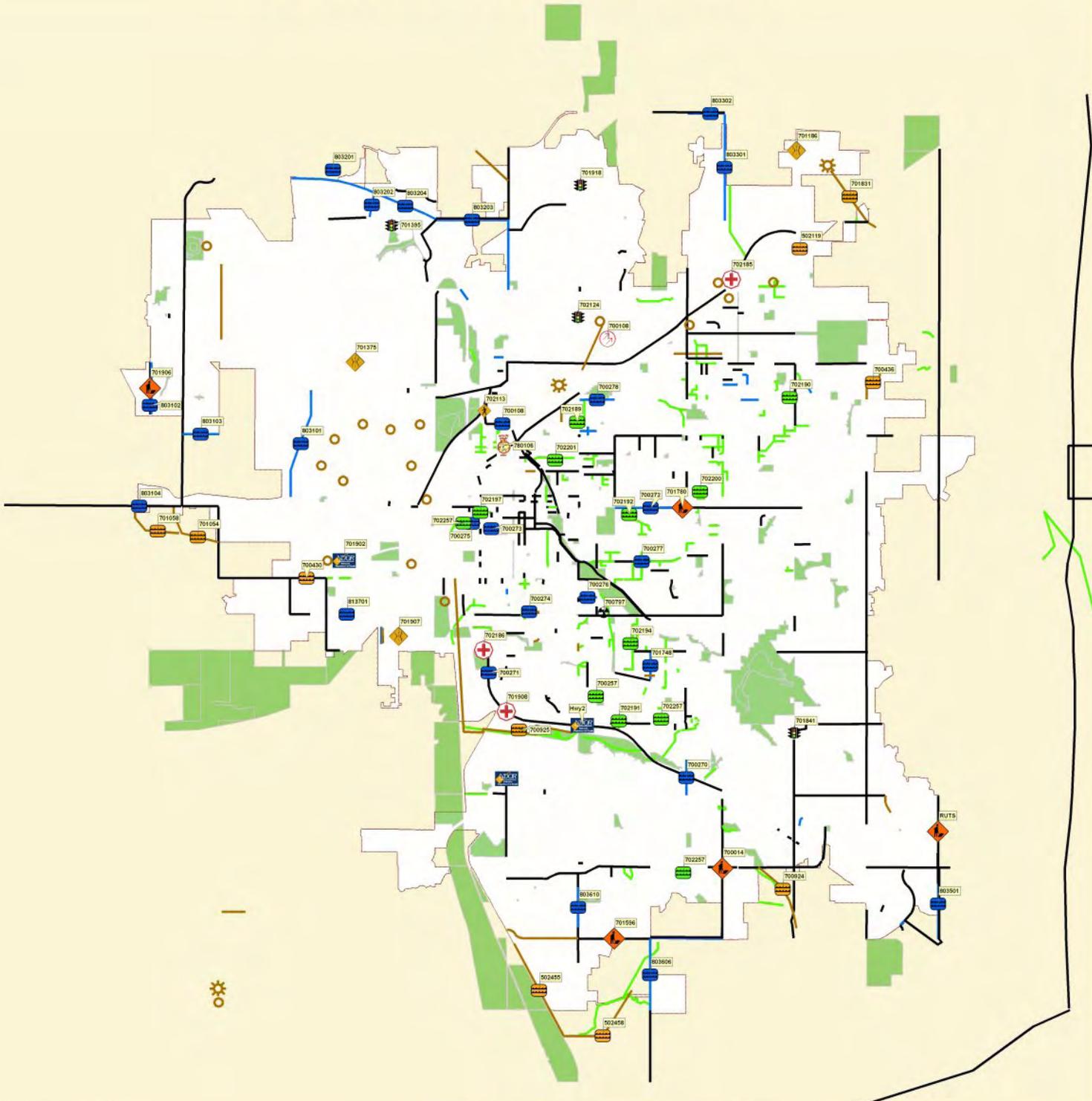
Emergency, Safety & Studies - Various Locations (\$150,000)



Public Works and Utilities Star City Parade Float

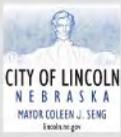


Public Works & Utilities

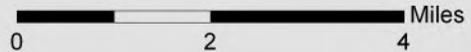


2006 Construction Projects

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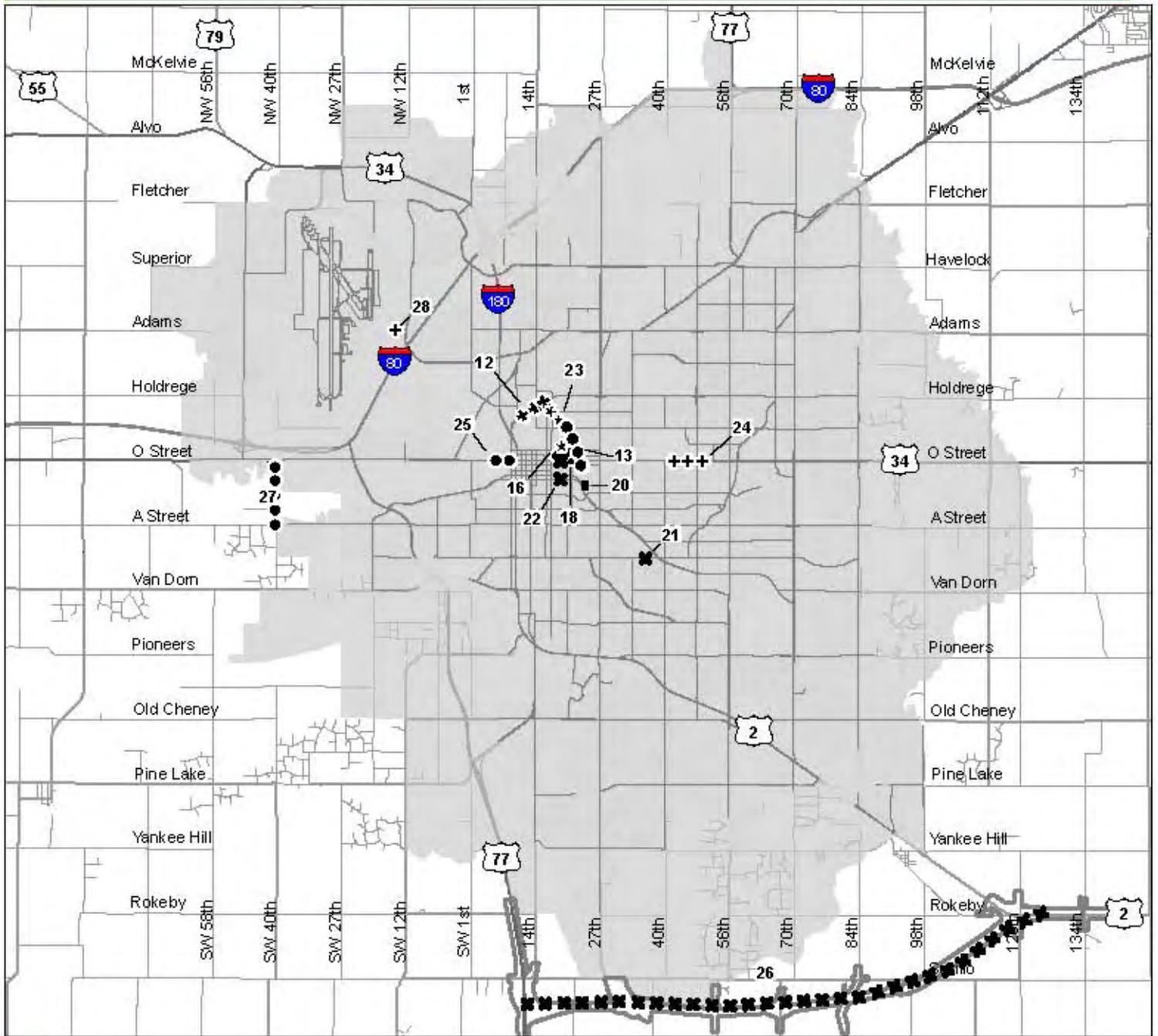


- | | | | |
|--------------------|------------------------|----------------------|-------------------|
| Antelope Valley | Sidewalk | Engineering Services | Elementary School |
| Fiber Project | Safety Project | Waste Water | High School |
| Maintenance | Traffic Project | Water | Middle School |
| Bridge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



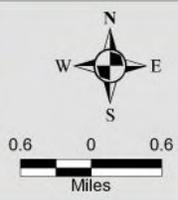
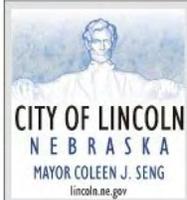
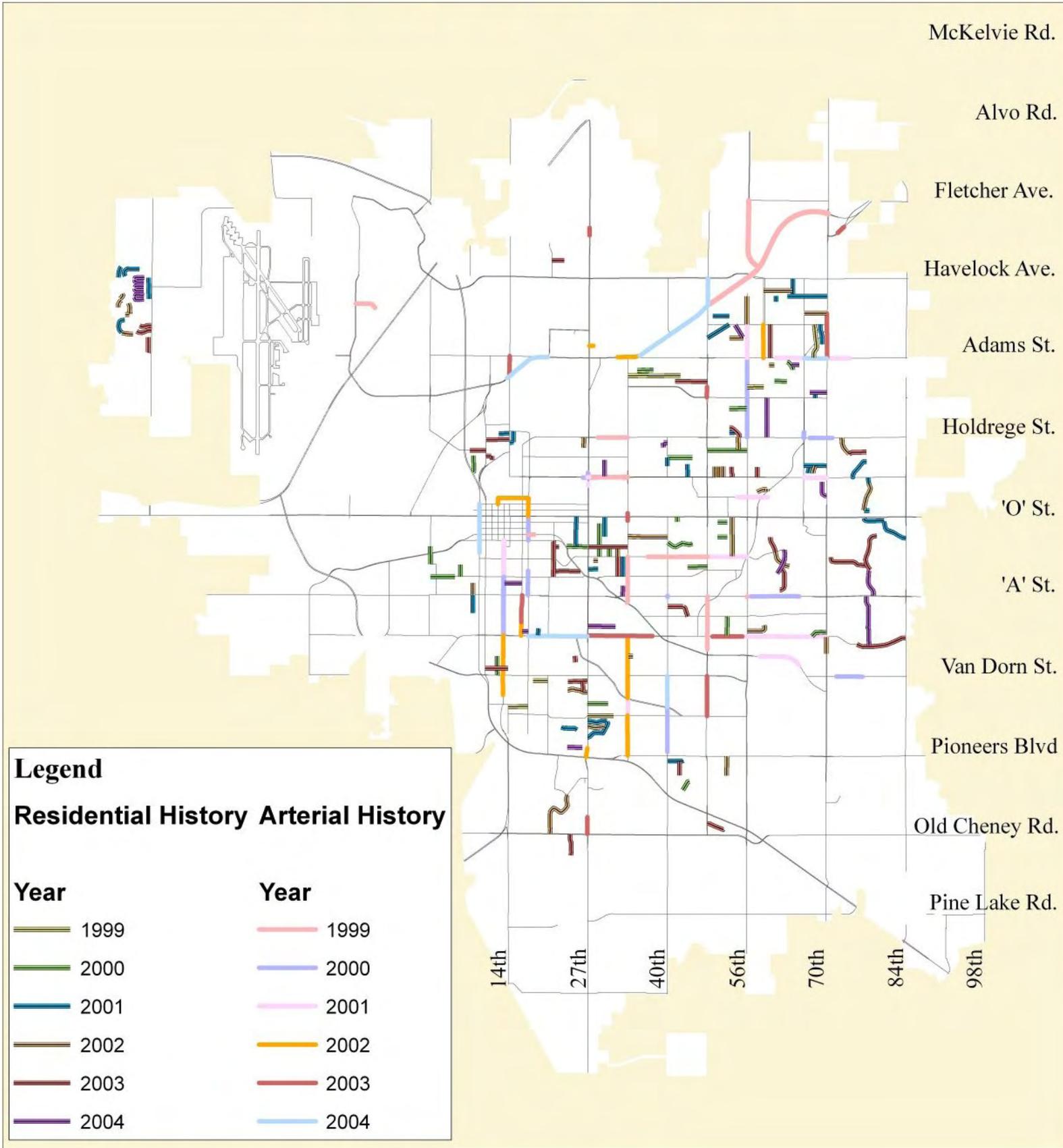
Lincoln CIP 2006-2012

Public Works & Utilities Streets and Highways



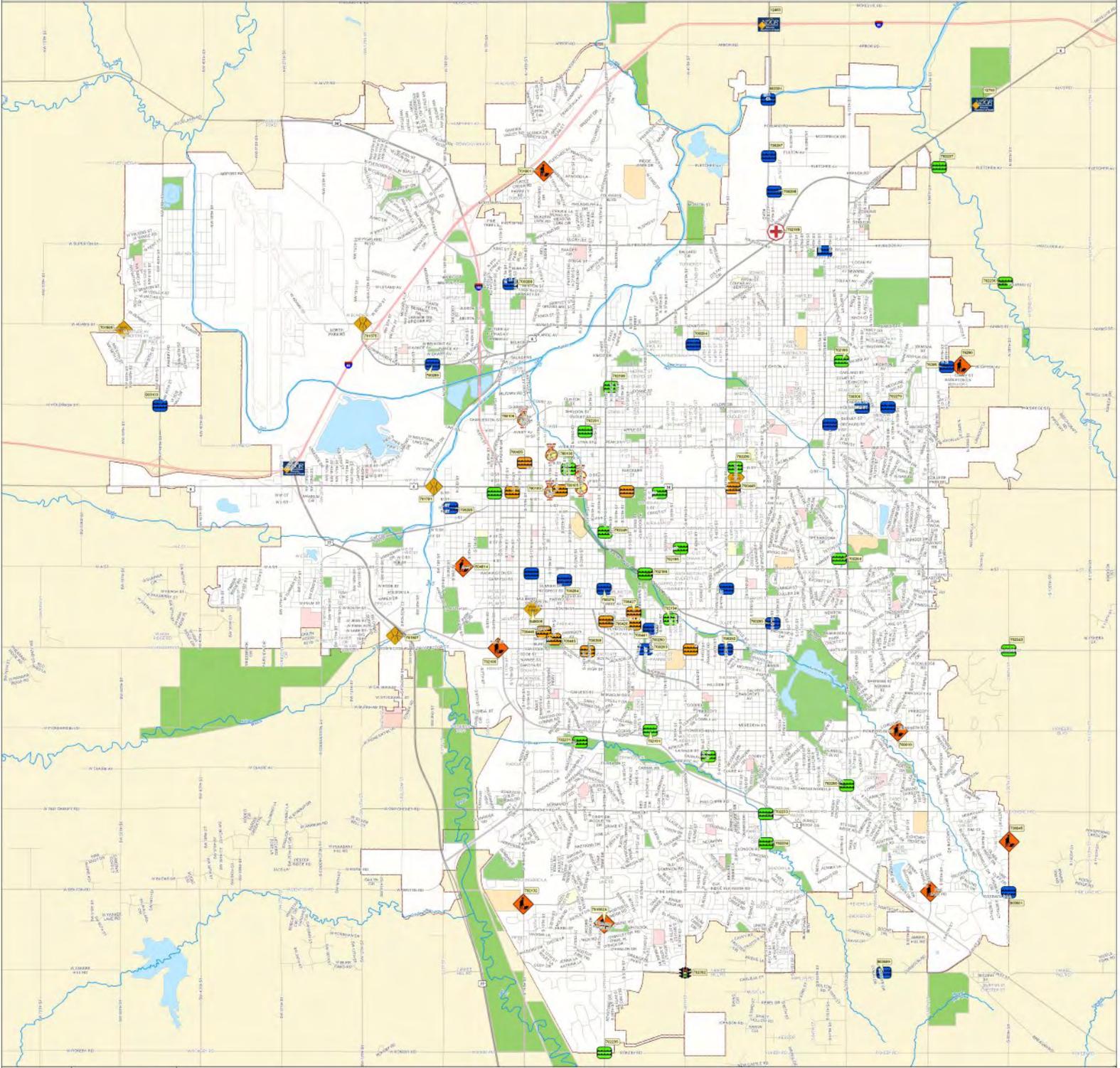
L E G E N D	<i>Lincoln's Future Service Limit Shown as Grey</i>			
	<small>Map Prepared by ES GIS Section</small>			
	+++++	2006 - 2007	*****	2009 - 2010
	●●●●	2007 - 2008	■■■■	2010 - 2011
▲▲▲▲	2008 - 2009	■ ■ ■ ■	2011 - 2012	

Public Works & Utilities



Street Rehabilitation 1999-2004

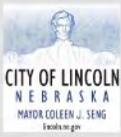
Public Works & Utilities

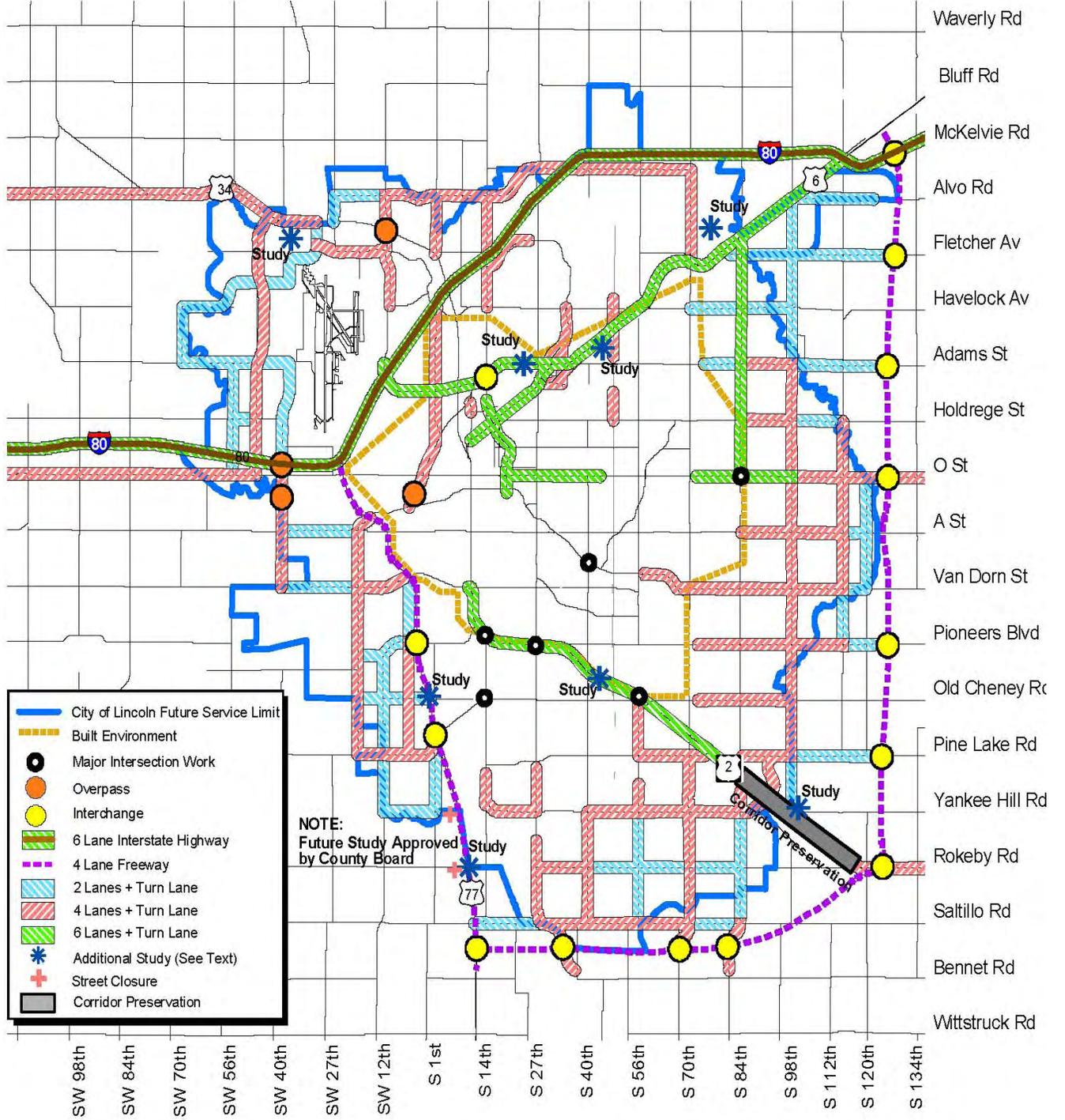


2007 Construction Projects

2007 Projects		Project Type	
	Antelope Valley		Fiber Project
	Bridge Project		Major Road Project
	NDOR Project		Safety Project
	Storm Drainage Project		Water Project
	Traffic Project		Waste Water Project

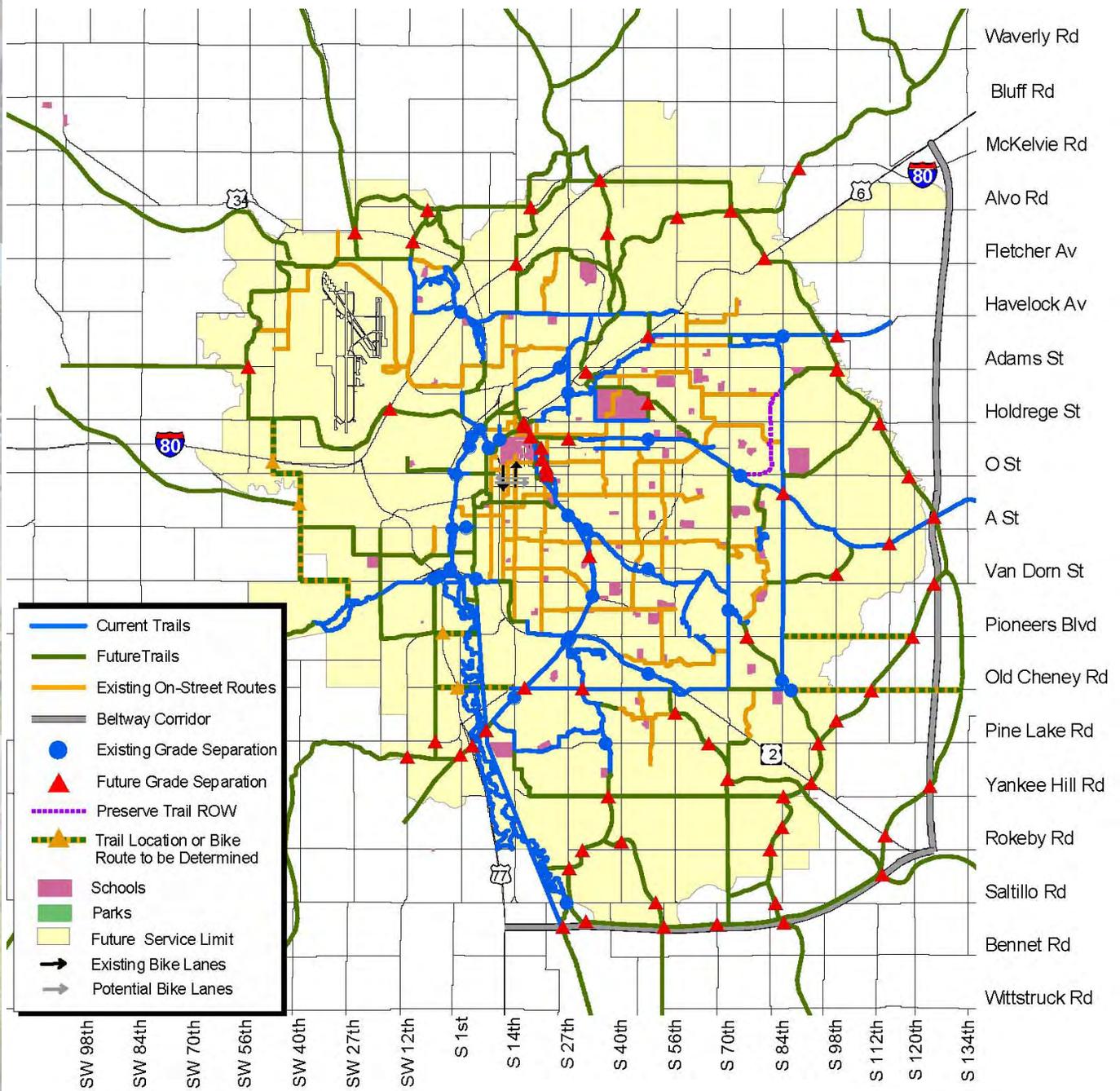
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The adopted 2030 Comprehensive Plan shows the future network of streets.

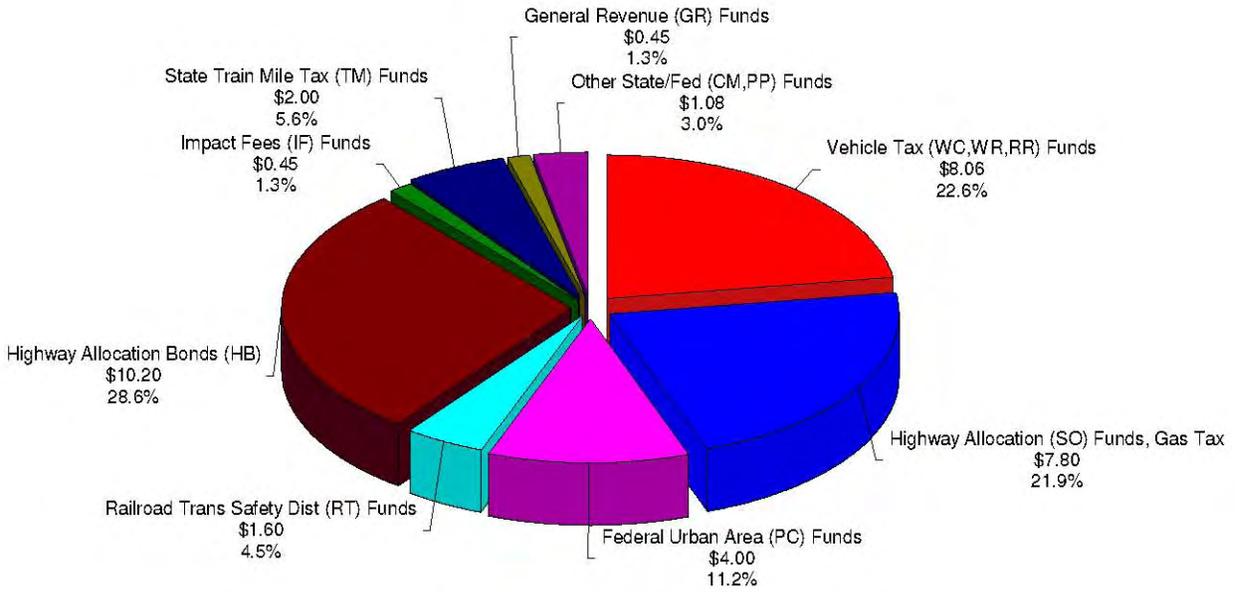




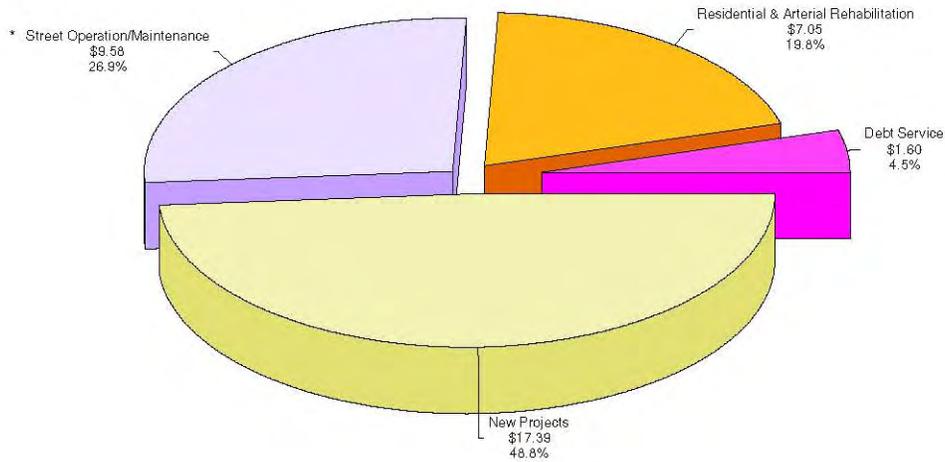
The multi-use trails map from the adopted 2030 Comprehensive Plan

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

ESTIMATED REVENUE



ESTIMATED TOTAL REVENUE = \$35.68m



ESTIMATED TOTAL EXPENDITURES = \$35.68m

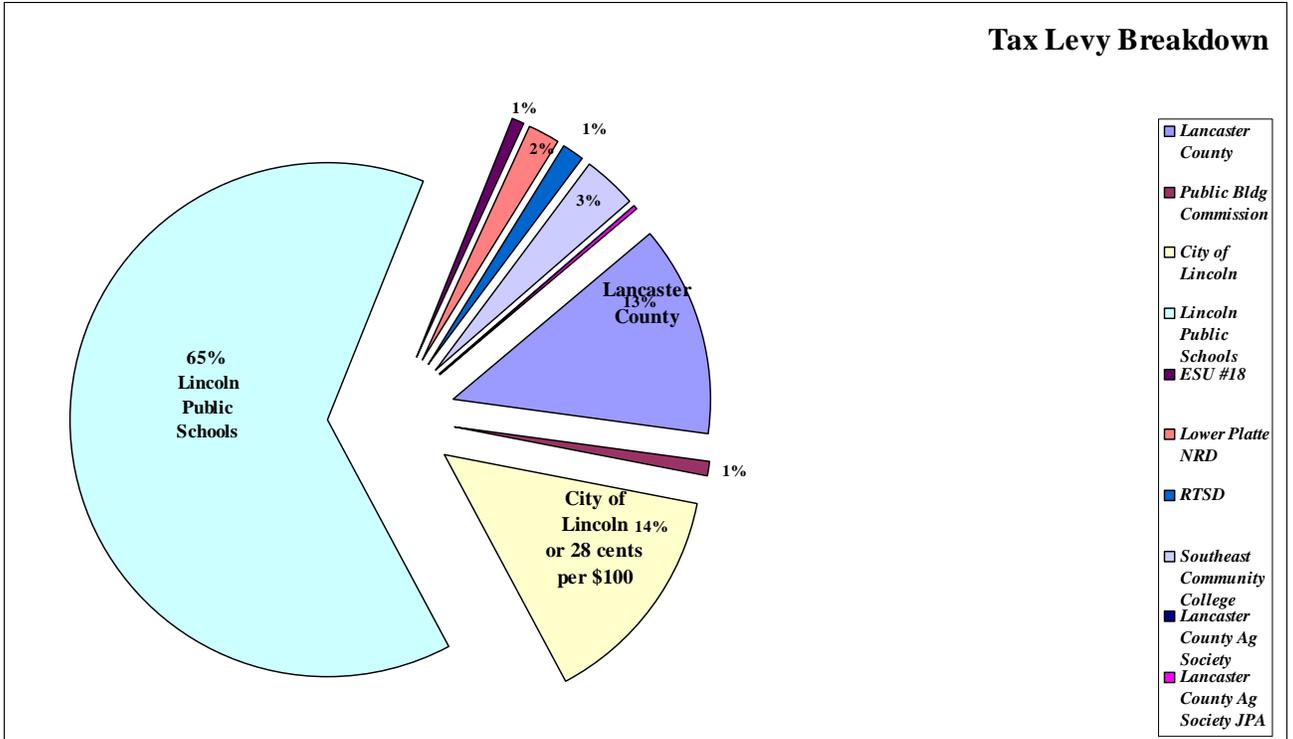
* STREET OPERATION / MAINTENANCE DETAIL

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

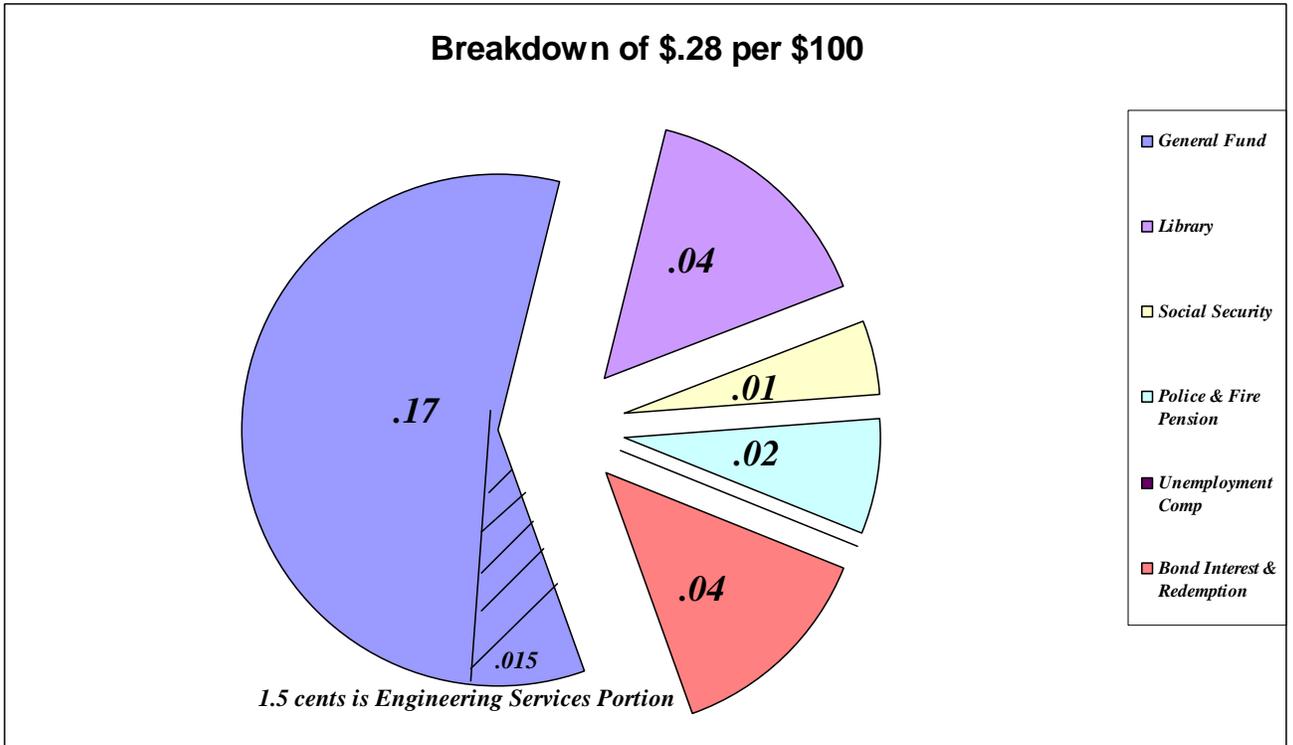
Management (SO)	\$4.92 m	51.36%	
Street Sweeping (SO)	\$1.00 m	10.44%	
Snow Removal (SO)	\$2.39 m	24.95%	includes \$250,000 for sidewalks
Snow Removal (WR)	\$1.02 m	10.65%	
Sidewalks (GR)	\$0.25 m	2.61%	
Total	\$9.58 m		

Where Your Tax Dollars Go

Tax Levy Breakdown



Breakdown of \$.28 per \$100



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.



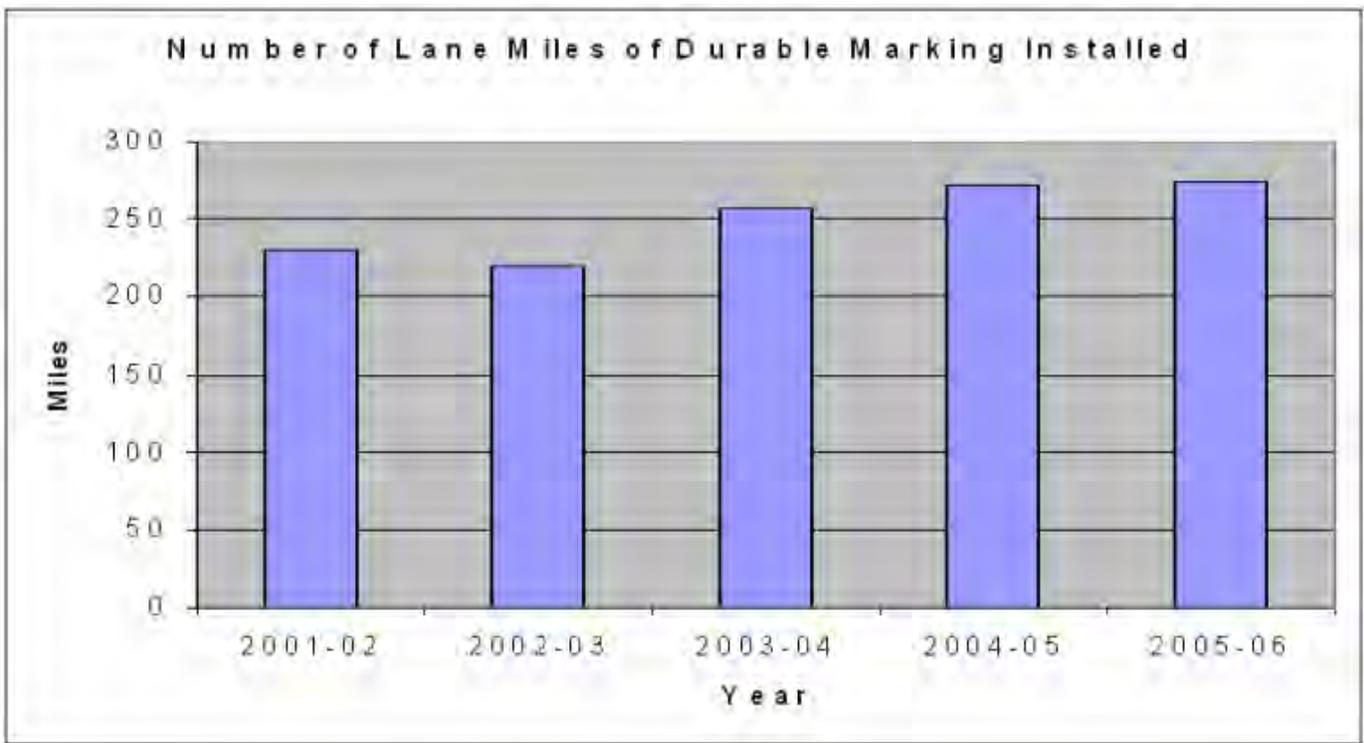
Since 1980 total spent on infrastructure:

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

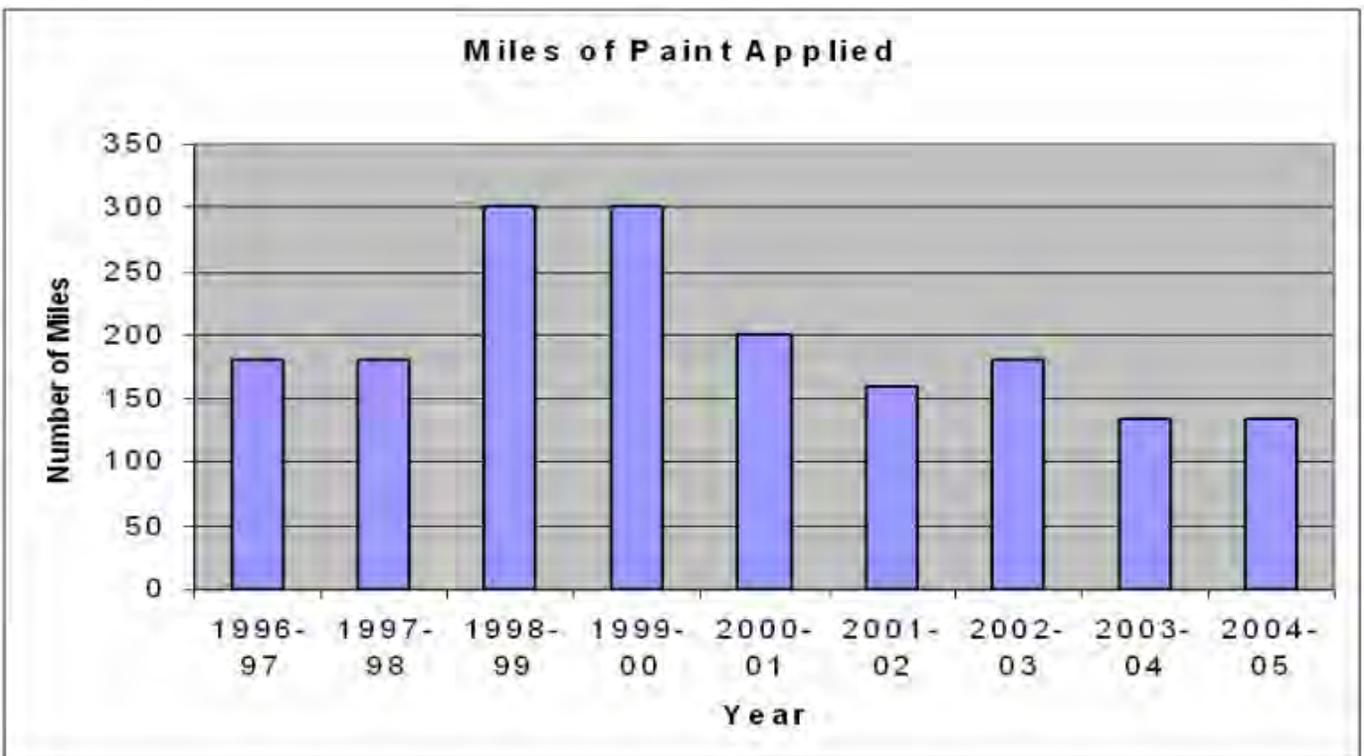


Repainting pavement markings





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.

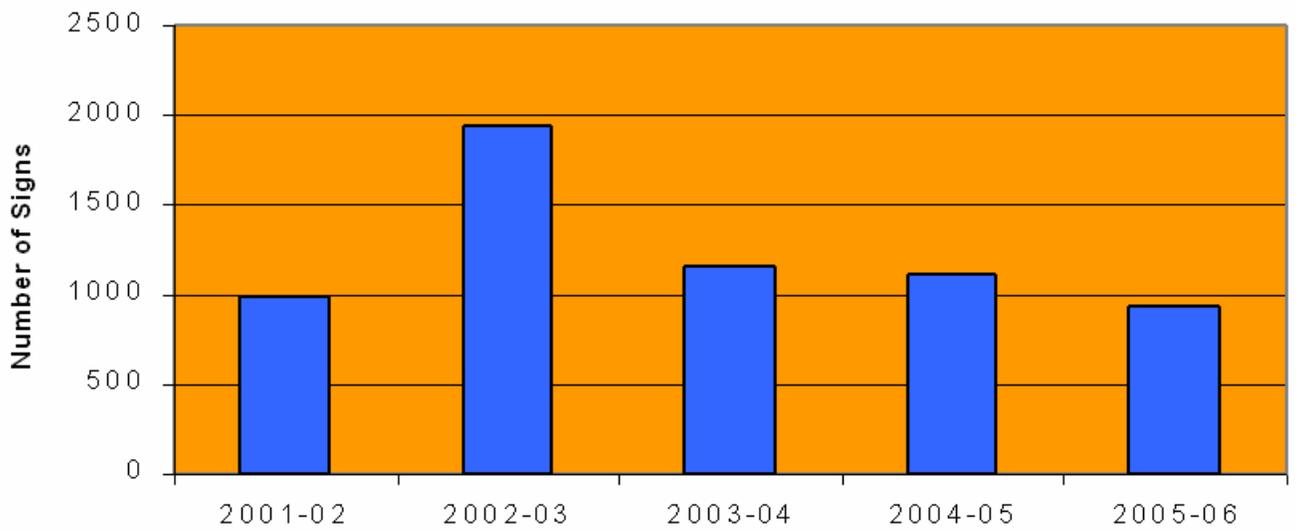


Due to the increases in durable markings, the number of miles needing to be painted (twice annually) has dropped, despite the growth in the City.



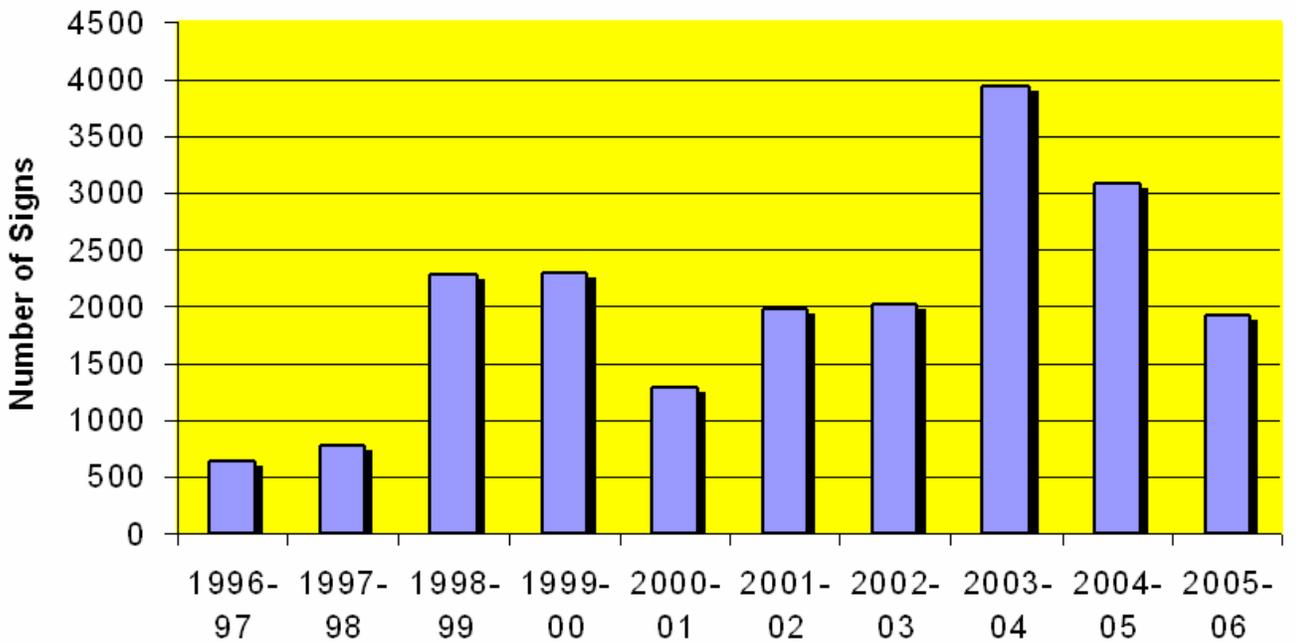


Number of Existing Signs Reinstalled, Relocated, Straightened, Raised or Lowered



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

Signs Replaced other than Street Names

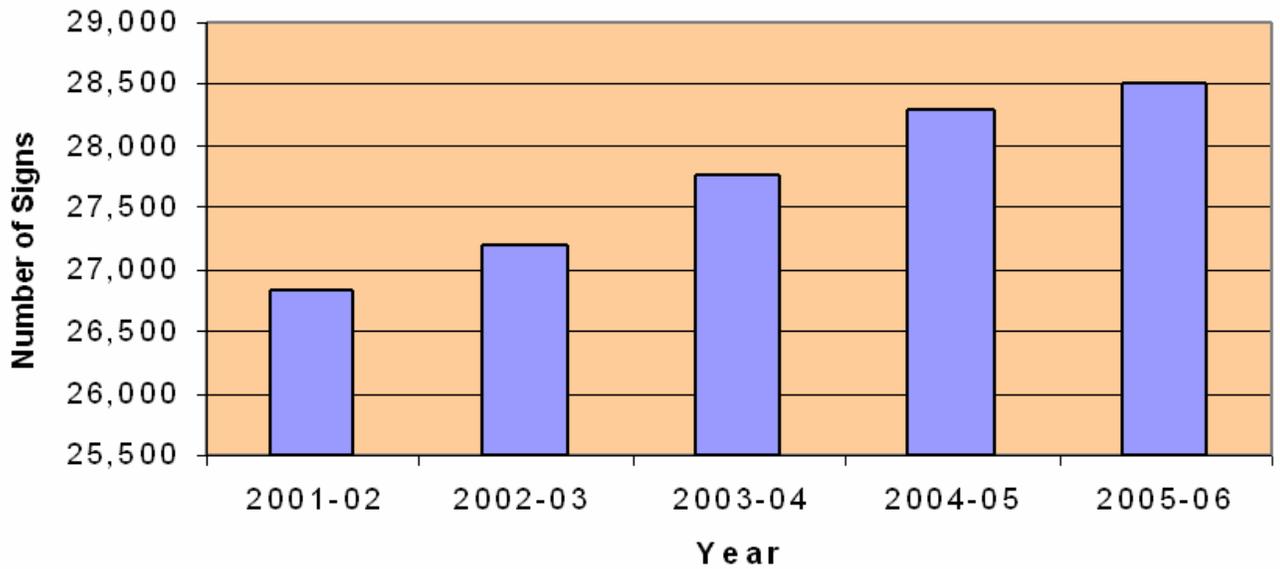


Sign replacement has received a higher priority in the past few years. The replacement of signs competes for priority in funding with pavement markings, parking meters, installing new signs and other duties performed by the Sign shop personnel in the Street Operations Section.



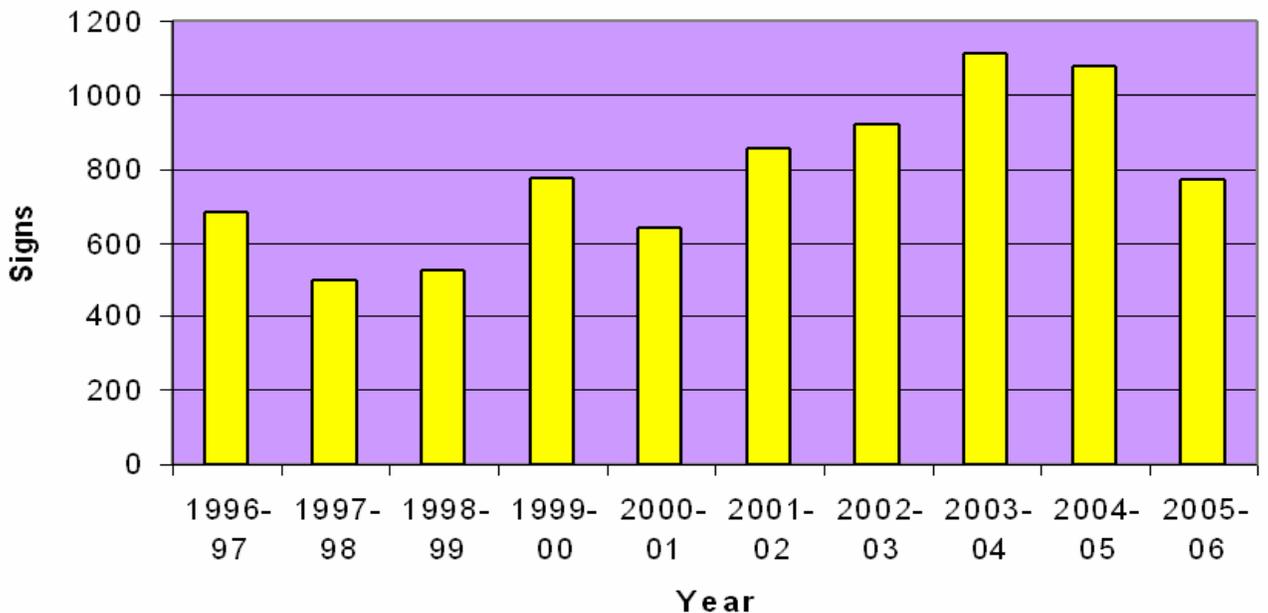


Total Number of Signs in Lincoln minus Street Names



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.

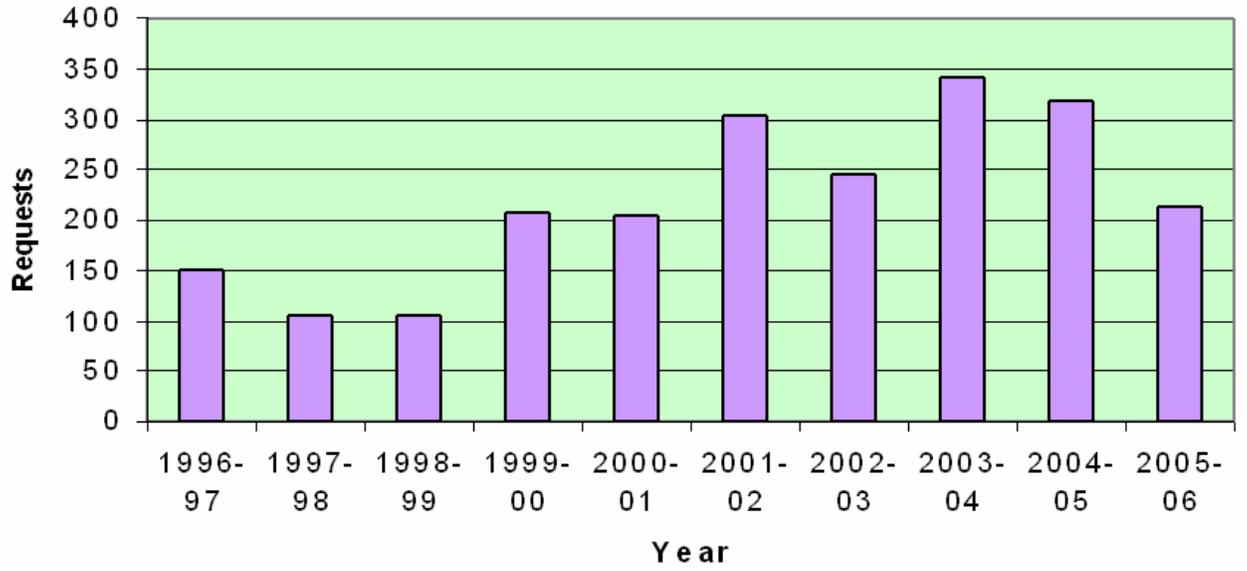
Number of New Signs Installed



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.



Number of Traffic Requests Processed (Requests for signing, marking, or parking meter changes)



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

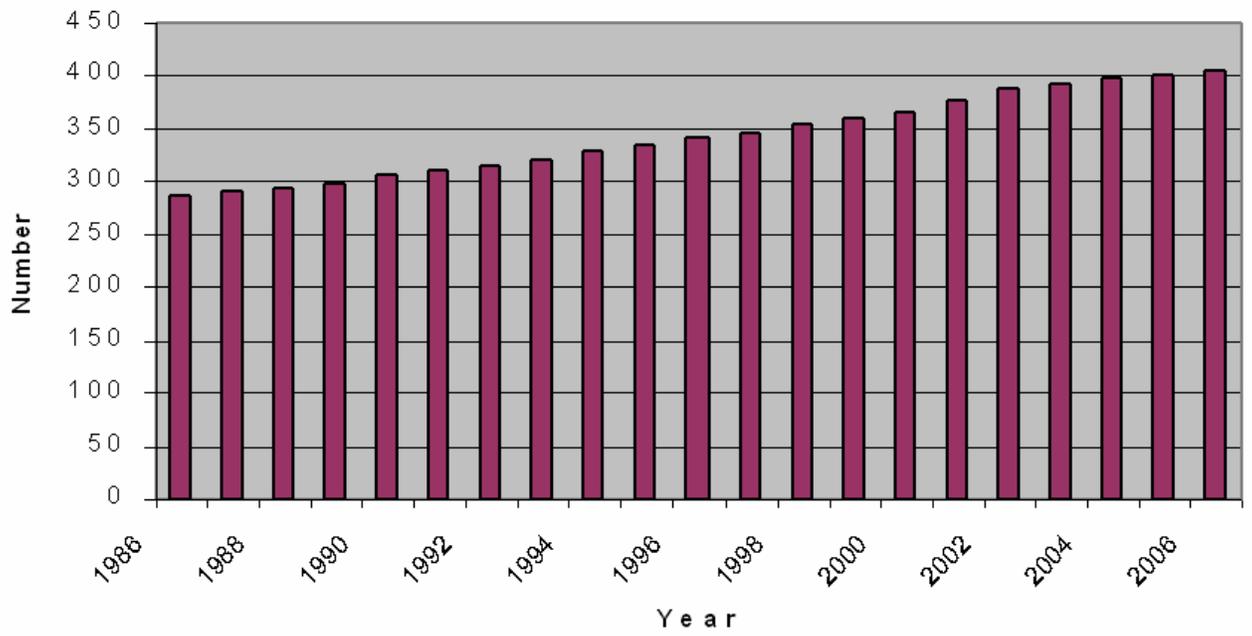


A fully equipped signing truck, with a sign post puller, a post installer, an arrow board, and a towing trailer used for installing thermoplastic pavement markings.



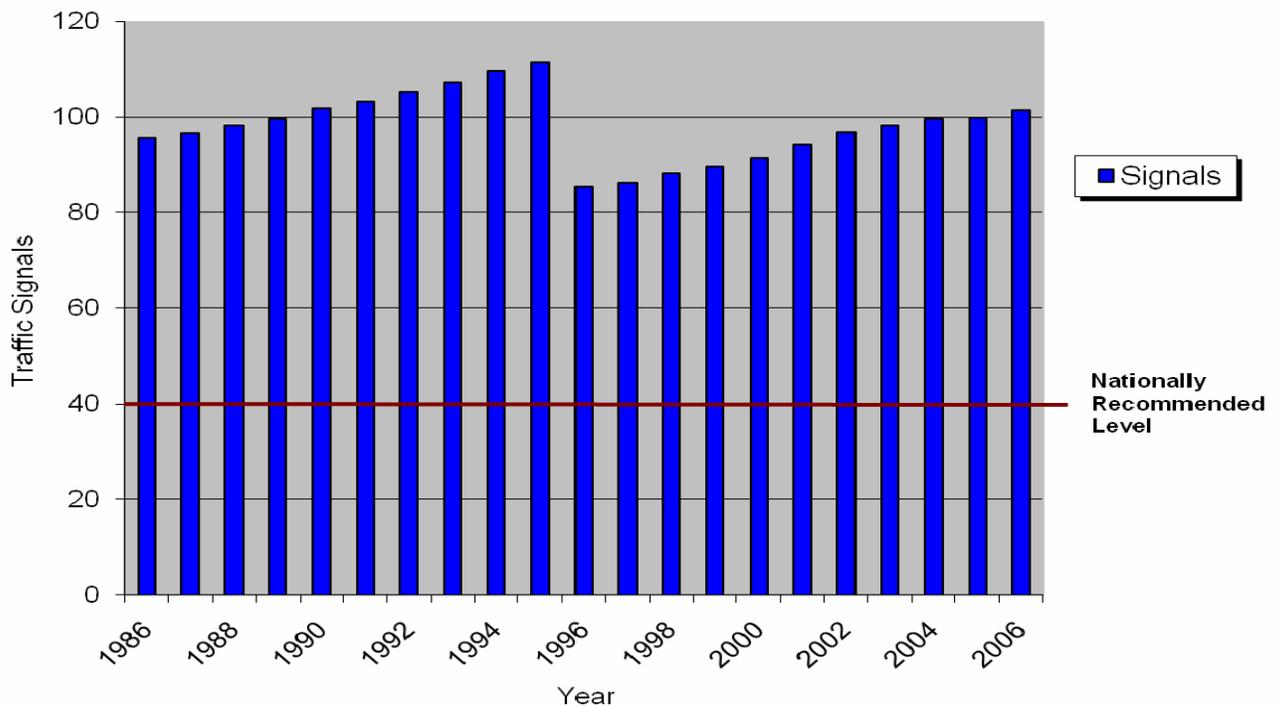


Number of Traffic Signal Devices in Lincoln



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

Number of Traffic Signals per Signal Technician

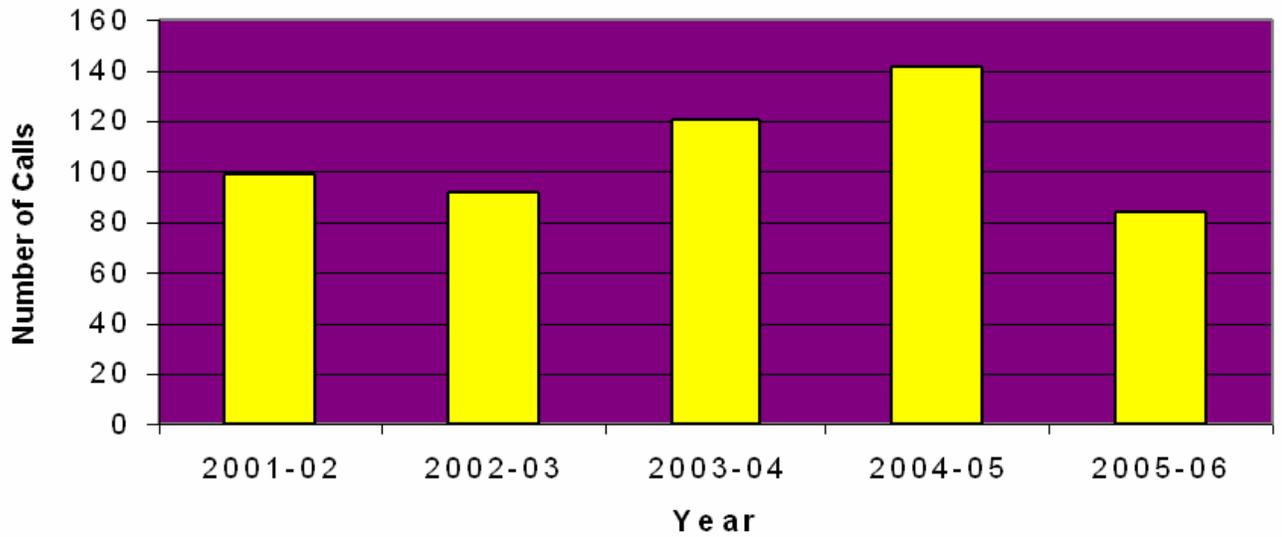


Street Operations staff maintain more than two and a half times the nationally recommended number of traffic signals per technician. Regular maintenance is annually performed on each signal.





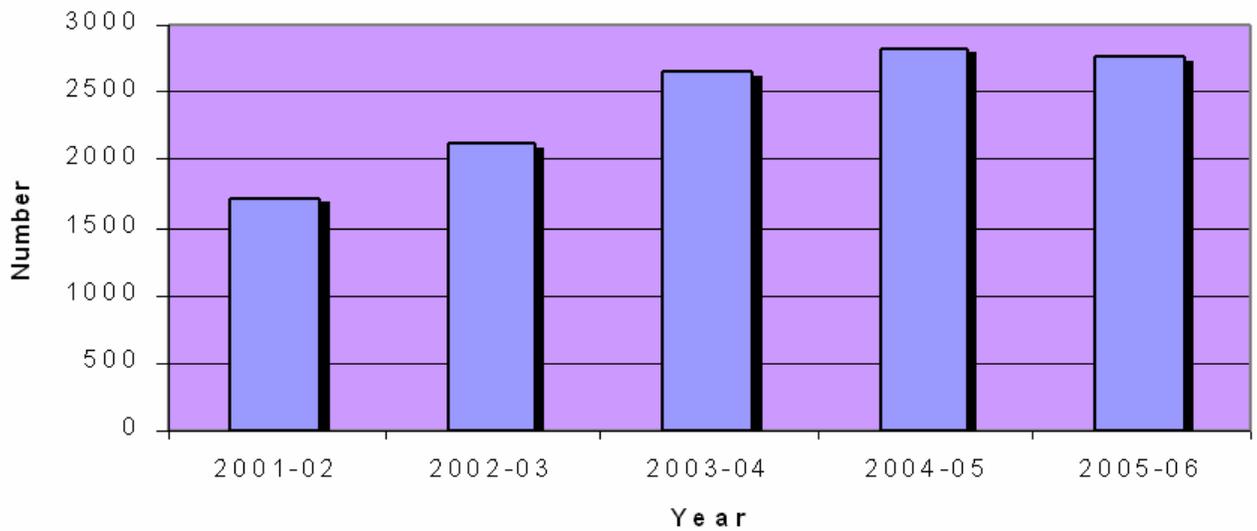
After Hours Signal Shop Calls for Service



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.



Number of Traffic Signals Serviced or Repaired

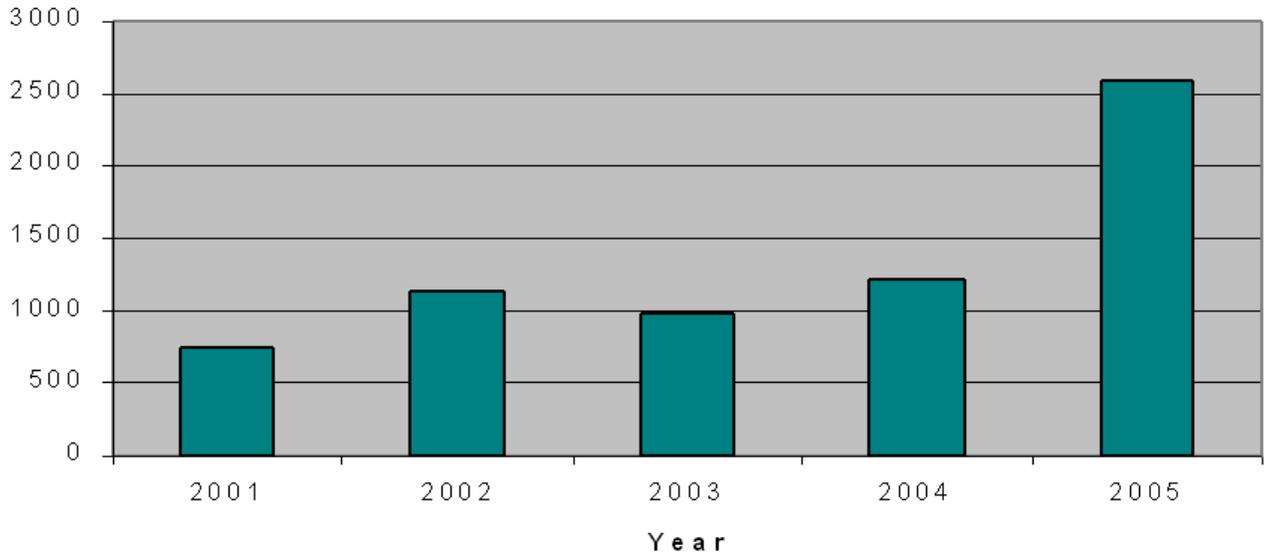


As the number of traffic signals rises, so does the age of the existing signals. This number is likely to continue to increase in the future.



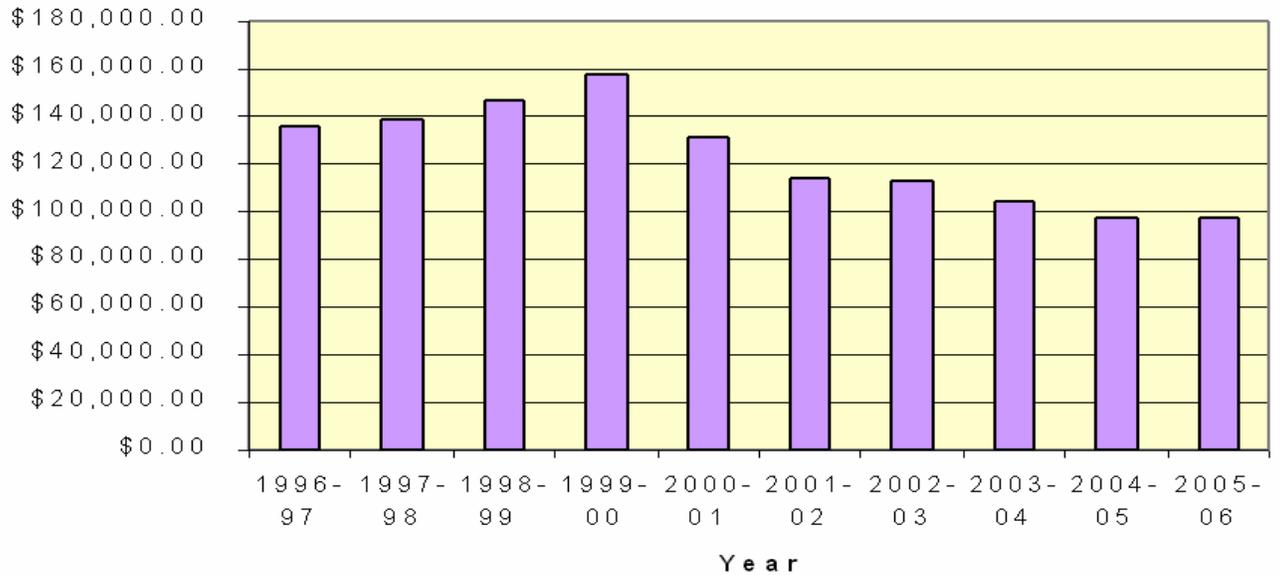


Number of LED's Installed

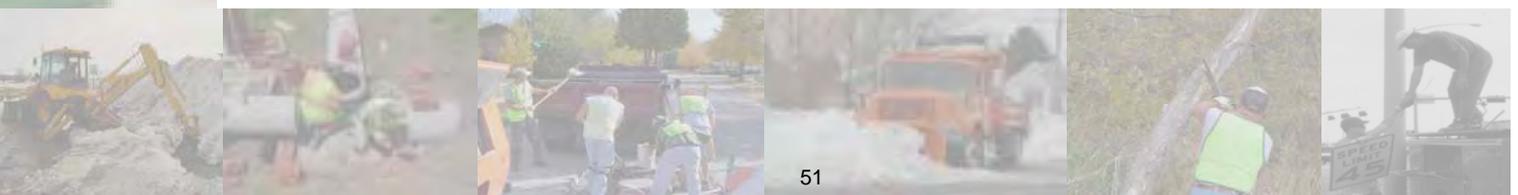


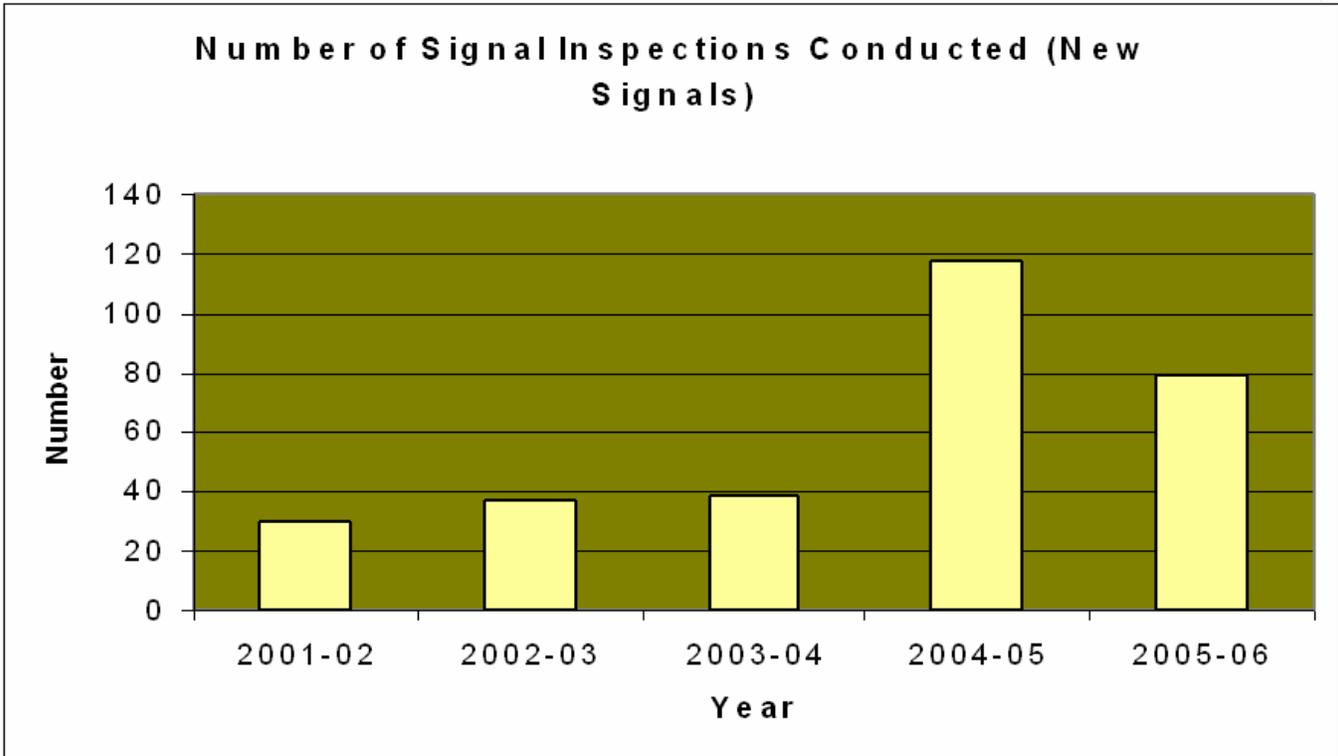
The installation of LED traffic signal indications provides the City with savings both in the cost of electricity as well as in manpower savings due to the longer life of the fixtures.

Traffic Signal Electricity Costs



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.

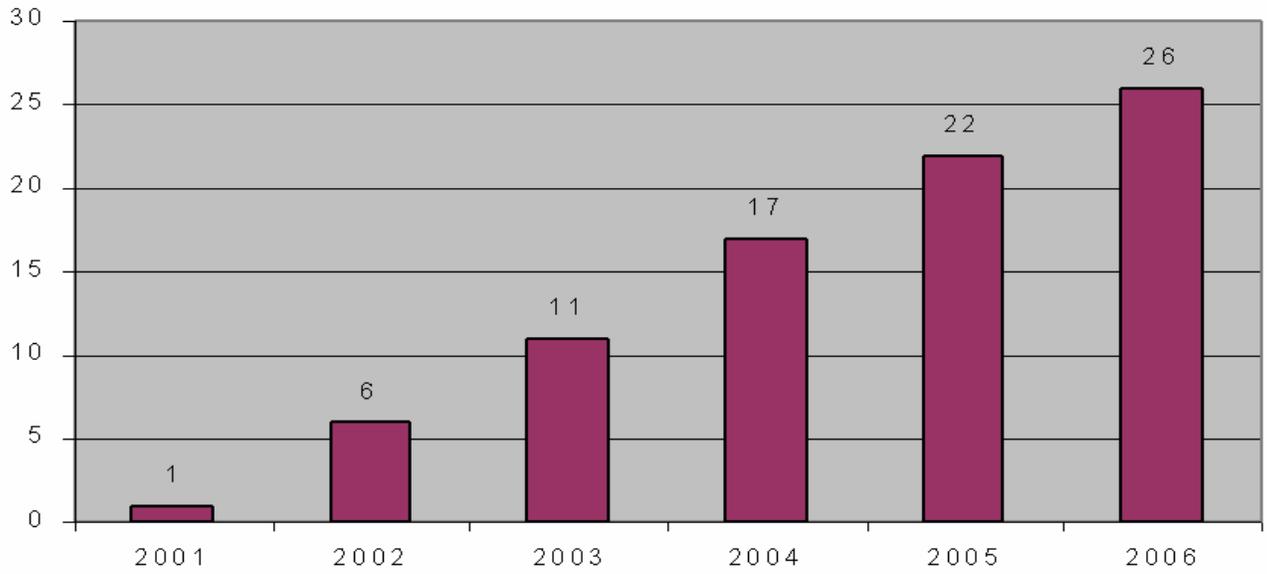
Intelligent Transportation Systems Information

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%





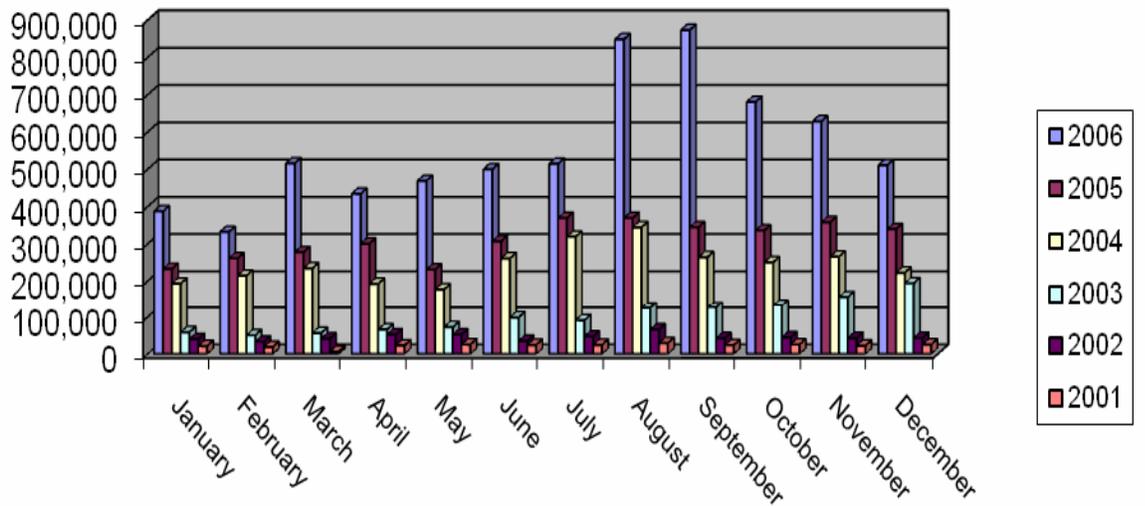
Number of Traffic Monitoring Cameras



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.



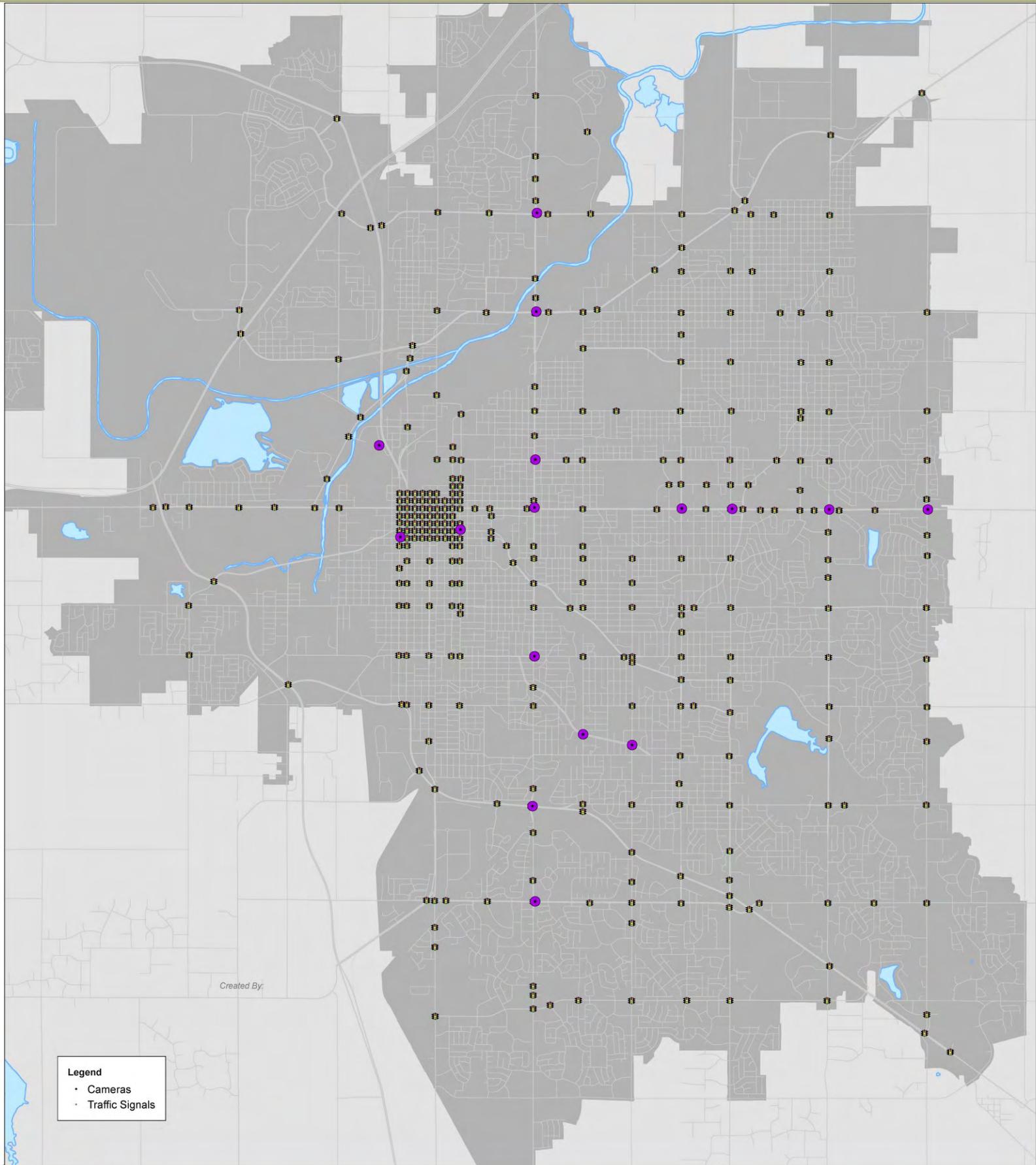
Public Works & Utilities Web Hits



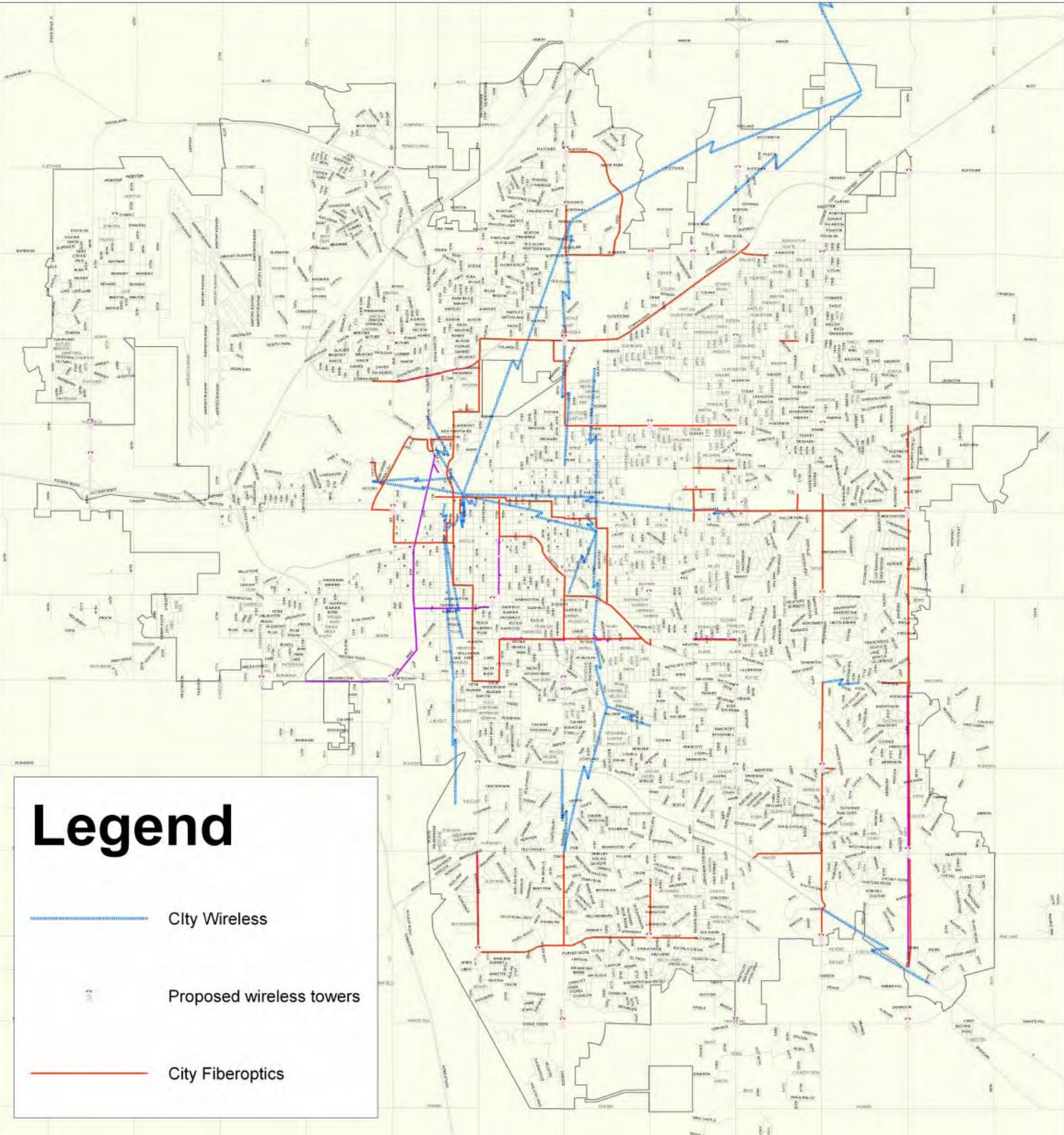
Percent increase since 2001: 2398.54%



Public Works & Utilities

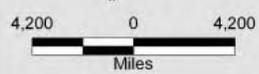
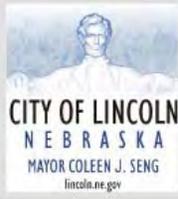


Public Works & Utilities



Legend

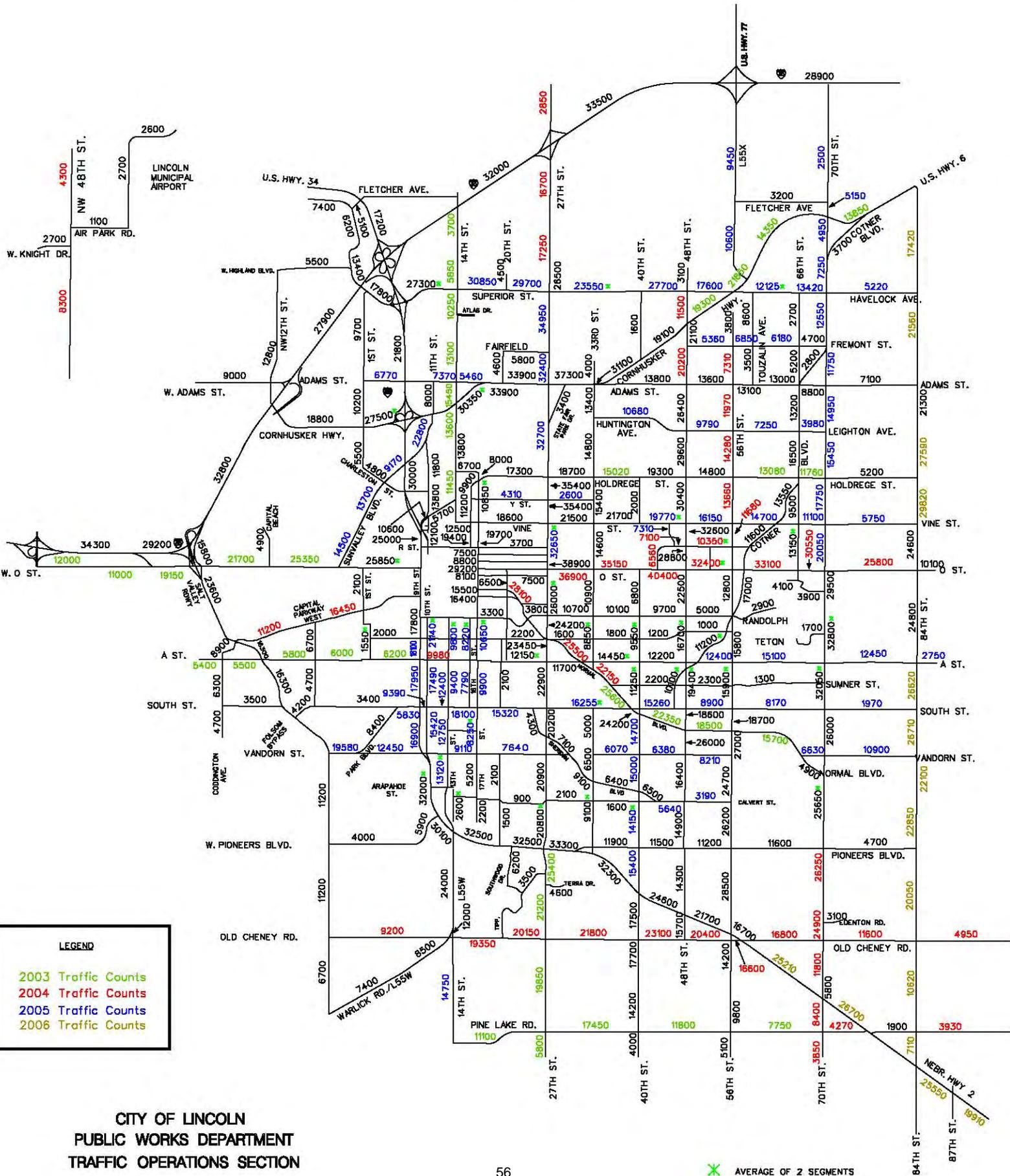
-  City Wireless
-  Proposed wireless towers
-  City Fiberoptics



City of Lincoln Communications Network



2006 ESTIMATED 24 HR. TRAFFIC VOLUMES

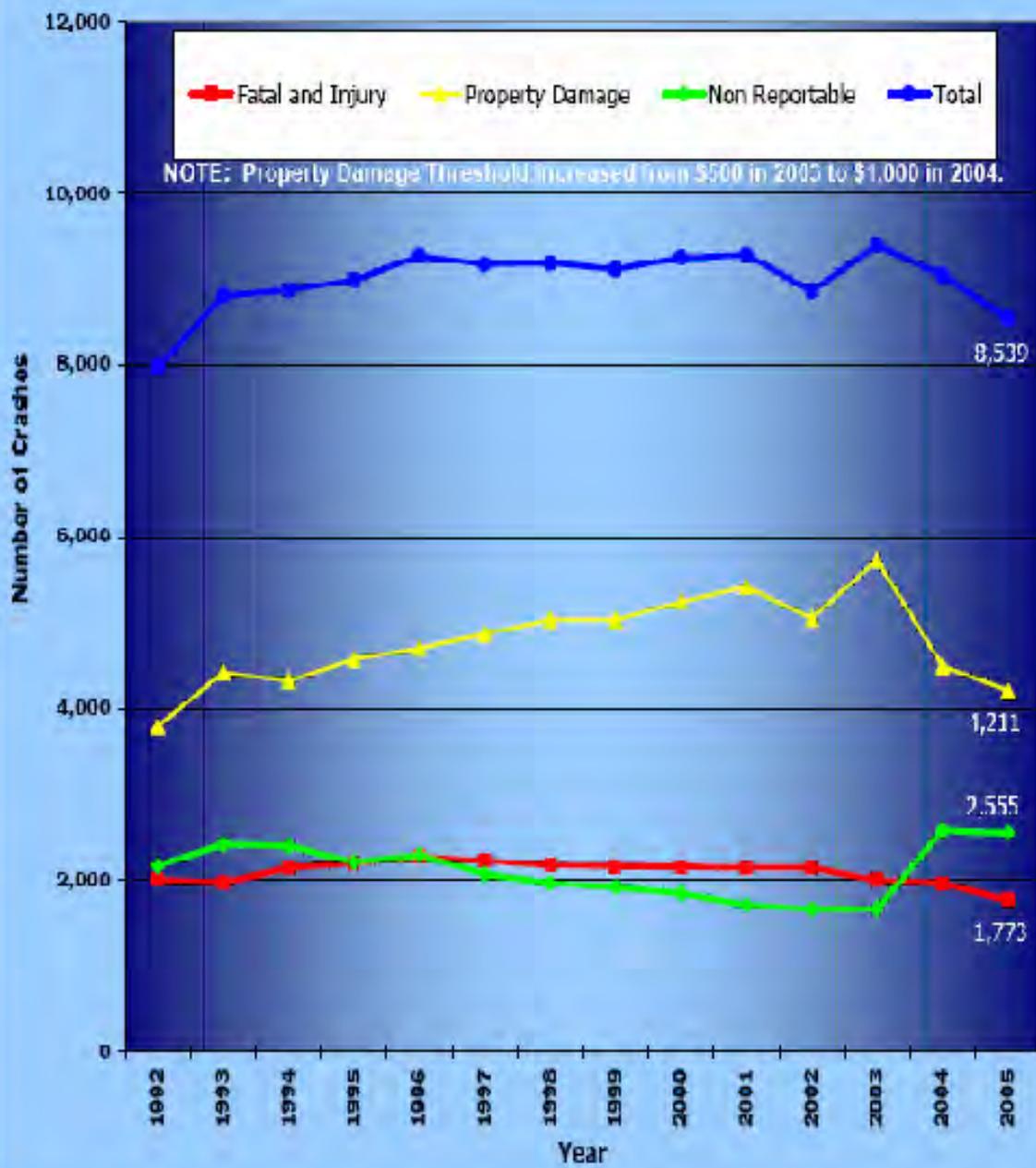


LEGEND

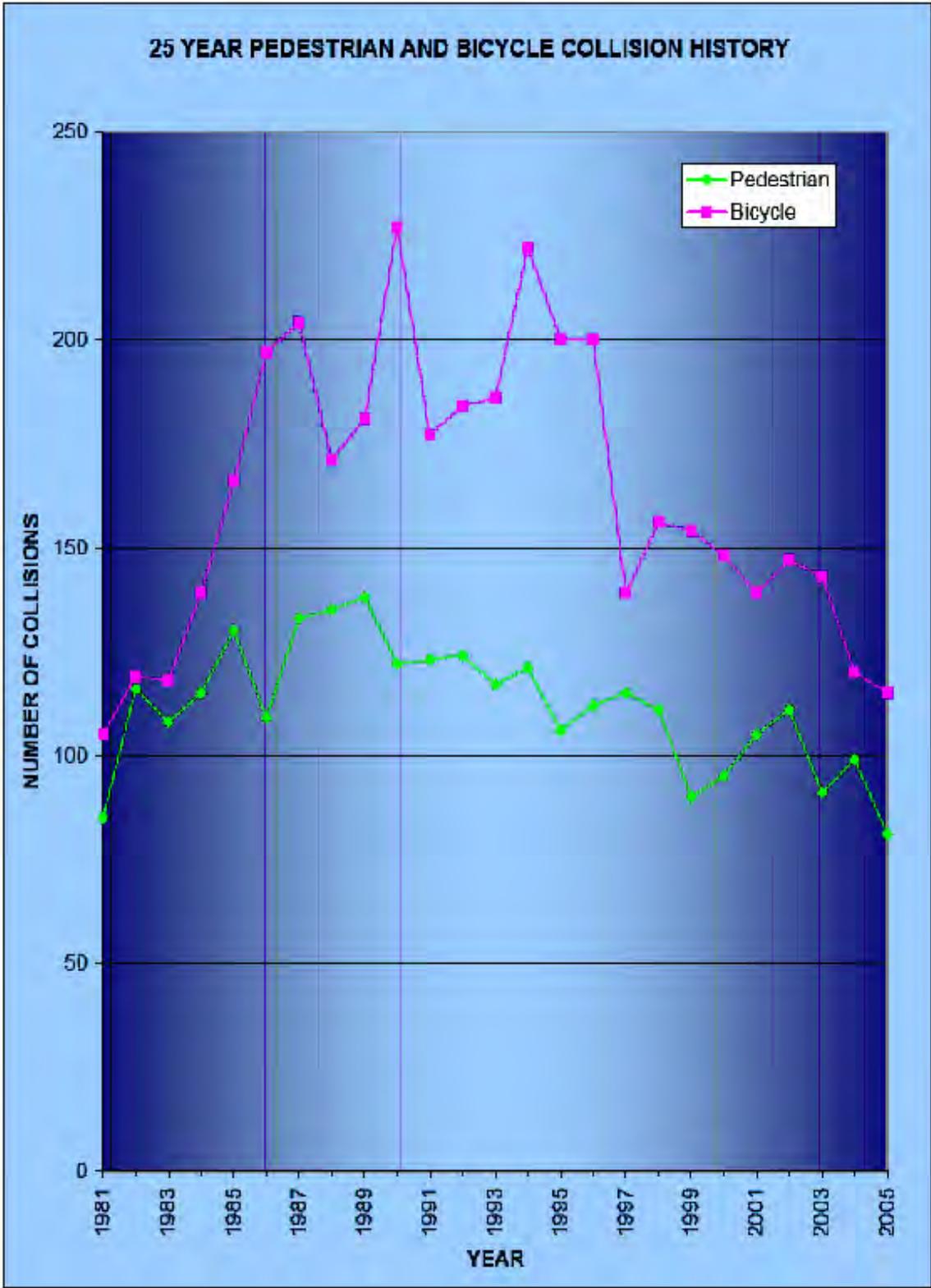
- 2003 Traffic Counts
- 2004 Traffic Counts
- 2005 Traffic Counts
- 2006 Traffic Counts

CITY OF LINCOLN
PUBLIC WORKS DEPARTMENT
TRAFFIC OPERATIONS SECTION

CRASH TRENDS BY SEVERITY



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.

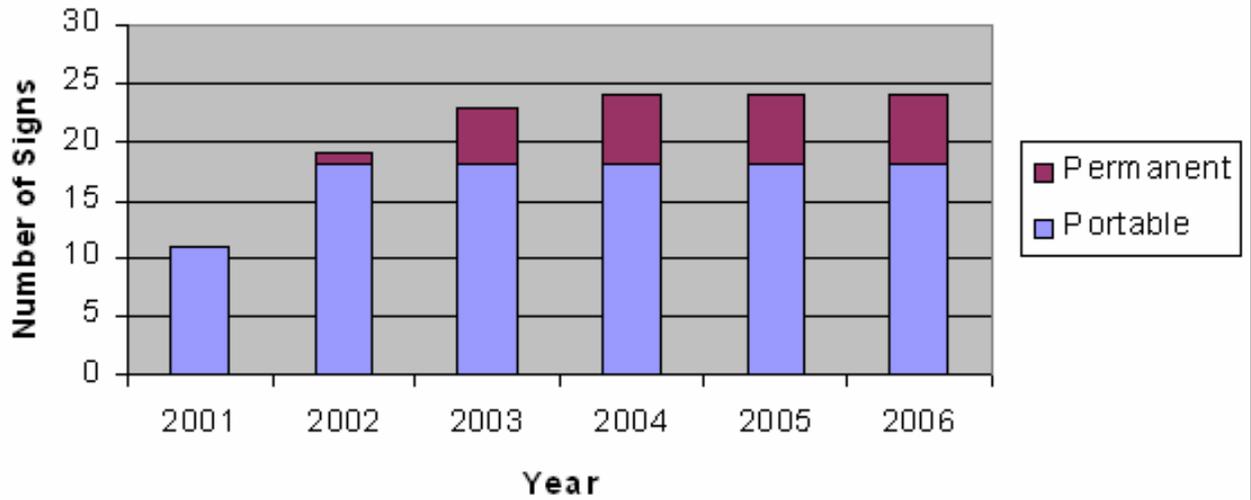


The number of pedestrian and bicycle crashes occurring on an annual basis have dropped considerably since the mid 1990s. Engineering Services has focused considerable attention on pedestrian and bicycle safety, particularly for school-aged children.





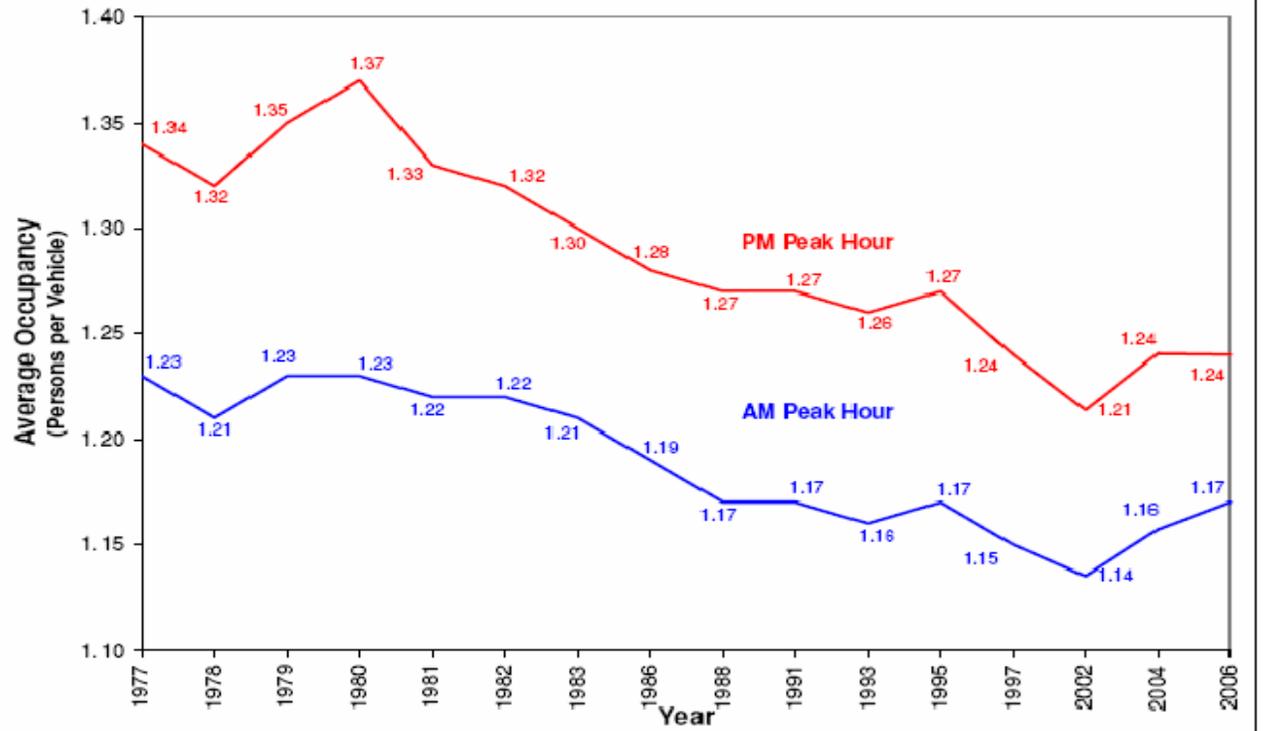
Dynamic Message Signs



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.



Peak Hour Vehicle Occupancy Rates 1977 - 2006

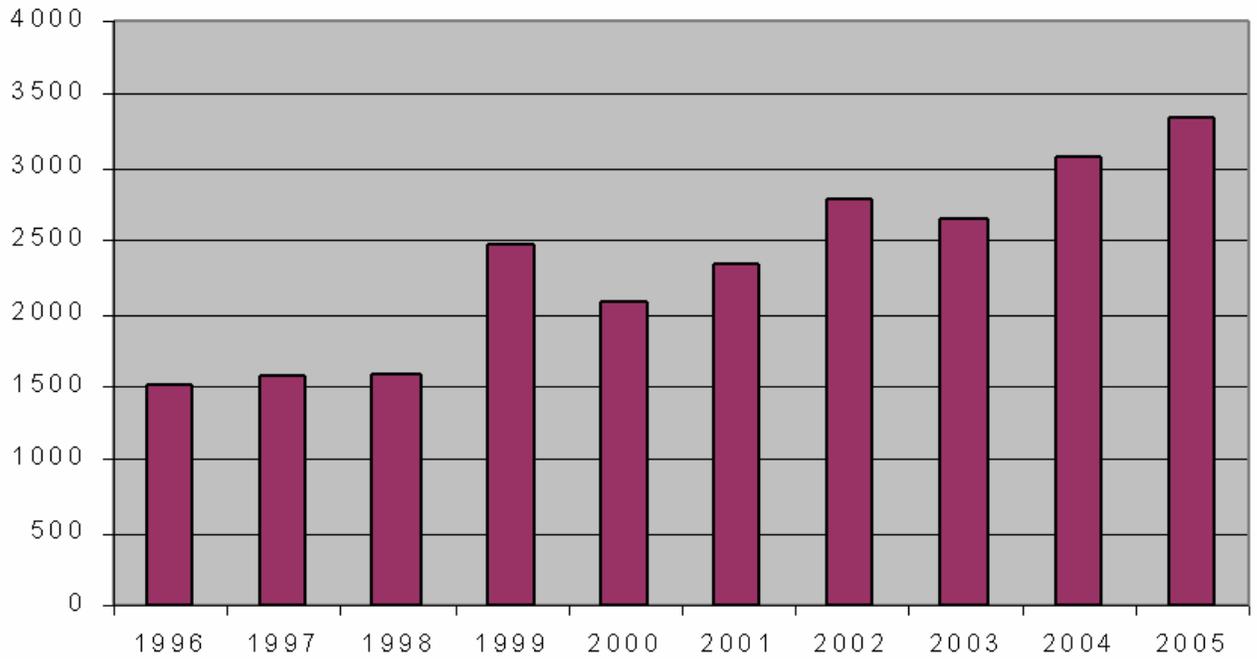


This graph illustrates the average number of people per vehicle driving on a street during the peak times of day. The downward trend of the lines show that more people are driving alone, increasing the number of vehicles on the streets.





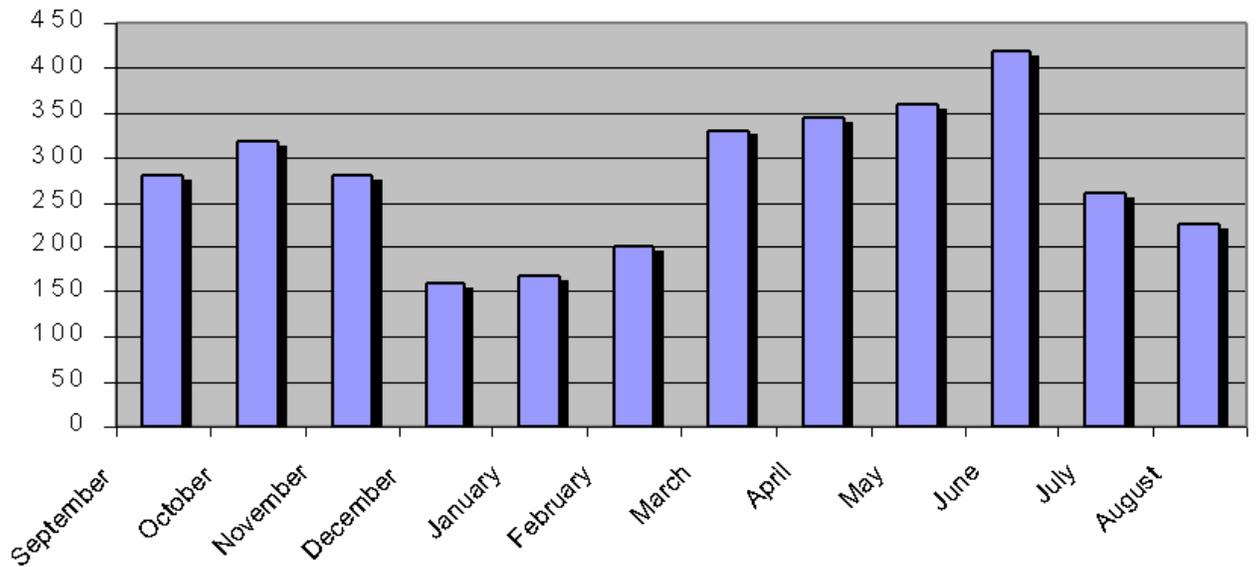
Number of Utility Locate Requests



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.



Number of Monthly Utility Locate Requests

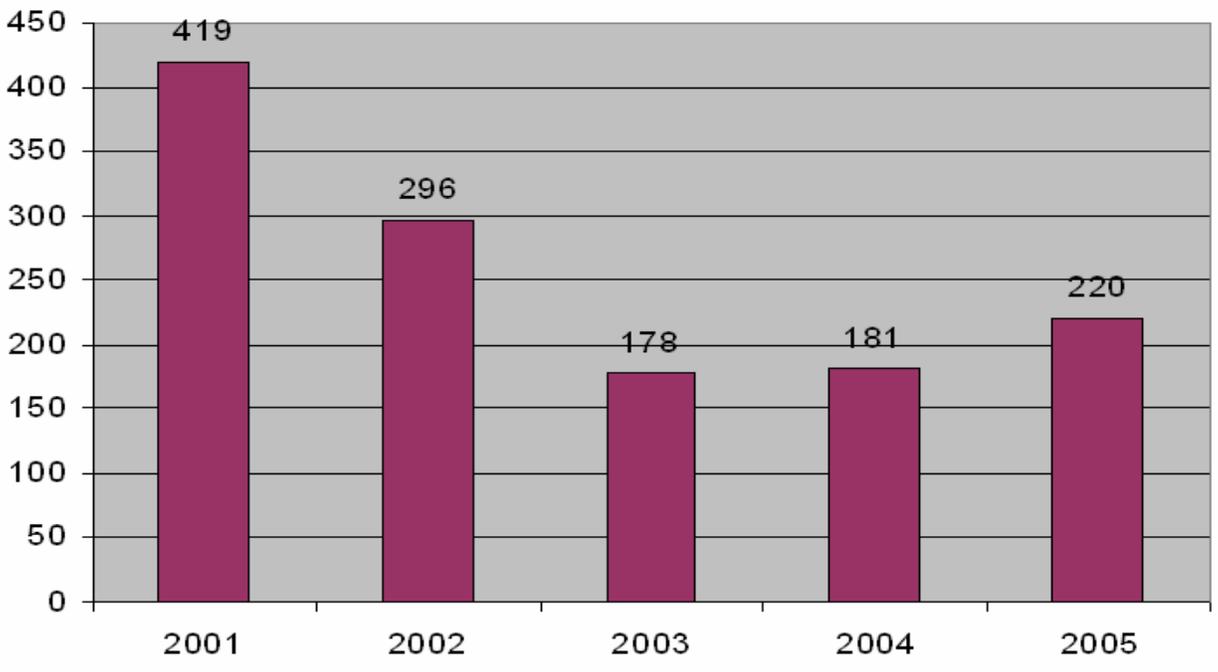


Requests for utility locates peak during the early months of the construction season. The increasing number of requests continues to require more time by the traffic signal crews to provide the locate service.





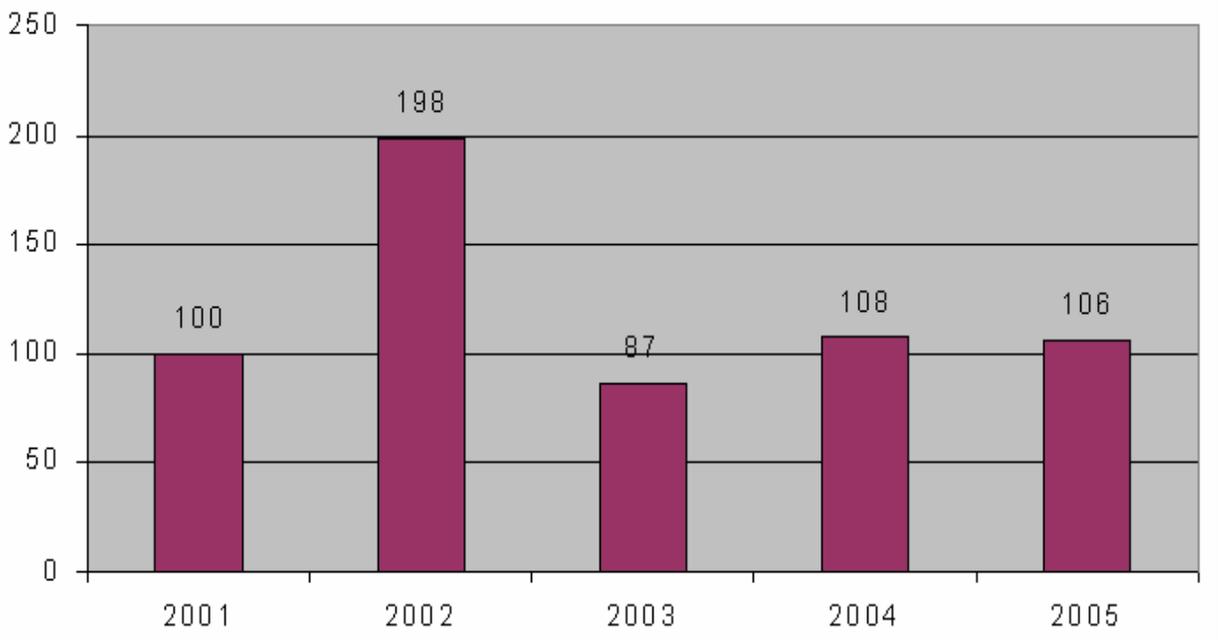
Number of Vegetation Complaints



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.

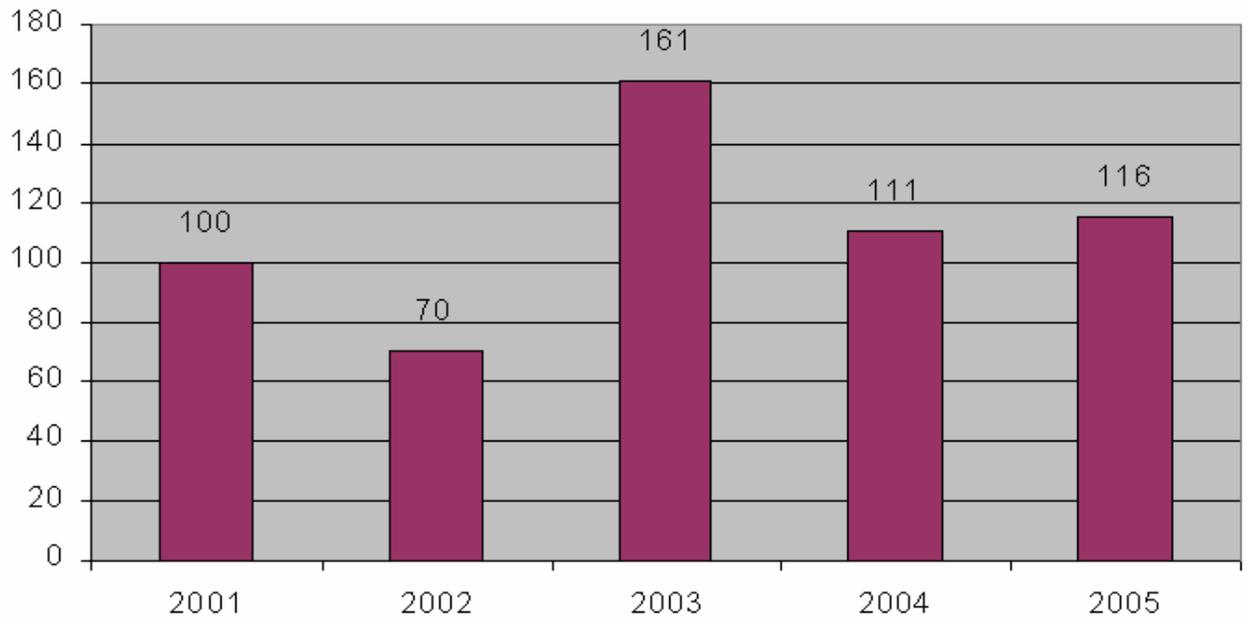


Number of Right of Way Obstruction Complaints





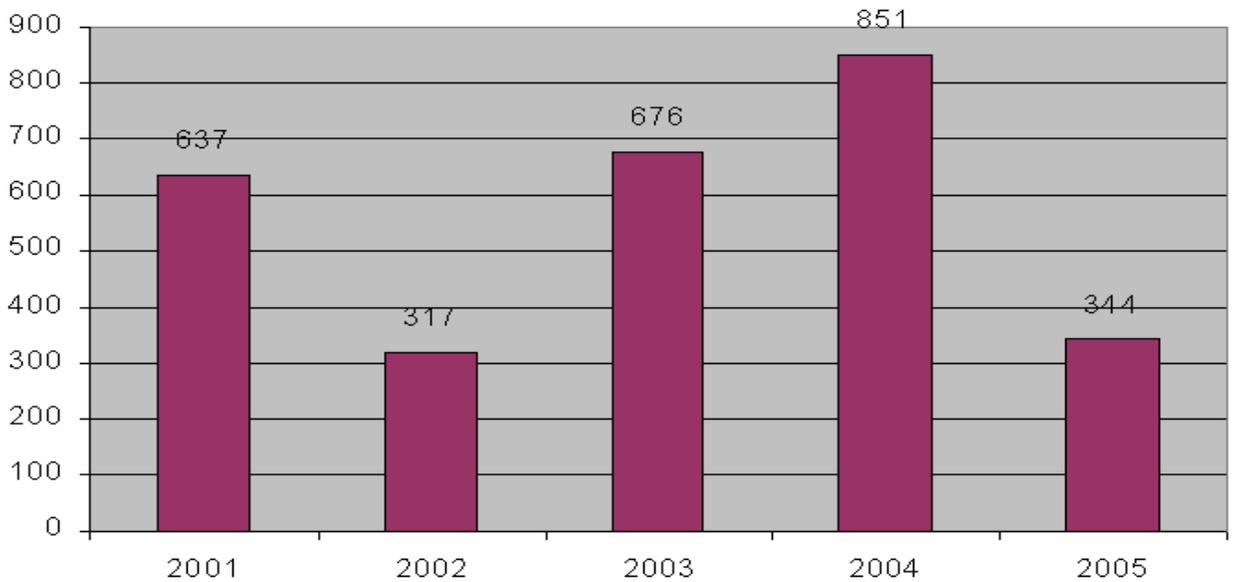
Number of Sight Obstruction Complaints



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.



Number of Snow Complaints

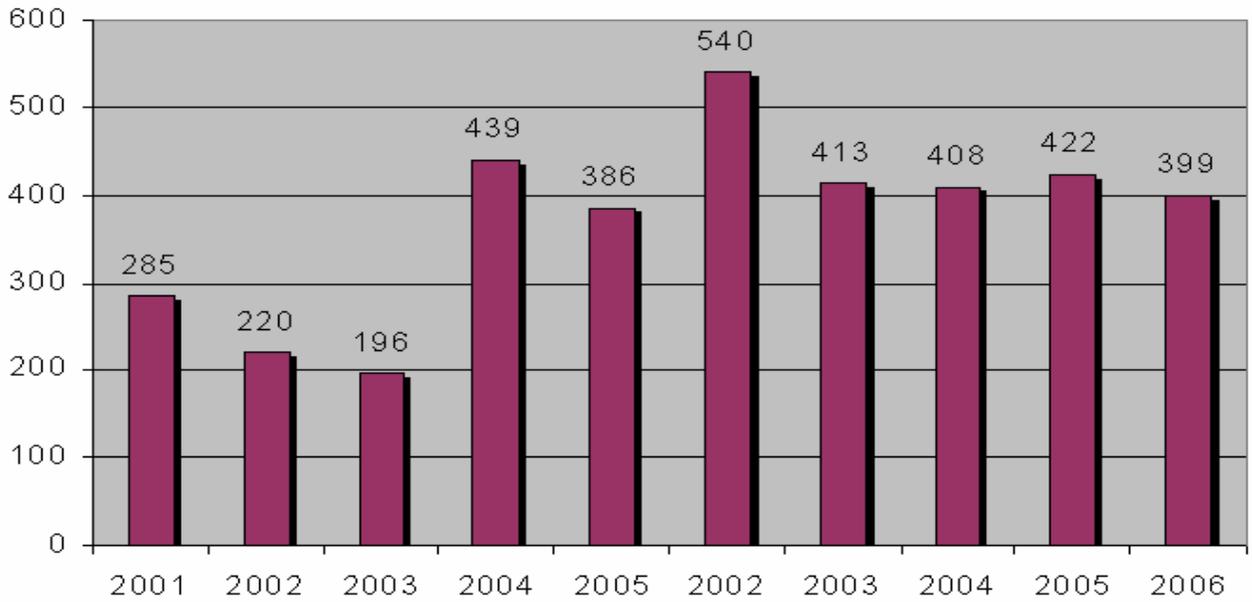


Snow complaints typically involve citizens or businesses who do not remove snow or ice from their property following a snow event. Traffic Operations staff contacts the property owner and follows the process to get the situation resolved, even though it may take several follow-up visits per site.





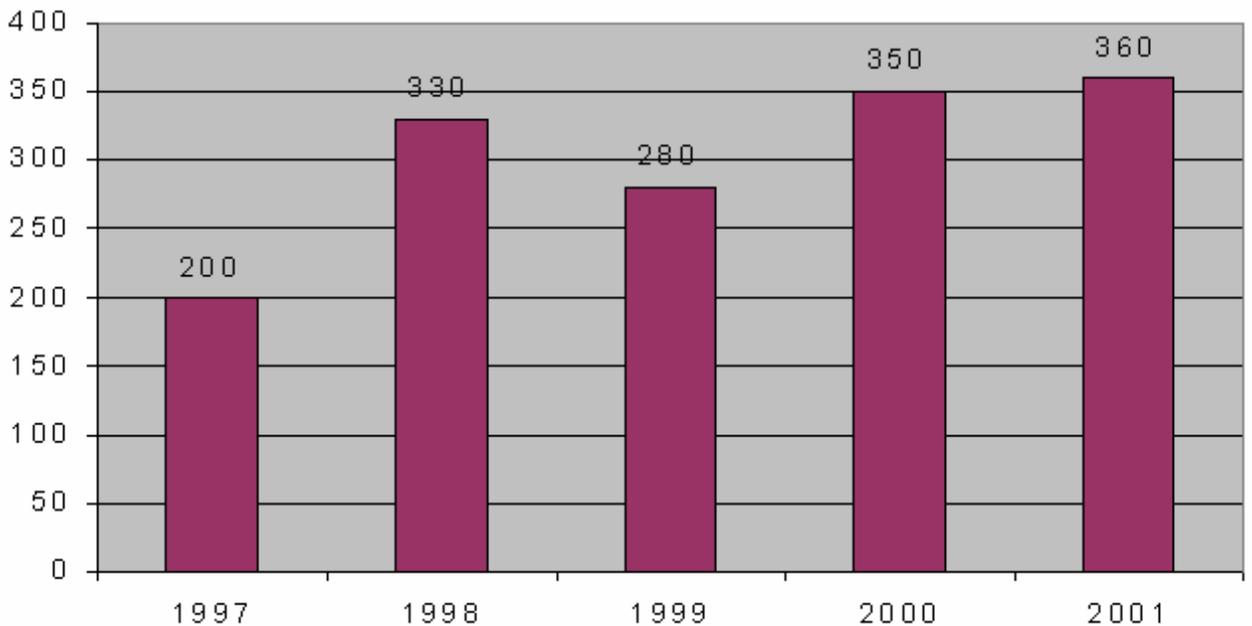
Sidewalk Complaints



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.



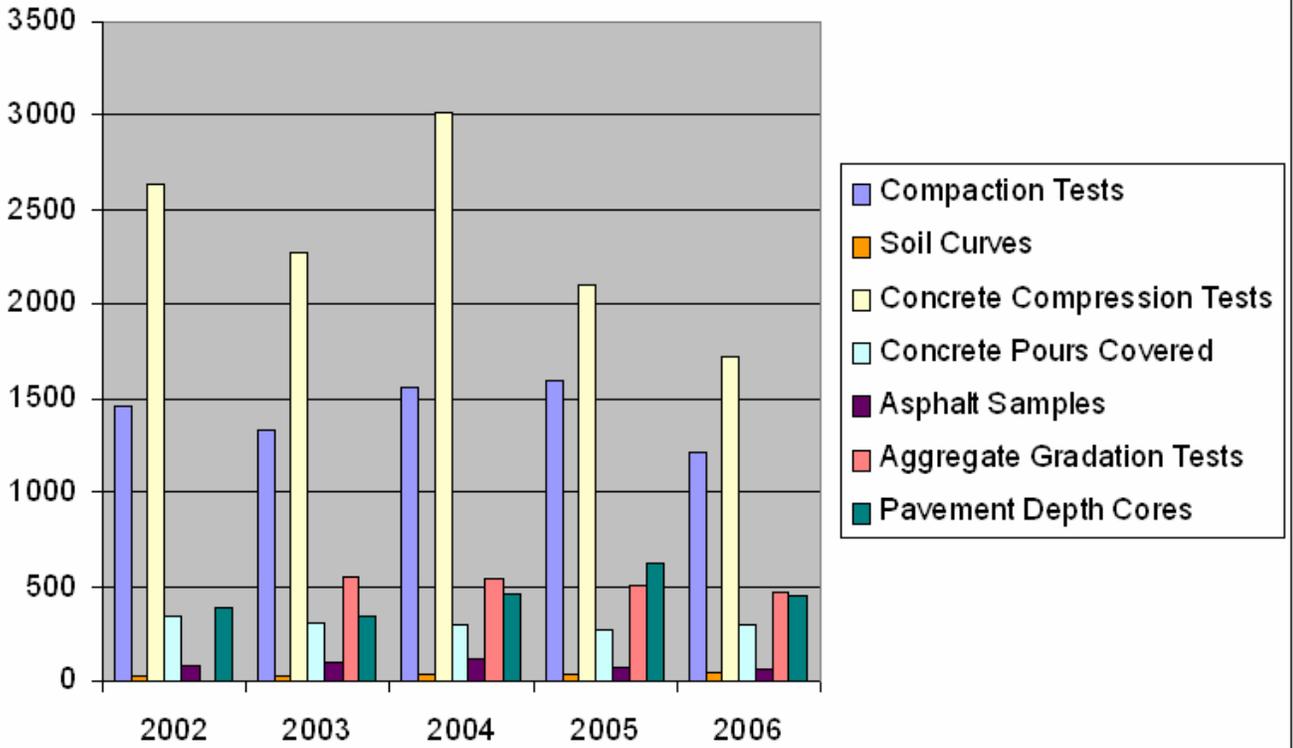
Right of Way Inspections



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



Annual Lab Testing Activity Report



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.



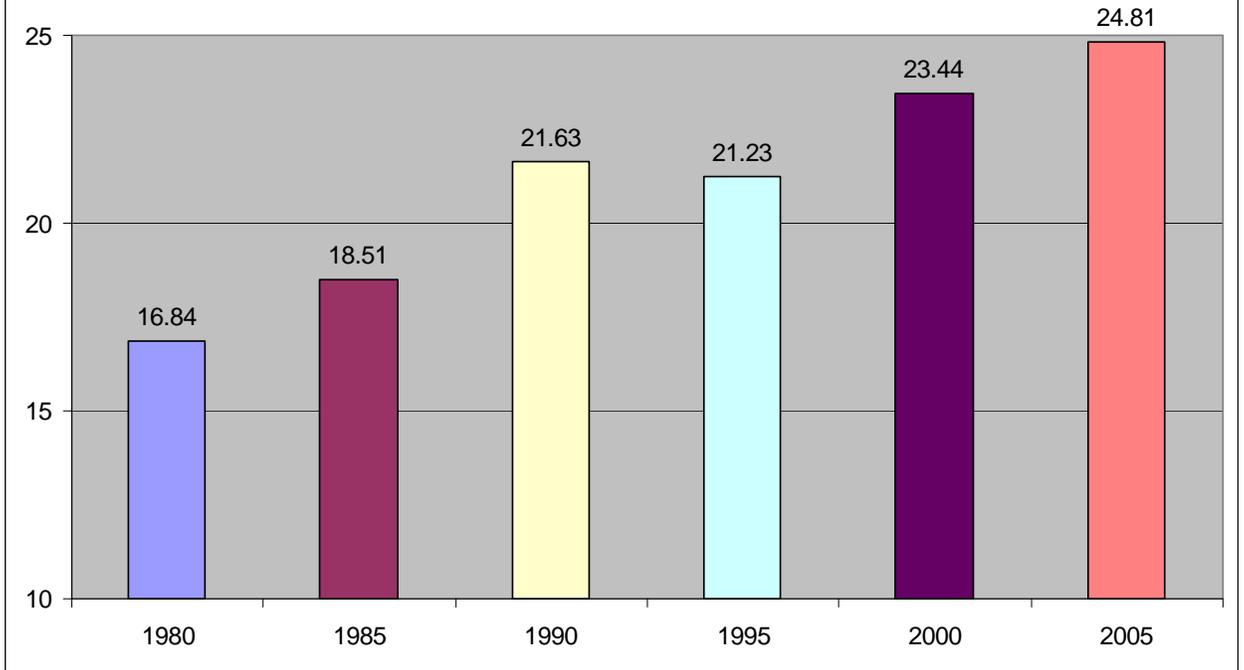
Jim Starck performs the liquid limit portion of the soils plasticity index testing which determines the suitability of the soil upon which a new street will be constructed.



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



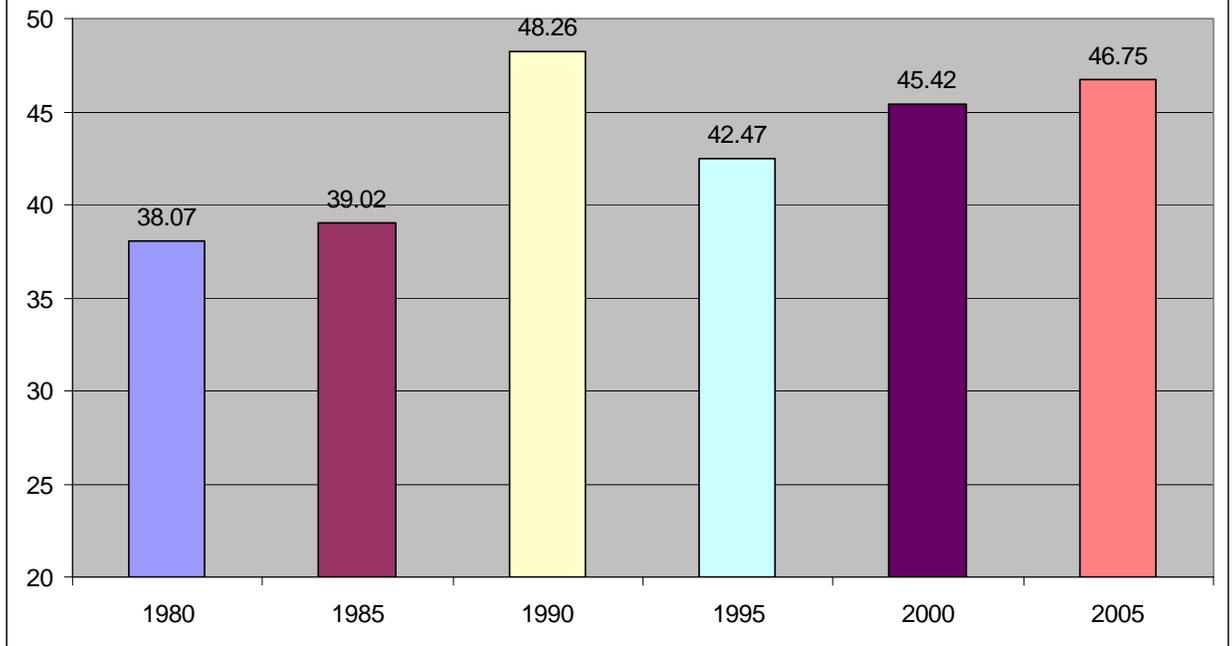
Total Street Maintenance Activities Lane Miles Per FTE 1980-2005



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.



Street & Highway Maintenance Activities Lane Miles Per FTE 1980-2005

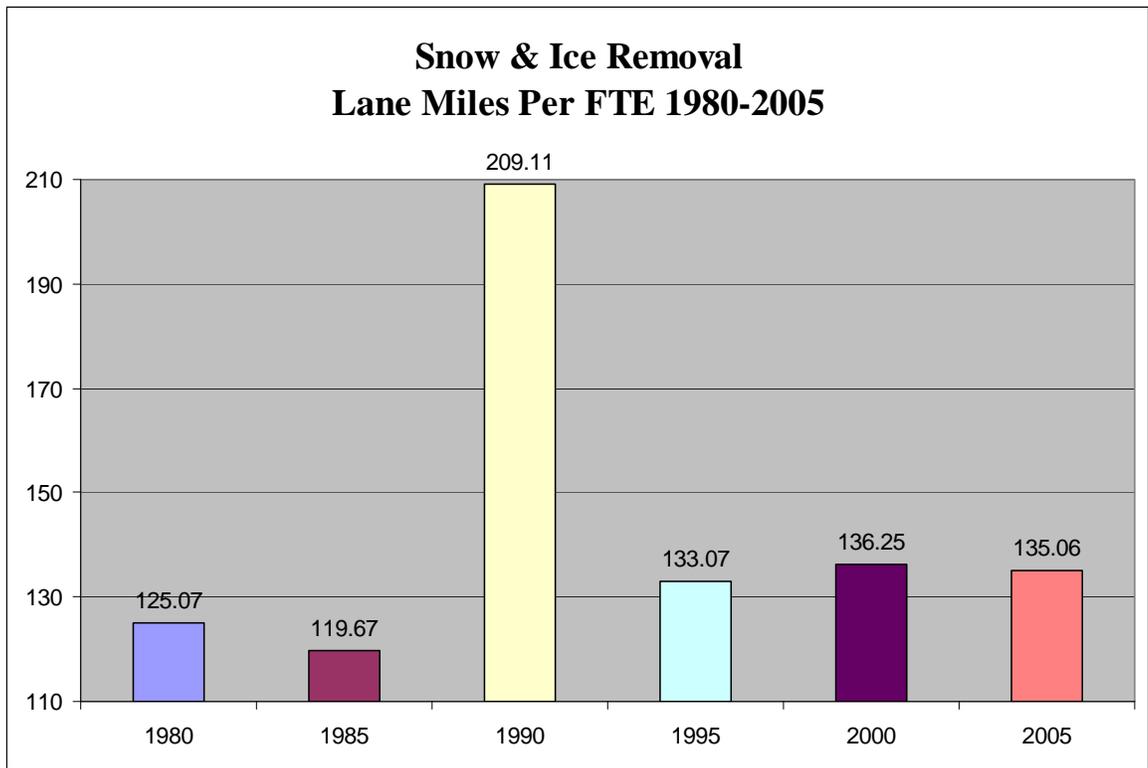


The number of employees dedicated to street maintenance has increased slightly since 1980, though they have not kept up with the growth in the number of lane miles.





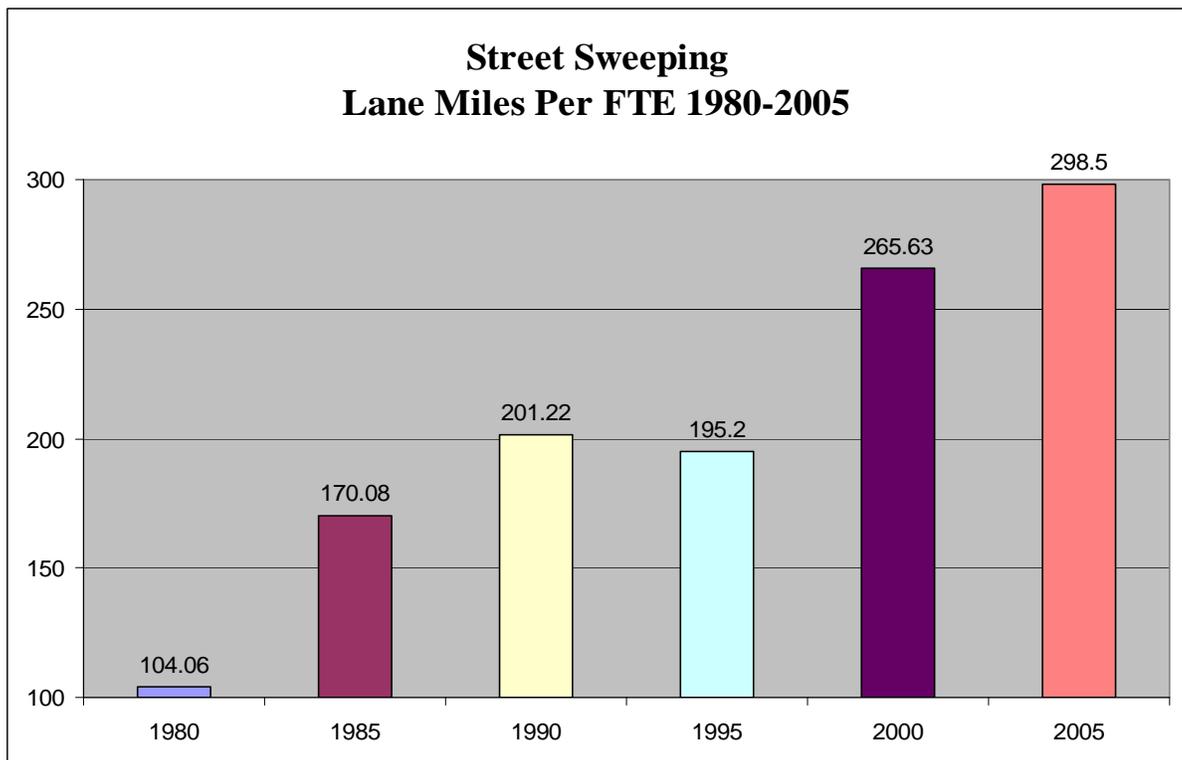
Snow & Ice Removal Lane Miles Per FTE 1980-2005



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



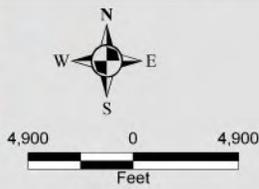
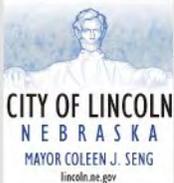
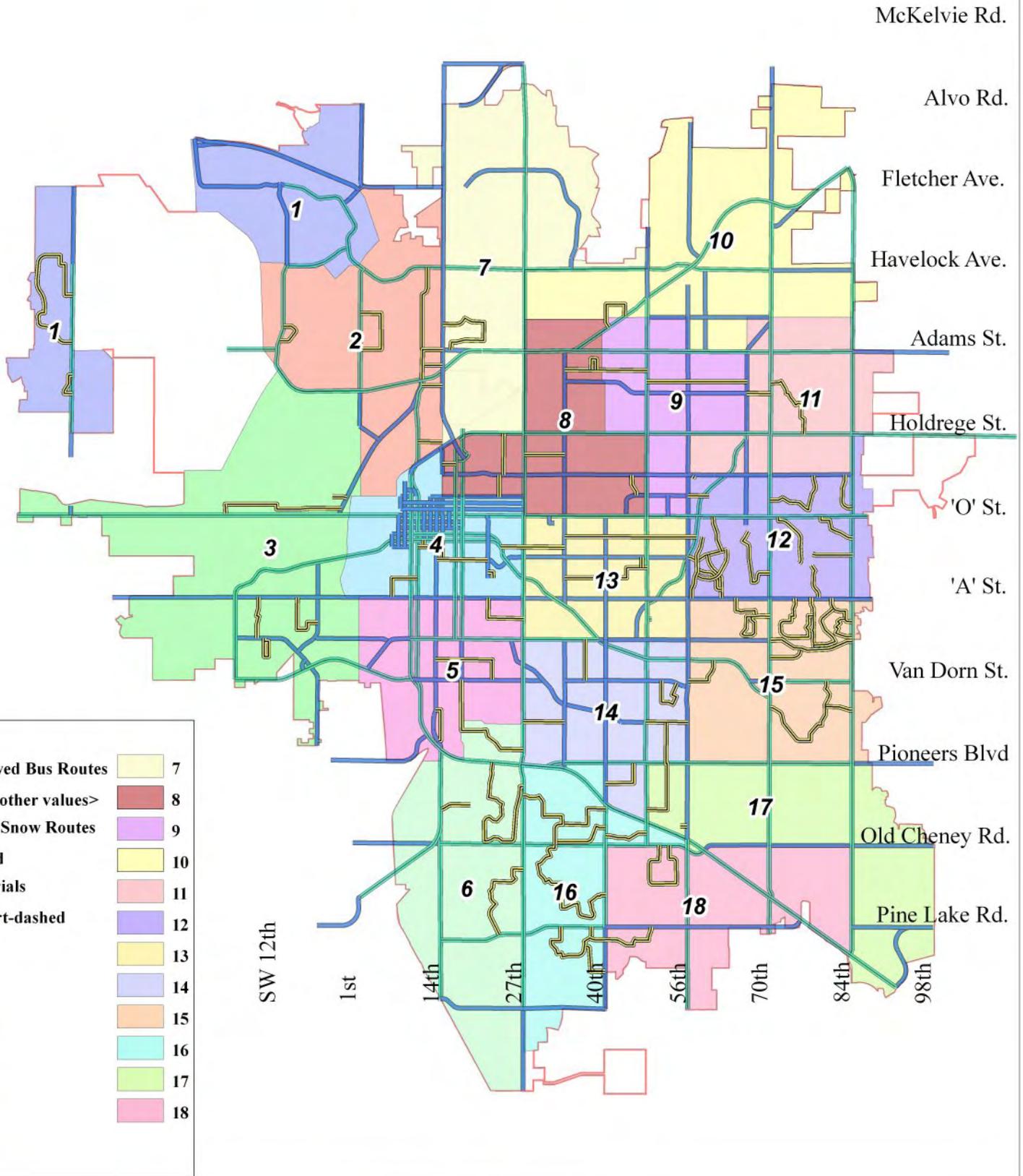
Street Sweeping Lane Miles Per FTE 1980-2005



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