



REPORT TO CITY COUNCIL

FROM: Steven C. Carter, City Manager

DATE: August 19, 2005

SUBJECT: SIDEWALK MASTER PLAN SS 2005-058

A. Introduction: The purpose of this report is to present the Sidewalk Master Plan to Council and seek Council input on the Plan.

B. Recommended Action: The Administration recommends that Council direct staff to place a Resolution on a regular agenda for approval of the Sidewalk Master Plan.

C. Prior Council Action:

- October 9, 1998 – The purpose of this report was to update Council on the condition of the City's sidewalks and identify policy issues. The report addressed the following: Quantity of sidewalk work completed in 1985, rate of growth since 1985, and maintenance needed in the future.
- January 19, 2001 – City Council Study Session on Sidewalk Master Plan issues.

D. Background:

1. Purpose of the Master Plan. The Sidewalk Master Plan provides the organizational structure and procedures to maintain the City's sidewalks. It also identifies long-term deficiencies and strategies for improvement, starting with a complete sidewalk survey in 2006.

2. Sidewalk Master Planning Process. The sidewalk master planning process is part of a larger City Council Goal to assess all of the City's infrastructure systems. The City's major infrastructure systems include pavements, sewers, sidewalks, street lights, traffic signals, traffic signs and pavement markings, urban forest, entryways, bridges, and alleys. System assessments and policy issues for the various infrastructure systems have been discussed with Council for the past several years.

E. Alternatives:

1. Direct staff to place a Resolution on a regular City Council agenda for approval of the Sidewalk Master Plan.
2. Do not direct staff to place a Resolution on a regular City Council agenda and provide further direction to staff.

F. Discussion of Alternatives:

Alternative 1 directs staff to place a Resolution on a regular City Council agenda for approval of the Sidewalk Master Plan.

a. Advantages

- Provides direction to staff to develop a sidewalk inventory.
- Provides a comprehensive plan to maintain the City’s sidewalks.
- Identifies steps for staff to complete a plan to incorporate Council direction for sidewalk maintenance into a plan.

b. Disadvantages

- A sidewalk survey and inventory will require substantial staff time.
- Sidewalk improvements and streetscape maintenance are limited by the City’s current funding level.

Alternative 2 does not direct staff to place a Resolution on a future City Council agenda and provide further direction.

a. Advantages

- Allows for additional evaluation or modification of staff plans to develop information needed to complete the Sidewalk Master Plan.

b. Disadvantages

- Approval of the Master Plan will be delayed.

G. Community Input: The citizens of Champaign have always expressed a strong interest in sidewalk repairs. The Public Works Department receives calls and letters from citizens for service on a regular basis. These requests were considered during the preparation of the Sidewalk Master Plan.

Neighborhood meetings held to complete the Neighborhood Wellness Plan identified sidewalk condition, or the lack of sidewalks, as a high priority in 3 of the 15 planning areas in the City.

H. Budget Impact. The Sidewalk Master Plan identifies the annual funding amounts currently allocated for sidewalk rehabilitation. The funding level in the Concrete Section's budget is approximately \$400,000 for sidewalk repair activities. In addition to this amount, the Engineering Division has funds in the amount of \$172,000 for sidewalk repairs made by the Neighborhood Infrastructure Repair Program (NIRP).

I. Staffing Impact. The Concrete Section averages 7,000 staff hours per year performing sidewalk rehabilitation. This includes removal, pouring, and parkway restoration. The Engineering Division dedicated 209 hours of staff time to sidewalk replacement in the NIRP in FY04/05 and estimates 110 to 125 staff hours will be required for this project in FY05/06.

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Attachments: Sidewalk Master Plan Document

Sidewalk Master Plan



DEPARTMENT OF PUBLIC WORKS
Operations Division
August 2005

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EXECUTIVE SUMMARY

- The City has an estimated 267 miles of sidewalk.
- Sidewalk composition consists of:
 - 135 miles of 4-foot wide concrete sidewalk
 - 118 miles of 5-foot wide concrete sidewalk
 - 9 miles of 6- to 12-foot wide concrete sidewalk
 - 1.2 miles of brick sidewalk
 - 3.5 miles of streetscape
- Approximately 10 percent, or 21 miles, of sidewalk meets replacement criteria.
- Two sidewalk programs provide rehabilitation and repair of sidewalks:
 - Sidewalk rehabilitation will replace 7,000 to 8,000 lineal feet of sidewalk annually using in-house crews.
 - The Neighborhood Infrastructure Repair Program (NIRP) replaces an average of 3,450 lineal feet of sidewalk annually.
- Sidewalk ramps required by the Americans with Disabilities Act are installed in all new sidewalk areas as well as in maintenance projects.
 - An estimated 3,550 ramps exist within the City.
 - Ramps are installed as requested to allow wheelchair access.
- Other maintenance and rehabilitation activities for sidewalks include:
 - Temporary asphalt repairs to address sidewalk tripping hazards.
 - Slab-raising repairs to raise adjacent sidewalk panels to avoid demolition and replacement in some instances.
 - Streetscape maintenance including streetscape features such as benches, bollards, tree grates, light poles, and other similar items.
- Resources dedicated to sidewalk maintenance in the City include:
 - Approximately \$400,000 annually for the Sidewalk Rehabilitation Program.
 - Approximately \$176,000 annually is funded for the NIRP.
- Sidewalk program deficiencies include:
 - Inventory accuracy is questionable and should be updated with an accurate field survey.
 - Sidewalk replacement cycle exceeds 75 years, the Council directed target of sidewalk replacement cycle.
 - The NIRP has an 8-year backlog of sidewalk repair needs.
 - Two programs, the Sidewalk Gap Program and the Arterial Street Program, have deficiencies:
 - lack of complete inventory information showing qualifying neighborhoods and amounts of missing sidewalk.
 - lack of a multi-year schedule for future projects.
 - lack of established criteria for prioritizing these projects.
 - A streetscape maintenance plan has not been developed to care for streetscape.
- Staff plans to address deficiencies by:
 - Conducting a field survey and producing an accurate inventory of quantity, composition, and sidewalk condition.
 - Developing a plan and recommendation to implement the Council directed 75-year replacement cycle goal, including a review of the NIRP.
 - Developing a plan and recommendation for streetscape maintenance.
 - Develop project criteria and schedule for the Sidewalk Gap and Arterial Street Programs.

1.0 PURPOSE

The City Sidewalk Master Plan is designed to provide a comprehensive maintenance and improvement plan for the City's sidewalk system.

2.0 CITY SIDEWALK SYSTEM

2.1 Introduction.

The sidewalk system is one mode of transportation widely used for easy access to neighborhoods, schools, businesses, and parks. Sidewalks enhance safety by separating vehicles and pedestrians. They are also used by many for recreation such as walking, jogging, and children playing. The sidewalk streetscape areas add to the aesthetic appeal of the Downtown and Campus areas. A comprehensive plan is needed to keep up with its growth and maintenance needs.



New sidewalk with retaining wall.

2.2 City Sidewalk System Defined.

The City sidewalk system is defined as all walkways constructed on City-owned right-of-ways for the purpose of general public pedestrian travel. The sidewalk system includes concrete sidewalks, brick sidewalks, sidewalk access ramps, and streetscape sidewalks. For the purpose of this report, streetscape is defined as sidewalk areas made up of a mixture of surfaces (concrete, concrete pavers, and stained concrete) and various amenities such as railings, planters, garbage cans, etc.

The City sidewalk system does not include private or public driveway approaches that are constructed in the right-of-way for vehicle access. Also not included are private-use sidewalks that may be constructed between the City sidewalk and the curb in front of residences and businesses. Trails in new subdivisions are generally a commons property improvement maintained by a homeowners' association and are not City sidewalks.

3.0 BACKGROUND

3.1 Quantity, Composition, and Condition of Existing Sidewalks.

3.1.1 Quantity of Sidewalk.

As of January 2005, the City had approximately 242 miles of sidewalks. This 242-mile figure is based on the estimated 188 miles of sidewalk captured in a 1988 survey and adding a 1.5 percent growth rate per year to give the current estimated quantity of 242 miles of sidewalk at the beginning of 2005. Annexations in 2005 added approximately 25 lane miles of street. Staff estimates this will increase sidewalks by an equal amount, for a total sidewalk inventory of 267 miles at the end of 2005.



Commercial 12-foot sidewalk.

Although sidewalks are constructed in all new subdivisions, 30 miles of streets within the City are currently without sidewalks. The Garden Hills Subdivision, neighborhoods surrounding Hessel Park, and North Neil at I-74 are examples of neighborhoods lacking sidewalks.

The sidewalk system is also estimated to contain 3,550 access ramps as of January 2005. This number is based on 1,700 ramps that were reported as existing in 1987 and construction of 1,850 ramps since 1987. Annexations in 2005 will add an estimated 360 ramps to this total.

3.1.2 Sidewalk Composition.



Old, turn-of-the-century brick sidewalk.

Champaign's sidewalks are diverse in terms of type, size, and age. Although most of the sidewalk has been constructed of concrete, brick sidewalk remains in the system. The concrete sidewalks are about equally divided between sidewalks that are 4 foot and 5 foot in width, although there are a small percentage of sidewalks in other widths. The age of the City's sidewalks is difficult to ascertain and varies significantly by location. Some sidewalk removed and replaced by City employees in the West Church Street area displayed a 1917 date stamp.

Table 1 shows an estimated length in miles of various sidewalk types within the City. Estimates for concrete sidewalk, including 4-foot and 5-foot wide sidewalk located throughout the City and the 6- to 12-foot wide sidewalk found in the commercial areas, were obtained from a 1988 report on sidewalk quantity and increasing that measure by 1.5 percent annually. Other types of sidewalk (brick, streetscape, and the concrete sidewalk along the Boneyard Parkway), were estimated by measuring from a City map and calculating the length.

Table 1: Sidewalk Composition

Surface Type	Width	Estimated Length in Miles
Concrete	4 foot	135.00
Concrete	5 foot	118.00
Concrete (Commercial Areas)	6 to 12 foot	9.00
Concrete (Boneyard Parkway)	Other	.30
Brick	5 foot	1.20
Streetscape	6 to 12 foot	3.50
	Total Miles:	267.00

3.1.3 Sidewalk Condition.

Four condition surveys have been completed since 1984. The first survey was in 1984 and its purpose was to determine the approximate length of City sidewalk and the approximate length of sidewalk in need of replacement. It was only a very crude estimate accomplished by driving the streets and viewing the sidewalks as the inspector drove along.

The second survey, completed in 1988, was included in a Report to Council relating to all infrastructure within the City of Champaign; sidewalk being one type of infrastructure. The survey only included the length of the system and its estimated value. The length of the sidewalk system was determined by the Engineering Division using maps, not a field survey. However, a February 1987 Report to Council on the ADA Ramp Program identified 112,500 linear feet of sidewalk in need of repair at that time. The report did not say what method was used to develop this estimate.

In 1993, the Concrete Section completed a sidewalk inventory and survey using bicycles. This survey accurately calculated the length of sidewalk in need of replacement, but the total length of the system was estimated using the 1988 value and multiplying by 1.5 percent growth per year.

In 1998, the Concrete Section conducted another field survey to determine the quantity of sidewalk in need of replacement. Surveyors stopped at each intersection to document the approximate length of sidewalk in the block needing repairs. Again, the total length of the system was calculated using the 1988 quantity and multiplying by 1.5 percent growth rate per year.

Table 2 summarizes the results of the four condition surveys.

Table 2: Sidewalk Condition

Year	Total Length of System	Quantity in Need of Replacement	Percentage of Total
1984	180 miles of sidewalk	10.5 miles	6%
1988	188 miles of sidewalk	21.3 miles*	11%
1993	220 miles of sidewalk	20.0 miles	9%
1998	242 miles of sidewalk	21.2 miles	9%

* based on a 1987 report

As of 1998, the overall condition of the City sidewalk system was good, with approximately 90 percent, or 221 miles, considered being in "good-to-excellent" condition. However, 21.2 miles of the system were in various stages of deterioration and in need of replacement.



Broken Sidewalk
(More than two pieces in one slab.)

The 1993 and 1998 surveys used the following criteria to evaluate sidewalk condition. Any sidewalk section that met the criteria was listed for replacement.

- Buckled (raised by tree roots or frost 1 1/8 inch or more)
- Settled or sunken (1 1/8 inch or more due to poor base or backfill)
- Extreme side slope (more than 1/2 inch per foot)
- Wrong side slope (slopes away from curb and gutter rather than toward curb and gutter)
- Poor drainage (water ponding problem)
- Broken (more than two pieces in one slab)
- Surface deterioration with spalled or missing material to a depth of 1/2 inch and equal in area to a 12-inch circle

3.2 New Sidewalk Construction.

3.2.1 New Development.

City regulations in the Manual of Practice require sidewalks to be constructed adjacent to streets in new developments. Sidewalks are required on both sides of streets unless a waiver has been granted. These sidewalks are required to be completely accessible with ramps installed where needed. This provision applies when a subdivision of the property occurs. New development without a subdivision of the property is exempt from this requirement.

Waivers are granted for different reasons. In some cases, negotiations for additional developer-constructed features may result in sidewalk waivers. For example, a bicycle path may be constructed replacing some required sidewalk. Waivers may also be issued when the developer agrees to a future special assessment that will construct sidewalks at a later date.

3.2.2 Existing Development.

Several mechanisms are available for older neighborhoods where sidewalks were not required or constructed during development.

3.2.2.1 Cost Share.

The Cost-Share Program provides partial City funding of the sidewalk installation cost with adjacent property owners assessed a portion of the costs. The cost-share ratio is 50 percent City and 50 percent property owner.

3.2.2.2 City-Funded "Gap" Projects.

In 2001, under certain conditions, Council directed staff to provide sidewalk in neighborhoods lacking sidewalks without requiring cost sharing from adjacent property owners. The criteria Council adopted included the following:

- Safe walking route within one block of schools.
- Gaps less than one block face when supported by adjacent property owners.
- Other safety problems.

3.2.2.3 Arterial Streets.

Sidewalks can be constructed with 100 percent City funding along one side of an arterial street if sidewalks are not present and no other agreements or policies contradict.

3.3 Prior Council Actions.

3.3.1 Sidewalk Repair Program - Spring 1985 – Council Bill No. 84-281.

Council approved implementation of a sidewalk rehabilitation program.

3.3.2 Sidewalk Access Ramp Policy – February 1987 – Council Bill No. 87-43.

Council approved a sidewalk access ramp policy. The policy required installation of sidewalk access ramps whenever curbs or sidewalks are replaced at a street intersection.

3.3.3 New Sidewalk Construction Standards – July 1988 – Council Bill No. 88-274.

Council approved new sidewalk construction standards increasing minimum sidewalk thickness from 4 inches to 6 inches.

3.3.4 Council Adopts Americans with Disabilities Act Compliance Plan - July 7, 1992

The City adopted a Compliance Plan to meet the requirements of the 1992 American with Disabilities Act (ADA). (See section 4.3.)

3.3.5 Neighborhood Infrastructure Repair Program – February 15, 1994

Council approved funding for the Neighborhood Infrastructure Repair Program (NIRP). This program was created to provide neighborhoods with a process they could use to have the City make small-scale infrastructure repairs (sidewalk, curb, etc.).

3.3.6 Beardsley Park Sidewalk Repairs – September 19, 1994.

This Memorandum to Council provided information on a special sidewalk repair program in the Beardsley Park Study Area. These sidewalk repairs were accomplished by means of the in-house Concrete Section funded as an Urban Renewal program. Repairs were made in late summer of 1994. The quantity of sidewalk replaced during that time was 3,126 linear feet (15,226 square feet). In addition, 15 handicapped access ramps, 112 linear feet of curb, 1,086 square feet of street repairs, 1 alley approach, and 5 driveways were also constructed in conjunction with the sidewalk repairs.

3.3.7 Council Approves Americans with Disabilities Act Ramp Program Adjustments - November 9, 1995

This 1995 policy revised the 1992 ADA Compliance Plan that was adopted by Council (see Section 4.3).

3.3.8 Sidewalk System Assessment – October 9, 1998.

The purpose of this report was to update Council on the condition of the City's sidewalks and identify policy issues. The report addressed the following: Quantity of sidewalk work completed since 1985, rate of growth since 1985, and maintenance needed in the future.

3.3.9 Sidewalk Master Plan Issues – Study Session, January 19, 2001.

Council directed staff to:

- Retain 50/50 Cost-Share Policy for the installation of new City sidewalks.
- Install sidewalks at the City's expense in locations meeting certain criteria:
 - Safe walking route within one block of elementary schools.
 - Gaps less than one block face when supported by adjacent property owners.
 - Other safety problems.
- Continue to use a combination of in-house and contract resources for sidewalk repairs.
- Improve the replacement cycle to be closer to the 75-year expectancy.
- Set up a regularly scheduled maintenance plan for streetscape by contract or in-house resources.
- Continue to use urban renewal funds to make sidewalk repairs to City sidewalks where temporary repairs have been placed.
- Change the City standard for Campus area sidewalks to reflect a 6-foot minimum width in the core of the University District and a 5-foot minimum in the outer ring of the District.

3.3.10 Springfield and Mattis Avenue Area Sidewalks – February 26, 2004.

Council directed staff to develop a policy to provide for 100-percent City funding for sidewalk construction on at least one side of arterial streets (that have no other agreements or policies that govern). Specific direction was provided to schedule sidewalks along portions of Springfield Avenue and Mattis Avenue.

4.0 CURRENT SIDEWALK SERVICE ACTIVITIES

4.1 Sidewalk Rehabilitation Program (In-House Crews).

Council established an in-house Sidewalk Rehabilitation Program in 1985. The work is performed by the Concrete Section in the Operations Division of the Public Works Department. The Section is comprised of eight maintenance workers with a supervisor. The original goal of the program was to replace 10.5 miles of sidewalk in a five-year period. Since 1985, 35.5 miles of sidewalk have been replaced by this Section.



Newly poured sidewalk

The Sidewalk Rehabilitation Program is generally completed in a systematic way with 14 identified phases. In 2005, Phase 7 will be completed and work started in Phase 8. While most sidewalk rehabilitation work is scheduled and completed in the scheduled phase area, the Section does perform work outside of the area when needed. These out-of-phase projects are in response to an immediate safety concern, Council direction, special neighborhood projects, or work required to support other City projects.

Map 1 illustrates the phases of the Sidewalk Rehabilitation Program. Table 3 summarizes the year each phase was worked on and the total length of sidewalk replaced. Note that each phase may take up to three years to complete.

Table 3: Annual Sidewalk Replacements- Sidewalk Rehabilitation Program

Annual In-House Sidewalk Repairs					
Year	Phase	Linear Feet	Year	Phase	Linear Feet
1985	1	15,600	1995	4	9,000
1986	1	11,500	1996	5	6,000
1987	2	10,800	1997	5	7,800
1988	2	11,000	1998	-	Street Repairs
1989	2	11,500	1999	5	4,000
1990	3	10,500	2000	6	10,000
1991	3	11,500	2001	6	9,000
1992	3	11,500	2002	6	8,000
1993	4	11,000	2003	7	8,000
1994	4	13,000	2004	7	8,000
Total Linear Feet (L.F.) Completed:					187,700

The budget for the Concrete Section was \$799,406 in FY 04/05. This includes \$541,367 for personnel, \$117,131 for materials, \$15,680 contractual (primarily waste disposal), and \$125,228 equipment.

Not all of the work of this Section is dedicated to sidewalk rehabilitation. The Section also reconstructs concrete streets, curbs, electrical pullboxes, retaining walls, and other concrete structures. In the winter, the crew assists in snow removal, constructs barricades, performs equipment maintenance, and works on indoor projects. Approximately half of this budget is spent on sidewalk rehabilitation.



Box culvert repair.

Overtime costs of \$23,000 for FY 04/05 were included in this Section's budget. The original budget in FY 86/87 for this activity included \$4,900, or approximately 2.5 percent of the total budgeted expense. The current overtime budget of \$23,000 is 2.8 percent of total expense. Actual overtime expense for FY 04/05 was under \$8,700.

Sidewalk work is subject to interruption by inclement weather and cold temperatures, and overtime is required to avoid work delays and to meet Service Plan goals. Activities requiring overtime are:

- To protect fresh concrete from vandalism.
- Holdover to complete concrete pours.
- Holdover to complete form installation for an early morning pour.
- Holdover to restore driveways for resident access.

- Parkway restorations including placement and grading of soil on disturbed areas and re-seeding. This allows the actual sidewalk construction process to continue through the normal workday. Early restoration of disturbed areas is an important customer service response. Using a small crew for this work allows the full crew to stay on task with sidewalk construction at other times.
- At times, work will be scheduled on Saturday to complete a project in a high pedestrian or vehicle traffic area to limit disruption to those activities.
- Work may be scheduled on an overtime basis if predicted periods of rain, or cold weather might interrupt planned work.

4.2 Neighborhood Infrastructure Repair Program (NIRP).

Additional sidewalk repairs are made through the NIRP. This program was created several years ago to provide neighborhoods with a process for small-scale infrastructure repairs to sidewalk, curb, minor drainage problems, etc., without having to wait until the City's annual maintenance work is scheduled to be in their area. The NIRP is funded by the City's Urban Renewal Funds, and the work is completed by contractual forces. Approximately \$176,000 is budgeted for this work on an annual basis for the years 2006 through 2008.

In the past five years, Public Works has shifted the focus of the NIRP. Currently, the NIRP generally only replaces sidewalks. This shift happened in order to respond to numerous complaints from citizens who were concerned that temporary sidewalk repairs (asphalt wedges) were in place too long and permanent repairs needed to be made sooner. The list of temporary repairs made in any given year typically exceeds the NIRP funding level. The backlog of the NIRP program is approximately 28,000 linear feet. At a construction rate of 3,450 feet per year, this is slightly more than an eight-year backlog. Table 4 lists the locations, expenditures, and amount of work by year for the NIRP.

Table 4: Annual NIRP Contractual Work (1995 to 2008)

Project Year	Area	Expenditures	Quantity (in linear feet)	Price per Linear Foot
1995	Citywide	\$323,000	8,412	\$38.39
1996-97	Citywide	319,000	6,715	47.50
1998	Citywide	104,000	2,154	48.28
1999-2000	Citywide	297,500	8,533	34.86
2001	Citywide	107,000	2,999	35.67
2002-2003	Citywide	277,741	4,395	63.19
2004	Section 23	212,342	3,215	66.05
2005	Sections 23/24	109,547	1,400	78.24
Totals:		\$1,750,130	37,823	Avg. \$46.27
2006	Sections 23/24	172,000		
2007	Campus	176,200		
2008	Campus	180,000		

4.3 Sidewalk Access Ramp Construction.

State and Federal laws, as well as Council policy, provide for construction of sidewalk accessibility ramps within the City. A 1987 Council action (Council Bill No. 87-43) established a Code requirement for installation of ramps under certain conditions. Ramps were required for new or repaired sidewalk where these sidewalks intersected a street or other area that would limit wheelchair access. Some limited exceptions were provided to leave curbed sidewalks in place if the Public Works Director determined traffic or engineering requirements warranted leaving a curb in place.



Sidewalk access ramps.

Effective in 1992, the ADA placed more stringent requirements for the City to provide accessibility to all public facilities, including making sidewalks accessible. In response to this Act, Council adopted an ADA Compliance Plan the same year. This plan established a Council policy to comply with the Act within 10 years by eliminating ADA defined barriers. A ramp construction effort was funded and work commenced. During the 1992-1995 period, a total of 903 ramps were constructed: 470 under the accessibility program, 140 by in-house crews, 289 through other maintenance contracts, and 4 by other parties.

In 1995, a Justice Department interpretation of the ADA and its requirements for sidewalk accessibility resulted in a revised Council policy, adopted by Council in November 1995. The policy eliminated the 10-year goal for replacement of all barrier-curbed sidewalk and street intersections and established the current policy.

Current City policy requires ramps to be constructed whenever new sidewalks are built, whenever major repairs to sidewalks occur in the area between a sidewalk and curb, when a request for a ramp is made to allow unrestricted wheelchair use of sidewalk along a specific route, or when the Public Works Director determines a need exists. Since 1985, an estimated 1,850 ramps have been constructed by City crews and contractors.



Single sidewalk access ramp.

All requests for ramp construction to provide wheelchair access along a specific route are addressed by the Concrete Section. These requests are prioritized above other pending rehabilitation work, and ramps are constructed within 60 days when weather allows. Between one and three ramp requests for this purpose are received each year. A request can result in construction of more than one ramp as all barriers along an identified route are removed. A recent request at the intersection

of Willis and Tremont resulted in eight ramps being constructed. The Concrete Section will spend approximately 200 hours and \$1,000 to \$2,000 in materials performing this type of work on an annual basis, although the work requirements can vary based on requests.

Staff believes the City is in compliance with all ADA requirements for sidewalk accessibility and is not aware of any pending complaints or allegations of non-compliance. There are no pending uncompleted ADA ramps requests.

4.4 Sidewalk Gap Program.

Some neighborhoods that predominantly have existing sidewalks have locations where sidewalks are missing. When those missing sidewalk sections are less than one block face, sidewalks can be installed with 100 percent City funding under the Sidewalk Gap Program. This Capital Improvement Program (CIP) is currently funding sidewalk gap at \$72,500 in FY 06/07, \$85,500 in FY 08/09, and \$91,900 in FY 10/11.

The last project for this program constructed approximately 600 feet of sidewalk along both sides of Lynnwood Drive south of Broadmoor Drive and 300 feet on Lynnwood near Bottenfield School. This work occurred in FY 03/04 and FY 04/05, cost approximately \$124,000, and provides a safe walking route to Bottenfield School.

4.5 Temporary Repairs – Asphalt.

The Public Works Department receives 40 to 60 requests for sidewalk tripping hazard repairs each year. These tripping hazards develop when adjacent sidewalk panels move vertically in relation to each other and create an abrupt edge. This edge can trip pedestrians. The standard for classifying this as a trip hazard is generally a difference of more than 1 1/8 inch between the adjacent surfaces. Asphalt repairs are made when requests are received in order to eliminate hazards and protect the City from liability. Temporary asphalt repairs can be made much quicker than permanent concrete repairs.



Buckled sidewalk (tripper).

When conditions cause a sidewalk panel to move on one end and create a tripping hazard, another tripping hazard often occurs nearby. This happens because the panel, or another nearby panel, rotates (moving on both ends) with a hazard on both ends. That means that the service requests will require multiple asphalt repairs. The 40 to 60 requests may require 60 to 90 temporary asphalt wedge repairs. For example in 2004, 89 repairs were made although the number of requests was only half that. The cost for the 89 asphalt wedge repairs in 2004 included 153.5 man hours and required approximately 250 pounds of material per repair. Cost for material was \$33 per ton in 2004.

Whenever a sidewalk repair request for a tripping hazard is received, the Asphalt Section inspects the area and makes an asphalt repair within one week to all locations that have a tripping hazard of 1 1/8 inch or more. These locations are then passed on immediately to the NIRP and added to the list for permanent repairs. Any locations within the area where

the City's Concrete Section is working are not passed on to NIRP. Instead, permanent repairs will be made in conjunction with the Sidewalk Rehabilitation Program, usually within that year.

4.6 Slab-Raising Repairs.

In the fall of 2004, the Public Works Department purchased a "mud pump". This equipment is capable of raising settled slabs of sidewalk by pumping mud, or grout, underneath the slab and raising it back to its proper elevation, thereby eliminate tripping hazards. Use of this device can eliminate the need to remove and replace sections of sidewalk to rectify the tripping hazard. The Concrete Section will schedule a week each spring and fall, and one or two days each month during the construction season, to use the mud pump for lifting settled slabs, including sidewalk slabs. Asphalt wedge repairs will continue to be made at each location where the slab has lifted or settled 1 1/8 inch or more creating a tripping hazard. These will be evaluated at that time, and if a candidate for mud pumping, the location will be passed on to the Concrete Section. When a sufficient number of these locations are identified, staff will schedule them for repair. Currently, estimates are that one day per month will meet this need.

At present time, estimates are that 400 man hours and approximately \$2,000 worth of materials will be used each year in the use of the mud pump. It is estimated that approximately 500 linear feet of sidewalk at 50 locations can be repaired using this method, and 5 to 10 settled sidewalk ramps can be raised each year. These repairs are included in sidewalk repair goals. In addition to the sidewalk repairs, the mud pump will also be used in lifting street slabs.

4.7 Streetscape Maintenance.

Maintenance of streetscape is spread among several Operations sections. Streetscape includes the sidewalk pavement, litter receptacles, benches, flower planters, bollards, tree guards, tree grates, and street lights. Traffic and Lighting handles tasks related to lighting, the Concrete Section is assigned pavement repairs, Building Service replaces street furniture when required, the Forestry Section and Building Service Section both manage flower planters, and the Street Section applies herbicides to tree grates. These activities are not tracked separately from other assigned work.



Downtown Streetscape

4.8 Other Sidewalk Maintenance Activities.

Property owners are required to undertake any routine sidewalk maintenance activities such as sweeping, litter pick up, and snow removal. The City does not provide these services except on a limited basis. City staff does provide sweeping, weeding, and snow removal from sidewalks adjacent to City-owned properties. The Parking and Building Service Sections are responsible for these activities.

4.9 Service Requests.

Sidewalks generate between 80 to 90 service requests annually. The majority of service requests are for tripping hazards. Following is a list of other sidewalk service request types and their description:

- Accessibility request
- Streetscape repairs
- Special requests (Downtown and Campustown)
- Graffiti removal

4.9.1 Sidewalk Accessibility.

Requests to provide accessible routes along City sidewalks are prioritized and completed quickly. Each year, one to three requests are received. Up to 200 hours and \$2,000 in material cost can be required to install requested ramps.

4.9.2 Streetscape Repairs.



Downtown Streetscape.

Each year, the City receives one to two requests for streetscape pavement repairs. Typically, this is where bricks have come loose, are missing, or a slab has deteriorated to the point where it needs replacement. An example of a streetscape repair made this past year is at the News-Gazette where several hundred bricks were replaced and a section of concrete approximately 100 square feet was replaced. These requests are typically responded to within 60 days. In an average year, the Concrete Section spends approximately 60 hours and between \$500 and \$1,000 making these repairs to streetscape.

4.9.3 Special Requests for Downtown and Campus Areas.

Each year, there are one or two requests for repairs in Downtown and Campus. These are usually treated as special projects. For example, sidewalk around the perimeter of a new parking lot near Carmen's Restaurant was constructed by the Concrete Section. Another example would be a request from the University of Illinois for a 6-foot sidewalk in the 300 and 400 blocks of east John Street, where the University paid for the materials and City crews performed the work. The University had identified this area as a route used by a

significant number of students who use wheelchairs to travel to the Quad area. The wider sidewalk improved access.

On average, the Concrete Section spends between 150 and 200 hours per year on this work and between \$5,000 and \$10,000 in materials. Typically, these requests are completed within 60 to 90 days.

4.9.4 Graffiti Removal.

Graffiti removal from sidewalks is sometimes required. Gang signs, vulgar words, or inappropriate messages are occasionally painted onto sidewalk surfaces. When found, Concrete employees place a high priority on removing the graffiti. Quick removal is thought to be a deterrent to future additional graffiti. Removal is accomplished by use of chemicals, power washing, abrasives, or a combination. Requirement for this activity varies significantly from year to year. Staff expects to spend up to \$500 annually in this endeavor and up to 40 hours of staff time could be required. In 2004, the City received eight graffiti removal requests.

4.10 Arterial Street Sidewalks.

In a Study Session in February of 2004, Council directed staff to develop a policy for installation of sidewalks along at least one side of arterial streets. At the same time, they directed staff to develop a specific project to construct sidewalks along Springfield and Mattis Avenues. This project is scheduled and construction of portions of this work will be completed in 2005. The last phase of the project, sidewalk along Mattis Avenue, is scheduled to be completed in 2008. Approximately \$770,000 is budgeted for the Springfield/Mattis sidewalk project. There are currently no additional arterial street projects scheduled.

4.11 Material Disposal.

The activities of the Concrete Section generate waste materials. This material consists of dirt, brick, concrete, and asphalt materials that are excavated as repairs are made. Approximately 1,000 yards of waste material is produced annually. Several material disposal options are available.

- Concrete material not mixed with other material can be delivered to a local concrete recycling site. The site will accept concrete at no charge, but does not accept concrete mixed with other material.
- Concrete mixed with dirt is accepted at another recycling site that accepts mixed materials but charges (as of June 1, 2005) \$30 per dump truck load. A dump truck load is 7 yards. This disposal option is frequently used because most waste material is mixed.



Sidewalk removal project.

- Rubble consisting of a mixture of concrete, dirt, brick, and asphalt is unable to be recycled. Use of rubble as fill is possible, but sometimes hampered by lack of an appropriate fill site.
- Landfilling, also available as a disposal alternative, is not used because of the relatively high cost - currently \$49 per ton at the local transfer station.

5.0 SIDEWALK PROGRAM DEFICIENCIES

5.1 Accurate Sidewalk Inventory and Condition Survey.

Four sidewalk surveys have been done since 1984. The goal of these surveys was to establish the amount of sidewalk in need of replacement, but they also provided estimated total sidewalk quantities and composition. Reports on the 1984 survey indicate it was a windshield survey. The 1988 survey used measurements from City maps to estimate quantities of sidewalk. The 1993 and 1998 surveys used the 1988 estimates of inventory quantity with an annual increase of 1.5 percent to estimate the total quantity of sidewalk. Both the 1993 and 1998 field surveys physically measured the amount of sidewalk in need of replacement.

The recent estimates of quantity and composition may be incorrect. The 1988 measurement may have been in error, and the flat growth estimate of 1.5 percent annual growth may not accurately reflect actual growth. Miscalculation in either of these would be compounded by the estimation method used.

An accurate inventory of the quantity, composition, and condition of the sidewalk system is needed to calculate the sidewalk replacement backlog and to help prioritize areas in the City for sidewalk replacement.

5.2 Sidewalk Replacement.

In January, 2001, Council provided staff with direction to work toward improving sidewalk replacement to a 75-year cycle. To date, staff has not been able to achieve that goal.

Currently, the City replaces approximately 11,500 feet of sidewalk annually with City and contractual forces. The current sidewalk inventory indicates the City has 267 miles of sidewalks. A 75-year cycle would require 18,800 feet of sidewalk to be replaced each year.



Concrete Crew repairing sidewalk and drive approach.

The sidewalk inventory also indicates there are 21.2 miles (110,000 feet) in need of replacement at this time. At the current replacement rate of 11,500 feet, this represents a backlog of approximately 10 years.

5.3 Streetscape Maintenance.

In January 2001, Council directed staff to develop a regular maintenance plan for the streetscape areas. Staff has not developed this streetscape maintenance plan, but responds to service requests for these streetscape areas.

5.4 Sidewalk Gap and Arterial Street Program.

The City has no comprehensive inventory or map illustrating where sidewalk gaps exist or where there are no sidewalks along arterial streets. Additionally, the City has not established prioritization criteria for selecting individual projects to construct sidewalks at gap locations or along arterial streets. Without an inventory and prioritization criteria, the City is very subjective when identifying and budgeting for annual projects.

6.0 SIDEWALK MASTER PLAN

6.1 Sidewalk Rehabilitation Program (In-House Crews)

Current resources provide for annual replacement of 8,000 linear feet of sidewalk by the Concrete Section. Work currently progresses through established phases. Work in Phase 8 will begin in 2005. The phases are identified in the following Table 5 and the attached map.



Soil restoration at a sidewalk repair location.

Table 5: Future Annual In-House Sidewalk Repairs

Year	Phase	Linear Feet Scheduled for Replacement
2005	8	7,000
2006	8	8,000
2007	8 and 9	8,000
2008	9	8,000
2009	9	8,000

The Concrete Section spends approximately \$400,000 annually for the Sidewalk Rehabilitation Program. This includes 7,000 staff hours, \$70,000 in materials, \$7,000 - \$10,000 in disposal expenses, and \$23,000 for overtime.

Current policies for construction of sidewalks to connect existing sidewalks will continue to be implemented by in-house crews in the Sidewalk Rehabilitation Program. The neighborhoods in Phase 8 of this program do not meet the required criteria. Sidewalks are missing in some of these neighborhoods, but the length of missing sidewalk exceeds one block face.

6.2 Neighborhood Infrastructure Repair Program (NIRP).

Table 6 illustrates the budgeted expenditures and locations for NIRP projects for 2004, 2005, and for the next three years. These projects will replace sidewalks that have been temporarily patched with asphalt wedges. The goal will be to replace approximately 3,450 feet of sidewalk annually.

NIRP projects beyond the 2008 construction season have not been determined. However, staff feels the focus of future projects will continue to be sidewalk replacement due to the current eight-year backlog in replacement.

Table 6: Annual NIRP Contractual Work (2004 to 2008)

Project Year	Area	Expenditures	Quantity (in linear feet)	Price per Linear Foot
2004	Section 23	212,342	3,215	66.05
2005	Sections 23/24	109,547	1,400	78.24
Totals:		\$321,889	4,615	\$69.75
2006	Sections 23/24	172,000		
2007	Campus	176,200		
2008	Campus	180,000		

6.3 Arterial Street Sidewalk.

The first arterial street sidewalk project will be along Springfield and Mattis Avenues. A total of approximately \$770,000 has been budgeted for this project.

The first phase of sidewalk along Springfield Avenue (Mattis to Fair) is scheduled for completion in the 2005 construction season. The next phase (Fair to McKinley) is scheduled for 2006. The Mattis Avenue portion of the project is scheduled for 2008.

6.4 Slab-Raising Repairs.

City staff will repair those sidewalks able to be repaired by raising the settled area with the slab-raising equipment. The initial goal for this equipment is to repair approximately 50 locations annually. This repair activity is expected to include 500 lineal feet of sidewalk. It is expected that 5 to 10 ramps can also be repaired annually with the slab-raising equipment.

For the first year, approximately 400 staff hours and \$2,000 in materials are budgeted for this activity. These goals will be revised as experience develops for this repair technique.

6.5 Service Requests.

6.5.1 Asphalt Wedge.

Temporary asphalt wedge repairs will be made at all tripping hazard locations outside of the current sidewalk repair area unless slab-raising can be used to make the repair. In 2004, 89 repairs were made in response to 47 service requests. Staff anticipates installing 100 temporary asphalt wedges requiring 150 staff hours and \$400 material expenditure.

6.5.2 Streetscape Maintenance.

Staff will continue to respond to streetscape repairs on a service request basis. If streetscape pavement defects are found that pose a hazard, the areas will be addressed by City staff. Streetscape furniture repairs will also continue to be addressed by City staff as needed.

6.5.3 Special Requests for Downtown and Campus Areas Outside of the Streetscape Areas.

The Downtown and Campus area sidewalks have higher pedestrian traffic than other sidewalks, so priority is given to repair requests from these areas. Small-scale repairs that can be completed in less than four days will be assigned to the Concrete Section. Larger-scale repairs will be incorporated into the NIRP.



Sidewalk and retaining wall in the Boneyard area.

6.5.4 Sidewalk Accessibility Ramp Construction.

Requests to provide wheelchair access along specific routes will continue to be addressed as high priority repairs by the Concrete Section. These repairs will be scheduled within 60 days when weather permits. One to three requests are expected each year, but a single request can require several ramps to provide access along a route. Annually, the Concrete Section will budget 200 hours of staff time and \$2,000 in material expenditures to respond to requests for accessibility ramps. All other City regulations for ramp construction associated with sidewalk repair activities by contractors and others will be continued.

6.5.5 Graffiti Removal.

Staff will continue to respond to graffiti on sidewalks as a high priority, with removal scheduled within 30 days. This activity can be highly variable. A single individual may create a high workload in a short period. Eight service requests for graffiti removal were received in 2004. Staff has not tracked this activity separately in the past, but estimates up to \$500 could be required for materials and up to 40 hours in staff time.

6.6 Neighborhood Wellness Plan.

The City's Neighborhood Wellness Plan is in the process of being updated. Infrastructure systems are an important element in maintaining the health of a neighborhood. As strategies are developed for the Wellness Plan, the Sidewalk Rehabilitation Program and the NIRP may be revised.

6.7 Sidewalk Program Deficiencies.

6.7.1 Accurate Sidewalk Inventory and Condition Assessment.

Staff plans to conduct an inventory of the sidewalk system after the construction season in 2005. The assessment will determine the total quantity, composition, and condition of sidewalk using the criteria in Section 3.1.3. The survey will identify the amount of sidewalk that needs replacement.

The assessment will also identify all areas within the City that do not have sidewalks. Once these areas have been identified, the Planning and Public Works Departments will review subdivision plats to determine those areas where agreements were made and would not object to sidewalk special assessment projects. The City may want to consider pursuing these assessment projects to fill gaps in the sidewalk infrastructure.

The assessment will involve all of the Concrete Section and is expected to require approximately 1,900 hours to complete. The field survey data will be collected to allow data entry into the GIS database. The survey will measure and record the quantity of existing sidewalks and identify the composition (see Table 1 in Section 3.1.2) of those sidewalks and use the criteria discussed in Section 3.1.3 to quantify the condition of the sidewalks.

The sidewalk inventory survey will be conducted after the 2005 construction season. Sidewalk construction can be continued in a normal year until early December, but can be extended or curtailed earlier depending on weather. The survey can be conducted over the winter, but not when the snow cover would hide the sidewalk and not allow examination of defects. Depending on winter weather, the survey may be completed over the winter.

6.7.2 Annual Sidewalk Repair Cycle.

In 2001, Council endorsed a 75-year sidewalk replacement cycle. Current estimates for sidewalk quantity of 267 miles compared to current replacement rates of approximately 2.5 miles annually exceed a 100-year replacement cycle.

Staff will use information obtained in a survey of existing sidewalk to develop a replacement schedule consistent with Council direction.

6.7.3 Neighborhood Infrastructure Repair Program (NIRP).

Staff will evaluate the NIRP to determine if additional funding or changes to the NIRP are required. The current NIRP backlog of 28,000 linear feet is an 8-year backlog of work, and the cost of the contracted work has increased. For the 2005 construction season, cost per linear foot is \$78.24, an increase of 18 percent over the \$66.05/l.f. cost of 2004. Engineering expense for this work in 2005 for both consulting engineers and City engineering staff were \$38,259, or 35 percent of the total project cost in 2005.

The cost of providing sidewalk replacement through the NIRP program compared to use of the Sidewalk Rehabilitation Program will be evaluated. There may be avoidable costs in the NIRP due to bidding requirements, e.g., bid plans and associated engineering fees, which increase cost of sidewalk replacement. The result of this evaluation will be presented to Council with recommendations for changes, if any.



Settled, or sunken, sidewalk section.

6.7.4 Streetscape Maintenance.

Current streetscape maintenance activities are not consistent with Council direction provided at a 2001 Study Session to develop a streetscape maintenance program. Streetscape maintenance activities are now addressed as problems are discovered, but staff has not developed a routine proactive maintenance program for streetscape. Some older streetscape areas, especially Downtown locations with large areas of brick paving, are settling and creating potential hazards. Staff will develop a maintenance program for streetscape. It is anticipated that a streetscape program will be developed in conjunction with the planning processes underway in Downtown and Campustown. Funding for costs above normal sidewalk maintenance will need to be determined.



Possible trip hazard in a Streetscape area.

6.7.5 Sidewalk Gap and Arterial Streets.

These programs will be developed and presented for Council consideration after the survey and inventory work is completed. Information about the extent of missing sidewalks, criteria for prioritizing construction, and a schedule identifying specific projects for a five-year period will be included in the presentation for Council consideration.



The Concrete Crew pouring the parking lot near Carmen's Restaurant in Downtown.



Mo Bigham, Concrete Maintenance Worker II.



Pouring a portion of the parking lot near Carmen's Restaurant.