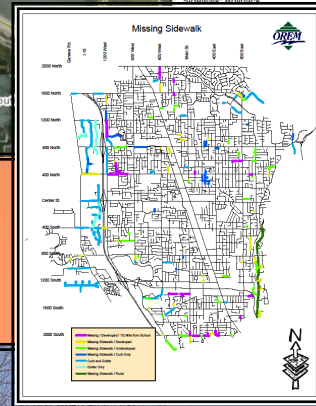
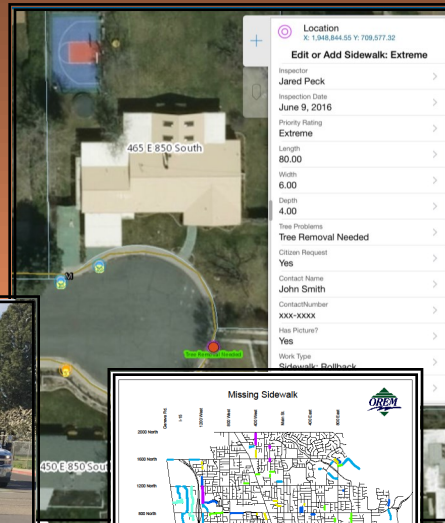


STATE OF THE SIDEWALKS 2018



**Helping our fellow citizens build and preserve a community
in which we all want to live**

City of Orem's Sidewalk Management Program
Public Works Maintenance Division

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Introduction

Sidewalk, curb and gutter, access (ADA) ramps, and walking paths are a major asset to a City. They can provide a safe walking area, outline home, yard, and business boundaries, help define and contain street systems, and control the flow of drainage water. The quality, condition, and functionality of these structures may also play a part in determining perceptions and attitudes of the overall safety, livability, and condition of the City.

This report is intended to provide information and outline current processes and future plans concerning the City of Orem's sidewalks and Sidewalk Management Program. The overall scope of work, challenges, and costs associated with installing and maintaining sidewalk and gutter will be highlighted.



Executive Summary

The City of Orem owns and maintains +/- 500 lineal miles of sidewalk, walking paths, ADA ramps and gutter. The estimated value of this infrastructure is \$132 million. The Street Section has implemented a Sidewalk Management Program to help maintain this asset. This program provides a comprehensive plan, determining unbiased allocation of City resources and funding for sidewalks, ADA ramps, gutter installation and ongoing maintenance. This plan has been developed, updated and improved over several years.

The City has an obligation to reasonably maintain all City owned sidewalks. The City is also required by law to install and/or update ADA ramps located on roads receiving specific surface treatments or rehabilitation.

Maintenance and installation is determined through an inspection, rating, and prioritizing process, then performed by City Crews or contracted companies. Funding has also been allocated, when available, for the installation of new sidewalk and gutter in areas that are without.

Since 2005, approximately 32,000 lineal feet (LF) of new sidewalk has been installed. Approximately 1,500 ADA ramps have been installed or updated, and over 100,000 LF of defective sidewalk has been replaced or repaired by both contractors and City Crews. Several thousand sections of sidewalk have been milled to eliminate trip hazards.

Following the Sidewalk Program can continue to help the City effectively maintain, update and improve the overall sidewalk system.

Facts

- The City maintains +/- 500 lineal miles of sidewalk, gutter and ADA ramps.
- The estimated value of this infrastructure is approximately \$132 million. This is figured at \$50.00 LF, including base and concrete replacement only. Recent contracts have shown the total costs required with new sidewalk installation, including road and landscape restoration, is approximately \$100.00 LF.
- The City maintains nearly 4,300 ADA ramps.
- A total of 725 identified corner locations do not currently have an ADA ramp.
- Just under 13 miles of the City does not have sidewalks or gutter.
- Approximately 21,000 defects, excluding ADA ramp defects, have been identified.
- Since 2005, over 2,500 sidewalk hazard locations have been replaced with new sidewalk.
- Over 7,000 trip hazards have been removed through grinding, milling or cutting, over the last 15 years.
- There are currently 34 Extreme and 493 High priority defects.
- Since 2005, approximately 32,000 LF of new sidewalk has been installed in areas without a safe walking area. This is excluding new development.
- Over 1,500 ADA Ramps have been installed or updated to meet current ADA standards.
- Over 12,000 yards of concrete has been poured by City crews since 2005.

City of Orem Sidewalk Policy

The City of Orem drafted a policy to help establish guidelines for property owners, developers and prospective home buyers. The policy also indicates the responsibility of the City and gives direction for the Sidewalk Management Program.

1. Policy.

It shall be the policy of the City of Orem to foster the installation of new sidewalks and to see that sidewalks are maintained for the safe movement of pedestrian traffic.

2. Purpose.

- A. Establish a set of guidelines the City, individual property owners, developers, and prospective home buyers will understand and follow.
- B. Reduce the City's risk management liability, the number of accidents related to poor sidewalk condition, and to identify responsible parties.

3. Guidelines.

A. Developed properties without sidewalk.

- a. It shall be the property owner's responsibility to install new sidewalk. The property owner must follow all City construction specifications and guidelines, and must have a licensed, City permitted contractor perform the work.
- b. Normally, the City will not construct, pay the costs, or perform the work for new sidewalk construction, except when a specific program for this purpose has been established and funding appropriated.
- c. The City may install new sidewalk as part of an overall street improvement project.
- d. If existing, developed property is introduced to the City for site change and/or plat approval, the City has a right to require the property owner and/or developer to install new sidewalk along the entire site as a condition of approval.

B. Developed properties with sidewalk.

- a. It shall be the property owner's responsibility to keep sidewalk(s), abutting their real property, whether fenced or not, clear and free of debris as per City ordinance 16-1-3, 16-1-4 and 16-1-6.
- b. It shall be the City's responsibility to keep sidewalks in good repair as per the sidewalk evaluation and prioritization program, and as annual budget allocation allows.
- c. Property owners are welcome to repair damaged or broken sidewalk at their expense as long as they follow City construction specifications and standards, and procedures.

C. Undeveloped properties without sidewalk.

- a. It shall be the property owner's and/or the developer's responsibility to install new sidewalk when the property is developed and the site plans are approved by the City.
- b. The property owner and/or developer must comply with all City construction specifications and standards, and must have a licensed, permitted contractor perform the work.

D. Undeveloped properties with sidewalk.

- a. It shall be the property owner's and/or the developer's responsibility to repair all damaged or broken sidewalks prior to the occupancy of a home or business, even if the sidewalk was damaged or broken prior to the purchase of the property.
- b. It shall be the property owner's responsibility to keep sidewalk(s), abutting their real estate property, whether fenced or not, clear and free of debris as per City ordinance 16-1-3, 16-1-4, and 16-1-6.

E. Contractors and Developers.

- a. When constructing a home or business, the contractor and/or the developer is responsible for all damaged or broken sidewalk caused during the construction work.
- b. The contractor and/or the developer is responsible to obey City ordinances 16-1-3, 16-1-4, and 16-1-6.
- c. The contractor and/or the developer is responsible for any sidewalk failure for a period of one (1) year from the date of installation.
- d. The contractor and/or developer must comply with all City construction specifications and standards.

Sidewalk Management Program

The Sidewalk Management Program includes individuals, computer software and other resources working together. GIS and Cartêgraph software are used to help maintain and manage the City's sidewalk system. Sidewalk data is recorded, organized and analyzed. The goal is to determine and execute the most efficient course of action concerning installation and maintenance of City sidewalks within the annual budget.

The Sidewalk Management Program is centered around the need to reduce hazards for pedestrian traffic. In the early 1980's, a crisis developed in the liability market among municipalities in the state of Utah. For example, even though Salt Lake City has a long standing ordinance that transfers liability to the owner of the property where the sidewalk is located, a 1986 Utah Supreme Court decision ruled as follows:

"A City has a nondelegable duty to exercise due care in maintaining streets and sidewalks within its corporate boundaries in a reasonable safe condition for travel and may be liable for injuries resulting from its failure to do so."

The private insurance companies, with which the municipalities held policies, were required to pay large claims from lawsuits where the municipalities were held liable. This led to a drastic increase in insurance premiums the municipalities could not afford. As a result, a group of cities came together to form their own insurance company, called the Utah Risk Management Mutual Association (URMMA). Although a licensed insurance company, URMMA emphasizes risk management activities rather than insurance. The City of Orem is a member of URMMA and performs the necessary actions to remain in high standing.

The Sidewalk Management Program is divided into four categories:

- **Sidewalk and Gutter Defects**
- **ADA Ramps**
- **Areas Without Sidewalk (Missing Sidewalk)**
- **Poor Performing Types of Sidewalk and Gutter**

The Sidewalk Management team inspects all sidewalks, gutter, ADA ramps, and other concrete structures maintained by the City within a five year period. Date, location, sidewalk condition, sidewalk type, and ADA type are recorded. Defects, causes, deterioration and their severity are analyzed, and a rating of Extreme, High, Moderate, or Low is determined. Citizen call-ins or requests are inspected and marked within 48 business hours. The maintenance, replacement, or installation schedule is determined according to the following priorities:

- 1. - Extreme and High rated defect replacement. Specifically, replacement of areas with 2" or higher lips, causing trips hazards.**
- 2. - Removal of trip hazards between 1/2" and 2".**
- 3. - Installation of ADA ramps in designated areas.**
- 4. - Replacing ADA ramps and High rated defects on overlay or reconstruct roads.**
- 5. - Budget and Resources.**

Areas with missing sidewalk and/or gutter are also noted and entered into the database. Priorities are determined with regards to school proximity, budget and standards set forth by the City.

Inspections, maintenance, replacement, and installation are all recorded into the database. Figures 1 and 2 show a Defect Inspection and Concrete Work Completed form and the information entered.

Defect Inspection Form - Figure 1

Concrete Completion Form - Figure 2

Cancel

Settings

Camera

Location

Back

Update

3:12 PM

85%

+

Map

465 E 850 South

850 South

450 E 850 South

460 E 850 South

870 S 500 East

213.3 ft

Location

X: 1,948,844.55 Y: 709,577.32

Edit or Add Sidewalk: Extreme

Responsible Person

Mike Johnsson

>

Pour Date

July 9, 2016

>

CrewSize

6

>

Yards

9.00

>

Length

80.00

>

Width

6.00

>

Depth

4.00

>

Work Type

Sidewalk: Rollback

>

Work Reason

Streets

>

Sod/Dirt Work Complete

Yes

>

Gutterline Prep Complete

Yes

>

#Maintainers

2

>

Dumptrucks

1

>

Descriptions and Details

It is important to have an understanding of each type of concrete structure, its design and function, the hazards and challenges they may present as well as the work and costs required for installation and maintenance. This information is necessary for those approving budgets, performing inspections, or completing the maintenance, replacement and installation. This understanding helps ensure decisions made and work being performed are meeting the needs and responsibilities of the City.

Types of Sidewalk and Gutter

The City maintains +/- 500 miles of several types of sidewalk and gutter.

Types include:

- Standard Combination - 374 miles
- Rollback Combination - 17 miles
- Planter Strip - 32 miles
- Curb and Gutter - 13 miles
- Gutter - 3 miles
- Cross Gutter - 10 miles
- State Roads - 25 miles
- Parks and City Building sidewalks account for the remaining miles.



Types of Sidewalk and Gutter



Sidewalk and Gutter Defects

Sidewalk and gutter defects refer to any sidewalk or gutter anomaly causing or potentially causing a safety risk or functionality issue. Defects are identified through inspections as well as individuals informing the City of the issue. Each defect is inspected and the information is recorded into the database. Currently, 8,628 defects have been identified, with over 2,500 being replaced. Of these, 524 are rated as High, and 69 Extreme. With the average length of a defect affecting approximately 20' of sidewalk, there are close to 33 miles of defect rated sidewalks, including 2.2 miles rated as High or Extreme. The Defect Rating System is as follows:

1. LOW - Defect is visible.
2. MODERATE - Defect is a potential hazard.
3. HIGH - Defect is a safety hazard or non-functional.
4. EXTREME - Defect is hazardous. Priority replacement.

Defect descriptions are divided into several categories.

1. Cracking and Holes: (Causes: Compaction issues, heavy drive loads, expansion)

- Low - Crack or hole is visible but not causing unsafe conditions. (Hairline cracks)
- Moderate - 1/4" - 1/2" separation, lift, settle or chipping.
- High - Between 1/2" and 1" separation, lift, settle or chipping.
- Extreme - Greater than 1" separation, lift, settle or chipping.



2. **Settling and Heaving:** (Causes: Trees, utilities, poor compaction)

- Low - $< 1/2''$.
- Moderate - $1/2''$ to $1''$.
- High - $> 1''$ to $2''$.
- Extreme - $>$ than $2''$.



3. **Spalling:** (Causes: Weak surface, freeze/thaw cycles, poor mix design or over finishing)

- Low - Minimal shallow, random flaking.
- Moderate - Up to 25% of the slab is spalling. Exposed aggregate, $1/2''$ recesses.
- High - Up to 50% of the slab is spalling. Exposed aggregate, $> 1/2''$ recesses.
- Extreme - Over 50% of the slab is spalling. Exposed aggregate, $> 3/4''$ recesses.



State of Sidewalks Report 2018

4. **Drainage:** (Causes: Settling, improper grade)

- Low - Small area puddle.
- Moderate - Water puddles to the road surface.
- High - Water puddles onto the road or approach causing damage or ice buildup or water backup.
- Extreme - Water puddles onto the road or sidewalk causing damage, flooding or ice buildup.



ADA Ramps

Passed by Congress in 1990, the Americans with Disabilities Act (ADA) addresses the needs of people with disabilities, prohibiting discrimination in employment, public services, public accommodations, and telecommunications. Title II of the ADA requires state and local governments to make pedestrian crossings accessible to people with disabilities by providing curb ramps. Newly constructed (after 1992) or altered streets must have ramps that comply with the ADA specifications of that time period. Some leeway is given when new ADA ramps are installed in areas developed before 1992. Ramps must be installed to comply to the maximum extent feasible.

ADA ramp specifications have and continue to change since 1992. Due to this fact, each ADA ramp recorded has been given one of the following designations.

1. No Ramp Installed
2. Ramp Installed - Does not meet ADA specifications. (pre-1992)
3. Ramp Installed - Met ADA specifications at that time. Not currently.
4. Ramp Installed - Meets current ADA specifications.

The City currently maintains approximately 4,300 ADA ramps. Since 2005, over 1,400 City ramps have been installed to meet current ADA specifications. ADA ramp updates are required for new, reconstructed, asphalt overlay, and micro-surfacing projects, and are considered in the project design. Remaining prioritization is dependent on the following factors.

- Disability Accommodation - Areas with individuals that have disabilities.
- Defects - High priority defects on ADA ramps.
- ADA Type
- Budget - ADA ramp installation can cost significantly more than standard sidewalk.



Current ADA ramp specifications are illustrated in Figure 3.

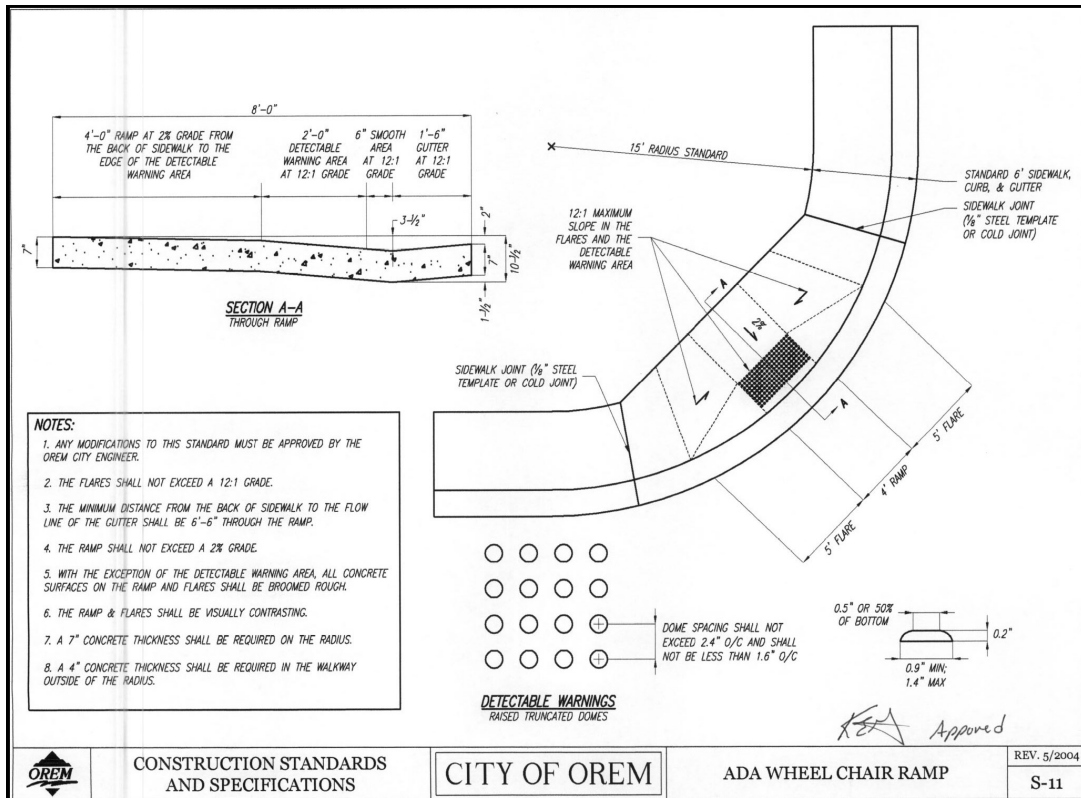


Figure 3. Standard ADA specification

Modifications are allowed if the ramp installation occurs in previously developed areas



Areas Without Sidewalk (Missing Sidewalk)

The City of Orem currently has just under 13 miles of streets without sidewalk or gutter. This includes approximately three miles in areas that are described as “Rural” not needing sidewalk. An additional 16 miles have only curb and/or gutter. Since 2005, approximately 32,000 LF of new sidewalk and curb and gutter has been installed. This amount is just over six miles. General Obligation Bond money was used to fund the majority of the new sidewalk installation. City Crews install a limited amount of new sidewalk when it coincides with current defect replacement projects. CDBG funding has also been used for sidewalk installation projects.

Prioritization of areas needing sidewalk are as follows:

- Areas receiving new road construction.
- Developed property, located within 1/2 mile of a school.
- All remaining developed property.
- Undeveloped property.
- Areas with curb and gutter only.



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The breakdown, prioritization, and map of the areas in the City without sidewalk are shown in Figure 4 and Table 1.

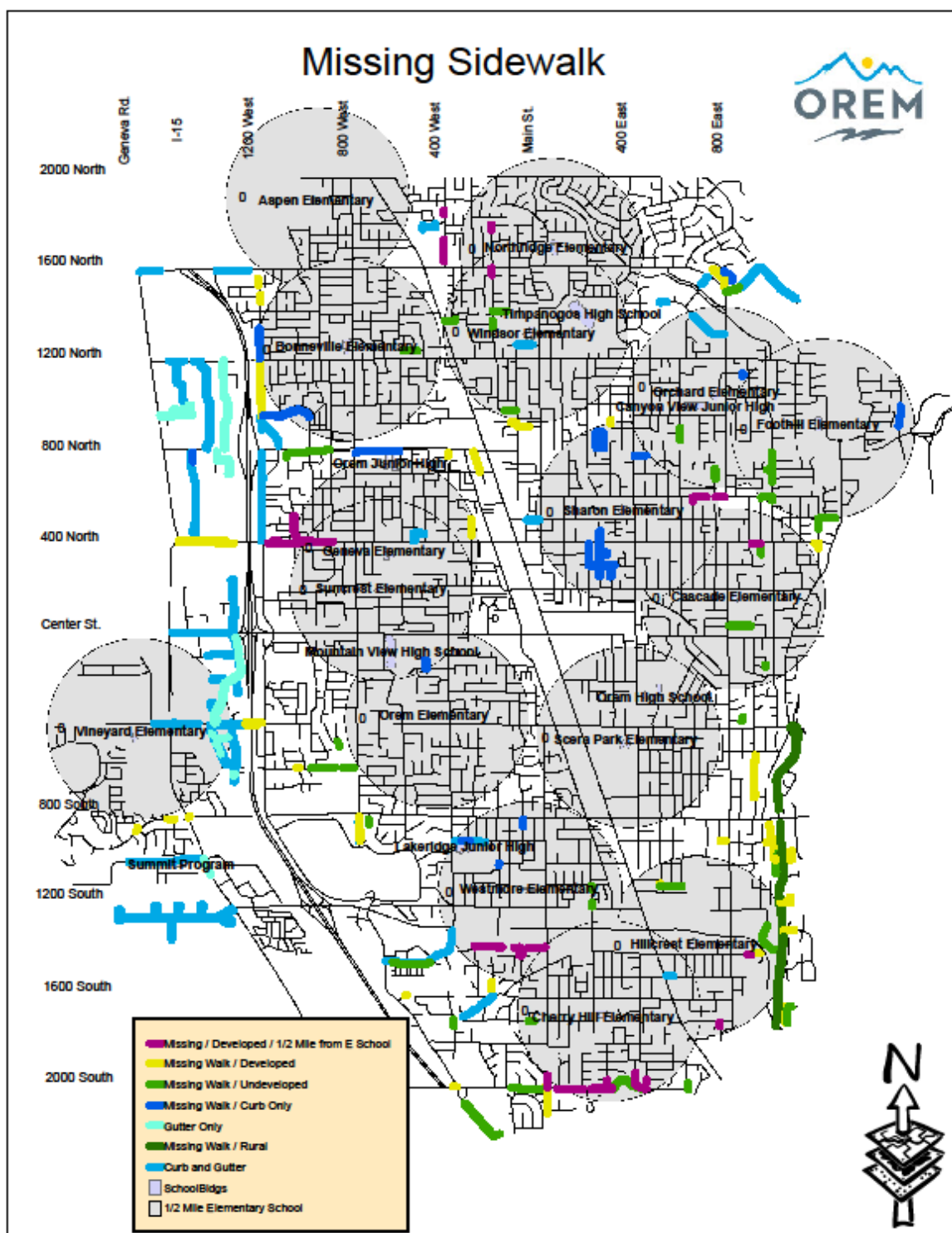


Figure 4. Missing Sidewalk Map

State of Sidewalks Report 2018

Table 1. Missing Sidewalk Location, Prioritization, and Estimate.

Missing Sidewalk Breakdown				
	Priority	Type	Length	Cost @ \$100.00 LF
	1	Missing Sidewalk, Curb and Gutter / Developed / 1/2 Mile from School	9,993.08	\$999,308.00
	2	Missing Sidewalk, Curb and Gutter / Developed	21,011.34	\$2,101,134.00
	3	Missing Sidewalk, Curb and Gutter / Undeveloped	21,214.42	\$2,121,442.00
		TOTAL	52,218.84	\$5,221,884.00
				Cost @ \$50.00 LF
	4	Curb and Gutter Only / Missing Sidewalk	17,609.33	\$880,466.50
	5	Curb and Gutter Only	49,407.82	\$2,470,391.00
	6	Gutter Only	14,917.78	\$745,889.00
		TOTAL	81,934.93	\$4,096,746.50
		Missing / Rural	16,101.54	

Missing Sidewalk and Curb and Gutter / Developed Area / 1/2 Mile from School					
Priority	Location	Route	Type	Length	Cost @ \$100.00 L/F
1	766 to 800 E	600 North	Missing Walk / Developed / 1/2 Mile from School	333.00	\$33,300.00
1	650 E to 740 E	600 North	Missing Walk / Developed / 1/2 Mile from School	401.61	\$40,161.00
1	650 E	600 North	Missing Walk / Developed / 1/2 Mile from School	118.90	\$11,890.00
1	900 E to 950 E	400 North	Missing Walk / Developed / 1/2 Mile from School	245.55	\$24,555.00
1	75 W to Main	1400 South	Missing Walk / Developed / 1/2 Mile from School	486.44	\$48,644.00
1	925 E	1400 South	Missing Walk / Developed / 1/2 Mile from School	192.90	\$19,290.00
1	121 to 131 W	1400 South	Missing Walk / Developed / 1/2 Mile from School	169.00	\$16,900.00
1	211 to 300 W	1400 South	Missing Walk / Developed / 1/2 Mile from School	758.00	\$75,800.00
1	1400 S	300 West	Missing Walk / Developed / 1/2 Mile from School	20.33	\$2,033.00
1	1430 S	100 West	Missing Walk / Developed / 1/2 Mile from School	185.00	\$18,500.00
1	220 E to 260 E	2000 South	Missing Walk / Developed / 1/2 Mile from School	548.50	\$54,850.00
1	275 E	2000 South	Missing Walk / Developed / 1/2 Mile from School	131.12	\$13,112.00
1	46 E to 84 E	2000 South	Missing Walk / Developed / 1/2 Mile from School	247.00	\$24,700.00
1	84 to 142 E	2000 South	Missing Walk / Developed / 1/2 Mile from School	356.59	\$35,659.00
1	375 E to 424 E	2000 South	Missing Walk / Developed / 1/2 Mile from School	450.23	\$45,023.00
1	243 E	2000 South	Missing Walk / Developed / 1/2 Mile from School	76.31	\$7,631.00
1	215 E	2000 South	Missing Walk / Developed / 1/2 Mile from School	83.24	\$8,324.00
1	2000 S to 1950 S	250 East	Missing Walk / Developed / 1/2 Mile from School	232.58	\$23,258.00
1	1950 to 2000 S	Main Street	Missing Walk / Developed / 1/2 Mile from School	343.57	\$34,357.00
1	460 to 570 N	1060 West	Missing Walk / Developed / 1/2 Mile from School	725.75	\$72,575.00
1	455 North to 400 North	1060 West	Missing Walk / Developed / 1/2 Mile from School	305.80	\$30,580.00
1	430 to 500 N	1060 West	Missing Walk / Developed / 1/2 Mile from School	537.08	\$53,708.00
1	1600 North to 1565 North	200 West	Missing Walk / Developed / 1/2 Mile from School	198.00	\$19,800.00
1	1758 North to 1780 North	200 West	Missing Walk / Developed / 1/2 Mile from School	164.63	\$16,463.00
1	1997 North to 1835 North	400 West	Missing Walk / Developed / 1/2 Mile from School	114.00	\$11,400.00
1	950 North to 1100 North	1200 West	Missing Walk / Developed / 1/2 Mile from School	941.99	\$94,199.00
1	950 North to 1200 North	1200 West	Missing Walk / Developed / 1/2 Mile from School	1,625.96	\$162,596.00
1	1000 to 1100 W	400 North	Missing Walk / Developed / 1/2 Mile from School	861.00	\$86,100.00
1	870 to 1050 W	400 North	Missing Walk / Developed / 1/2 Mile from School	1,040.00	\$104,000.00
			Total	9,993.08	\$999,308.00

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Missing Sidewalk / Developed					
Priority	Location	Route	Type	Length	Cost @ \$100.00 L/F
2	530 S to 700 S	900 East	Missing Walk / Developed	1,209.53	\$120,953.00
2	400 S to 390 S	900 East	Missing Walk / Developed	152.72	\$15,272.00
2	500 S to 700 S	900 East	Missing Walk / Developed	909.33	\$90,933.00
2	400 N to 450 N	250 East	Missing Walk / Developed	291.82	\$29,182.00
2	426 N to 450 N	250 East	Missing Walk / Developed	190.27	\$19,027.00
2	400 N to 410 N	250 East	Missing Walk / Developed	40.59	\$4,059.00
2	1533 N	1200 West	Missing Walk / Developed	186.56	\$18,656.00
2	1484 N	1200 West	Missing Walk / Developed	202.21	\$20,221.00
2	588 W	1600 South	Missing Walk / Developed	73.82	\$7,382.00
2	876 to 916 S	1840 West	Missing Walk / Developed	447.36	\$44,736.00
2	1100 S	200 East	Missing Walk / Developed	110.70	\$11,070.00
2	600 E to 1900 S	2000 South	Missing Walk / Developed	630.55	\$63,055.00
2	12 W	2000 South	Missing Walk / Developed	85.59	\$8,559.00
2	208 E	2000 South	Missing Walk / Developed	97.00	\$9,700.00
2	Sandhill Rd	2000 South	Missing Walk / Developed	112.81	\$11,281.00
2	1586 S to 1551 S	235 West	Missing Walk / Developed	227.47	\$22,747.00
2	936 to 946 N	300 East	Missing Walk / Developed	109.50	\$10,950.00
2	500 North to 420 North	300 West	Missing Walk / Developed	497.14	\$49,714.00
2	1300 West - Geneva Road	400 North	Missing Walk / Developed	2,910.00	\$291,000.00
2	1188 E	400 North	Missing Walk / Developed	106.10	\$10,610.00
2	1164 W	400 North	Missing Walk / Developed	159.33	\$15,933.00
2	1200 to 1288 W	400 South	Missing Walk / Developed	486.48	\$48,648.00
2	1230 W	400 South	Missing Walk / Developed	223.37	\$22,337.00
2	1230 W	400 South	Missing Walk / Developed	122.66	\$12,266.00
2	780 North to 750 North	400 West	Missing Walk / Developed	86.44	\$8,644.00
2	1600 to 1669 N	400 West	Missing Walk / Developed	248.72	\$24,872.00
2	1683 to 1736 N	400 West	Missing Walk / Developed	310.96	\$31,096.00
2	436 E	425 East	Missing Walk / Developed	69.54	\$6,954.00
2	1112 South	500 East	Missing Walk / Developed	79.59	\$7,959.00
2	1050 W	600 South	Missing Walk / Developed	85.82	\$8,582.00
2	1600 N	800 East	Missing Walk / Developed	206.96	\$20,696.00
2	1495 W	800 South	Missing Walk / Developed	56.22	\$5,622.00
2	875 to 904 S	800 West	Missing Walk / Developed	268.35	\$26,835.00
2	800 to 875 S	800 West	Missing Walk / Developed	423.66	\$42,366.00
2	100 West to 28 West	900 North	Missing Walk / Developed	341.72	\$34,172.00
2	750 E	900 South	Missing Walk / Developed	159.40	\$15,940.00
2	495 East	900 South	Missing Walk / Developed	84.51	\$8,451.00
2	450 East to 500 East	900 South	Missing Walk / Developed	233.35	\$23,335.00
2	139 West to 100 West	930 North	Missing Walk / Developed	166.67	\$16,667.00
2	180 West to 100 West	975 North	Missing Walk / Developed	337.82	\$33,782.00
2	735 to 797 E	Bowl Drive	Missing Walk / Developed	464.65	\$46,465.00
2	740 to 775 E	Bowl Drive	Missing Walk / Developed	391.26	\$39,126.00
2	1850 S to 1804 S	Columbia Lane	Missing Walk / Developed	313.59	\$31,359.00
2	1850 S	Columbia Lane	Missing Walk / Developed	108.80	\$10,880.00
2	1947 S to 1880 S	Columbia Lane	Missing Walk / Developed	389.80	\$38,980.00
2	590 E to 1880 S	Columbia Lane	Missing Walk / Developed	144.65	\$14,465.00
2	700 to 800 N	Commercial Street	Missing Walk / Developed	629.42	\$62,942.00
2	2000 to 2044	Main Street	Missing Walk / Developed	369.10	\$36,910.00
2	2044 S to 2080 S	Main Street	Missing Walk / Developed	331.74	\$33,174.00
2	11 E	Main Street	Missing Walk / Developed	125.00	\$12,500.00
2	1760 W	Springwater Drive	Missing Walk / Developed	116.53	\$11,653.00
2	Carterville to 926 S	Riverside Lane	Missing Walk / Developed	421.85	\$42,185.00
2	1000 E	900 South	Missing Walk / Developed	177.00	\$17,700.00
2	904 to 924 S	1000 East	Missing Walk / Developed	162.00	\$16,200.00
2	300 E to 420 E	2000 South	Missing Walk / Developed	523.09	\$52,309.00
2	1021 E	1630 South	Missing Walk / Developed	301.88	\$30,188.00
2	275 E to 305 E	2000 South	Missing Walk / Developed	338.99	\$33,899.00
2	305 E to 375 E	2000 South	Missing Walk / Developed	453.38	\$45,338.00
2	280 E to 300 E	2000 South	Missing Walk / Developed	529.85	\$52,985.00
2	1040 E	1290 South	Missing Walk / Developed	304.27	\$30,427.00
2	1630 S	1030 East	Missing Walk / Developed	701.37	\$70,137.00
2	826 to 900 S	1000 E	Missing Walk / Developed	504.00	\$50,400.00
2	940 to 996 S	1000 E	Missing Walk / Developed	296.00	\$29,600.00
2	900 S to 924 S	1000 East	Missing Walk / Developed	160.48	\$16,048.00
TOTAL				21,001.34	\$2,100,134.00

State of Sidewalks Report 2018

Missing Sidewalk and Curb and Gutter / Undeveloped Area					
Priority	Location	Route	Type	Length	Cost @ \$100.00 L/F
3	579 N	1000 East	Missing Walk / Undeveloped	106.37	\$10,637.00
3	800 N to 760 N	1000 East	Missing Walk / Undeveloped	368.27	\$36,827.00
3	650 N to 720 N	1000 East	Missing Walk / Undeveloped	356.40	\$35,640.00
3	500 East to 590 East	1100 South	Missing Walk / Undeveloped	625.45	\$62,545.00
3	450 to 500 N	1230 East	Missing Walk / Undeveloped	298.85	\$29,885.00
3	500 N	1230 East	Missing Walk / Undeveloped	473.85	\$47,385.00
3	525 West to 580 West	1240 North	Missing Walk / Undeveloped	400.77	\$40,077.00
3	State St. to 370 West	1360 North	Missing Walk / Undeveloped	380.60	\$38,060.00
3	1265 South to Carterville Rd.	1385 South	Missing Walk / Undeveloped	1,098.48	\$109,848.00
3	400 East to 450 East	1500 South	Missing Walk / Undeveloped	337.81	\$33,781.00
3	120 West to 200 West	1415 North	Missing Walk / Undeveloped	407.57	\$40,757.00
3	465 to 660 W	1430 South	Missing Walk / Undeveloped	1,089.00	\$108,900.00
3	931 S	1000 E	Missing Walk / Undeveloped	213.09	\$21,309.00
3	900 S to 990 S	1000 E	Missing Walk / Undeveloped	530.64	\$53,064.00
3	26 to 140 W	2000 South	Missing Walk / Undeveloped	516.55	\$51,655.00
3	35 W to Main	2000 South	Missing Walk / Undeveloped	314.76	\$31,476.00
3	150 W	2000 South	Missing Walk / Undeveloped	216.44	\$21,644.00
3	40 to 80 W	1700 South	Missing Walk / Undeveloped	161.31	\$16,131.00
3	1320 North to 1360 North	200 West	Missing Walk / Undeveloped	220.59	\$22,059.00
3	160 W	2170 South	Missing Walk / Undeveloped	162.00	\$16,200.00
3	130 to 208 E	2000 South	Missing Walk / Undeveloped	382.68	\$38,268.00
3	1964 S	375 East	Missing Walk / Undeveloped	172.33	\$17,233.00
3	800 East to 900 East	40 North	Missing Walk / Undeveloped	637.88	\$63,788.00
3	1500 South to 1425 South	400 East	Missing Walk / Undeveloped	492.71	\$49,271.00
3	11 to 17 E	300 North	Missing Walk / Undeveloped	159.00	\$15,900.00
3	1726 S	400 West	Missing Walk / Undeveloped	183.99	\$18,399.00
3	872 West to 810 West	600 South	Missing Walk / Undeveloped	309.22	\$30,922.00
3	660 North to 700 North	700 North	Missing Walk / Undeveloped	312.58	\$31,258.00
3	1028 E	720 North	Missing Walk / Undeveloped	134.69	\$13,469.00
3	896 North to 850 North	600 East	Missing Walk / Undeveloped	376.11	\$37,611.00
3	926 West to 996 West	600 South	Missing Walk / Undeveloped	677.09	\$67,709.00
3	800 S	750 West	Missing Walk / Undeveloped	136.80	\$13,680.00
3	350 to 370 S	850 East	Missing Walk / Undeveloped	136.00	\$13,600.00
3	600 N	950 East	Missing Walk / Undeveloped	311.48	\$31,148.00
3	353 N to 400 N	950 East	Missing Walk / Undeveloped	327.53	\$32,753.00
3	800 N	980 West	Missing Walk / Undeveloped	1,310.98	\$131,098.00
3	1847 S	Columbia Lane	Missing Walk / Undeveloped	470.52	\$47,052.00
3	1963 S	Columbia Lane	Missing Walk / Undeveloped	249.83	\$24,983.00
3	930 to 1000 S	Carterville Road	Missing Walk / Undeveloped	245.71	\$24,571.00
3	1015 S	Carterville Road	Missing Walk / Undeveloped	134.37	\$13,437.00
3	495 S	880 West	Missing Walk / Undeveloped	174.19	\$17,419.00
3	2000 to 2170 S	Sandhill Road	Missing Walk / Undeveloped	1,824.00	\$182,400.00
3	2000 to 2170 S	Sandhill Road	Missing Walk / Undeveloped	1,758.00	\$175,800.00
3	295 N	Main Street	Missing Walk / Undeveloped	74.00	\$7,400.00
3	900 S to 940 S	1000 East	Missing Walk / Undeveloped	305.04	\$30,504.00
3	1015 S	1000 East	Missing Walk / Undeveloped	336.05	\$33,605.00
3	1031 S	1000 East	Missing Walk / Undeveloped	93.72	\$9,372.00
3	1015 S to 1031 S	1000 East	Missing Walk / Undeveloped	313.63	\$31,363.00
3	984 S 1000 S	1000 East	Missing Walk / Undeveloped	226.12	\$22,612.00
3	1031 S	1000 East	Missing Walk / Undeveloped	108.01	\$10,801.00
3	1630 S to 1721 S	1030 East	Missing Walk / Undeveloped	561.36	\$56,136.00
			TOTAL	20,494.07	\$2,049,407.00

State of Sidewalks Report 2018

Curb and Gutter Only / Missing Sidewalk					
Priority	Location	Route	Type	Length	Cost @ \$50.00 L/F
4	434, 482, 490 East	1600 South	Curb Only / Missing Walk	476.58	\$23,829.00
4	500 to 534 N	1025 West	Curb Only / Missing Walk	221.33	\$11,066.50
4	506 N	1025 West	Curb Only / Missing Walk	105.91	\$5,295.50
4	491 to 500 N	1025 West	Curb Only / Missing Walk	202.89	\$10,144.50
4	558 N	1025 West	Curb Only / Missing Walk	93.37	\$4,668.50
4	564 N	1025 West	Curb Only / Missing Walk	79.35	\$3,967.50
4	1340 North to 1200 North	1200 West	Curb Only / Missing Walk	889.73	\$44,486.50
4	800 to 835 S	100 West	Curb Only / Missing Walk	211.73	\$10,586.50
4	482 East to 490 East (Village	1600 South	Curb Only / Missing Walk	85.58	\$4,279.00
4	1000 South	200 West	Curb Only / Missing Walk	133.25	\$6,662.50
4	816 to 870 N	235 East	Curb Only / Missing Walk	462.60	\$23,130.00
4	819 to 893 N	275 East	Curb Only / Missing Walk	455.42	\$22,771.00
4	1050 to 1180 W	400 North	Curb Only / Missing Walk	861.61	\$43,080.50
4	980 to 1015 W	500 North	Curb Only / Missing Walk	211.78	\$10,589.00
4	165 South to 130 South	500 West	Curb Only / Missing Walk	239.59	\$11,979.50
4	165 South to 140 South	500 West	Curb Only / Missing Walk	239.22	\$11,961.00
4	1025 W	570 North	Curb Only / Missing Walk	101.92	\$5,096.00
4	400 East to 450 East	780 North	Curb Only / Missing Walk	301.41	\$15,070.50
4	400 East to 450 East	780 North	Curb Only / Missing Walk	337.04	\$16,852.00
4	600 to 800 W	800 North	Curb Only / Missing Walk	1,304.22	\$65,211.00
4	400 W	900 South	Curb Only / Missing Walk	218.92	\$10,946.00
4	830 North to 800 North	900 West	Curb Only / Missing Walk	186.83	\$9,341.50
4	900 to 1200 W	950 North	Curb Only / Missing Walk	1,030.50	\$51,525.00
4	900 W	950 North	Curb Only / Missing Walk	1,045.49	\$52,274.50
4	235 to 275 E	880 North	Curb Only / Missing Walk	215.42	\$10,771.00
4	1575 to 1600 N	Mountain Oaks Drive	Curb Only / Missing Walk	652.19	\$32,609.50
4	1700 N	Oak View Circle	Curb Only / Missing Walk	708.34	\$35,417.00
4	1600 to 1680 S	Hidden Hollow Drive	Curb Only / Missing Walk	1,091.00	\$54,550.00
4	400 N to 450 N	250 East	Curb Only / Missing Walk	291.82	\$14,591.00
4	426 to 450 N	250 East	Curb Only / Missing Walk	190.27	\$9,513.50
4	400 N to 450 N	250 East	Curb Only / Missing Walk	40.59	\$2,029.50
4	250 to 300 E	300 North	Curb Only / Missing Walk	297.00	\$14,850.00
4	265 to 315 E	300 North	Curb Only / Missing Walk	378.00	\$18,900.00
4	250 E	Ninnetta Circle	Curb Only / Missing Walk	464.08	\$23,204.00
4	259 to 300 N	250 East	Curb Only / Missing Walk	297.00	\$14,850.00
4	214 to 234 E	300 North	Curb Only / Missing Walk	209.00	\$10,450.00
4	300 to 400 N	200 East	Curb Only / Missing Walk	599.09	\$29,954.50
4	245 to 300 N	300 East	Curb Only / Missing Walk	327.83	\$16,391.50
4	310 E	300 North	Curb Only / Missing Walk	70.83	\$3,541.50
4	300 to 400 N	275 East	Curb Only / Missing Walk	607.16	\$30,358.00
4	350 to 400 N	250 East	Curb Only / Missing Walk	277.69	\$13,884.50
4	215 to 250 E	300 North	Curb Only / Missing Walk	286.00	\$14,300.00
4	250 to 300 N	300 East	Curb Only / Missing Walk	300.79	\$15,039.50
4	254 to 300 N	250 East	Curb Only / Missing Walk	305.00	\$15,250.00
4	300 to 350 N	250 East	Curb Only / Missing Walk	289.44	\$14,472.00
4	596 North	1500 West	Curb Only / Missing Walk	869.00	\$43,450.00
4	776 North	1500 West	Curb Only / Missing Walk	305.70	\$15,285.00
4	400-450 North	1500 West	Curb Only / Missing Walk	431.50	\$21,575.00
			TOTAL	19,001.01	\$950,050.50

State of Sidewalks Report 2018

Curb and Gutter Only					
Priority	Location	Route	Type	Length	Cost @ \$50.00 L/F
5	1797 West	1000 South	Curb and Gutter	263.74	\$13,187.00
5	Geneva Road - 1780 West	1000 South	Curb and Gutter	1,861.26	\$93,063.00
5	1565 West	1200 North	Curb and Gutter	192.83	\$9,641.50
5	1565 West	1200 North	Curb and Gutter	197.88	\$9,894.00
5	1435 West	1200 North	Curb and Gutter	175.77	\$8,788.50
5	800 - 935 North	1200 West	Curb and Gutter	975.83	\$48,791.50
5	400 - 800 North	1200 West	Curb and Gutter	2,633.08	\$131,654.00
5	40 - 100 West	1250 North	Curb and Gutter	471.89	\$23,594.50
5	1580 - 1645 West	1250 South	Curb and Gutter	593.77	\$29,688.50
5	1480 - 1554 West	1250 South	Curb and Gutter	598.40	\$29,920.00
5	Geneva Rd. - 1577 West	1250 South	Curb and Gutter	1,781.84	\$89,092.00
5	1680 - 1840 South	1250 South	Curb and Gutter	986.19	\$49,309.50
5	Geneva Rd. - 1452 West	1250 South	Curb and Gutter	873.63	\$43,681.50
5	1635 - 1839 West	1250 South	Curb and Gutter	1,507.65	\$75,382.50
5	Mountain Way - 1450 West	130 South	Curb and Gutter	851.97	\$42,598.50
5	1353 - 1379 West	130 South	Curb and Gutter	330.00	\$16,500.00
5	487 South	1325 West	Curb and Gutter	274.03	\$13,701.50
5	400 - 450 south	1325 West	Curb and Gutter	369.40	\$18,470.00
5	635 - 650 South	1325 West	Curb and Gutter	195.79	\$9,789.50
5	620 South	1325 West	Curb and Gutter	256.69	\$12,834.50
5	511 - 577 South	1325 West	Curb and Gutter	389.56	\$19,478.00
5	435 South	1325 West	Curb and Gutter	259.53	\$12,976.50
5	465 - 580 South	1325 West	Curb and Gutter	754.16	\$37,708.00
5	511 South	1325 West	Curb and Gutter	66.72	\$3,336.00
5	644 South	1325 West	Curb and Gutter	187.42	\$9,371.00
5	615 - 635 South	1325 West	Curb and Gutter	262.44	\$13,122.00
5	Center st. - 211 North	1330 West	Curb and Gutter	1,599.86	\$79,993.00
5	Center st. - 212 North	1330 West	Curb and Gutter	1,564.39	\$78,219.50
5	1270 South	1380 West	Curb and Gutter	117.51	\$5,875.50
5	1250 South	1380 West	Curb and Gutter	60.64	\$3,032.00
5	1280 South	1380 West	Curb and Gutter	93.13	\$4,656.50
5	1276 South	1380 West	Curb and Gutter	204.68	\$10,234.00
5	1260 South	1380 West	Curb and Gutter	177.32	\$8,866.00
5	800 - 1200 North	1430 West	Curb and Gutter	2,644.78	\$132,239.00
5	800 - 1200 North	1430 West	Curb and Gutter	2,636.30	\$131,815.00
5	1176 - 1226 South	1480 West	Curb and Gutter	791.83	\$39,591.50
5	State - 550 East	1500 South	Curb and Gutter	197.00	\$9,850.00
5	651 - 800 North	1500 West	Curb and Gutter	1,053.81	\$52,690.50
5	573 North	1500 West	Curb and Gutter	544.11	\$27,205.50
5	1059 - 1200 North	1565 West	Curb and Gutter	1,256.94	\$62,847.00
5	1060 - 1200 North	1565 West	Curb and Gutter	1,201.75	\$60,087.50
5	1177 - 1238 South	1580 West	Curb and Gutter	798.57	\$39,928.50
5	1275 - 1345 West	1600 North	Curb and Gutter	649.45	\$32,472.50
5	1645 West	1600 North	Curb and Gutter	181.75	\$9,087.50
5	1645 West	1600 North	Curb and Gutter	397.01	\$19,850.50
5	1395 West	1600 North	Curb and Gutter	249.45	\$12,472.50
5	1250 - 1312 South	1600 West	Curb and Gutter	613.56	\$30,678.00
5	1260 South	1600 West	Curb and Gutter	232.38	\$11,619.00
5	1206 - 1250 South	1680 West	Curb and Gutter	795.53	\$39,776.50
5	430 - 486 West	1780 North	Curb and Gutter	688.50	\$34,425.00
5	1218 -1238 South	1840 West	Curb and Gutter	678.34	\$33,917.00
5	1550 - Geneva Rd.	400 South	Curb and Gutter	284.98	\$14,249.00
5	1351 - 1401 West	400 South	Curb and Gutter	540.90	\$27,045.00
5	Mtn Way - Commerce Loop	400 South	Curb and Gutter	437.70	\$21,885.00
5	Vineyard Rd	400 South	Curb and Gutter	418.28	\$20,914.00
5	1279 - 1325 West	400 South	Curb and Gutter	303.89	\$15,194.50
5	1522 West - Geneva Rd.	400 South	Curb and Gutter	756.63	\$37,831.50
5	512 - 542 West	440 North	Curb and Gutter	283.79	\$14,189.50
5	513 - 533 West	440 North	Curb and Gutter	261.10	\$13,055.00
5	1325 West - Commerce Dr.	465 South	Curb and Gutter	437.46	\$21,873.00
5	1325 West	465 South	Curb and Gutter	84.01	\$4,200.50
5	Commerce Dr	465 South	Curb and Gutter	48.09	\$2,404.50
5	1396 West	465 South	Curb and Gutter	52.93	\$2,646.50
5		500 North	Curb and Gutter	392.17	\$19,608.50
5	413 - 439 North	550 West	Curb and Gutter	230.42	\$11,521.00
5	400 - 430 North	550 West	Curb and Gutter	198.93	\$9,946.50
5	1325 West - Commerce	580 South	Curb and Gutter	258.56	\$12,928.00
5	1325 West	580 South	Curb and Gutter	146.64	\$7,332.00

State of Sidewalks Report 2018

5	1590 West	Center Street	Curb and Gutter	369.02	\$18,451.00
5	1330 - 1500 West	Center Street	Curb and Gutter	1,282.00	\$64,100.00
5	556 South	Commerce Drive	Curb and Gutter	50.92	\$2,546.00
5	502 South	Commerce Drive	Curb and Gutter	42.73	\$2,136.50
5	556 - 576 South	Commerce Drive	Curb and Gutter	110.39	\$5,519.50
5	485 - 561 South	Commerce Drive	Curb and Gutter	743.10	\$37,155.00
5	520 South	Commerce Drive	Curb and Gutter	88.94	\$4,447.00
5	464 South	Commerce Drive	Curb and Gutter	39.72	\$1,986.00
5	540 South	Commerce Drive	Curb and Gutter	89.43	\$4,471.50
5	576 - 620 South	Commerce Drive	Curb and Gutter	100.21	\$5,010.50
5	400 - 436 South	Commerce Drive	Curb and Gutter	236.60	\$11,830.00
5	502 South	Commerce Drive	Curb and Gutter	84.04	\$4,202.00
5	400 - 443 South	Commerce Drive	Curb and Gutter	425.90	\$21,295.00
5	482 South	Commerce Drive	Curb and Gutter	55.54	\$2,777.00
5	454 South	Commerce Drive	Curb and Gutter	58.01	\$2,900.50
5	352 - 366 South	Gold Tip Drive	Curb and Gutter	334.72	\$16,736.00
5	356 South	Gold Tip Drive	Curb and Gutter	305.84	\$15,292.00
5	Mountain Way - 1430 West West	Industrial Drive	Curb and Gutter	396.60	\$19,830.00
5	Mountain Way - 1420 West	Industrial Drive	Curb and Gutter	426.82	\$21,341.00
5	130 - 140 South	Mountain Way Drive	Curb and Gutter	369.37	\$18,468.50
5	Center st. - 130 South	Mountain Way Drive	Curb and Gutter	609.00	\$30,450.00
5	15 South	Mountain Way Drive	Curb and Gutter	119.36	\$5,968.00
5	165 - 245 South	Mountainlands Drive	Curb and Gutter	448.87	\$22,443.50
5	187 - 250 South	Mountainlands Drive	Curb and Gutter	429.90	\$21,495.00
5	1500 N	Technology Way	Curb and Gutter	314.25	\$15,712.50
			TOTAL	49,407.82	\$2,470,391.00
Gutter Only					
Priority	Location	Route	Type	Length	Cost @ \$50.00 L/F
5	800 - 1200 North	Industrial Park Road	Gutter	2,606.52	\$130,326.00
5	720 - 800 North	1340 West	Gutter	1,767.14	\$88,357.00
5	960 - 996 North	1580 West	Gutter	356.62	\$17,831.00
5	960 - 985 North	1540 West	Gutter	355.68	\$17,784.00
5	187 - 365 South	Mountain Way Drive	Gutter	1,264.38	\$63,219.00
5	385 South	Mountain Way Drive	Gutter	156.73	\$7,836.50
5	960 - 985 North	1500 West	Gutter	261.57	\$13,078.50
5	220 - 356 South	Mountain Way Drive	Gutter	897.67	\$44,883.50
5	135 - 165 South	Mountain Way Drive	Gutter	780.09	\$39,004.50
5	386 South	Mountain Way Drive	Gutter	333.32	\$16,666.00
5	1396 West	465 South	Gutter	48.04	\$2,402.00
5	75 South	Commerce Drive	Gutter	500.00	\$25,000.00
5	1590 W. - Geneva Rd.	960 North	Gutter	391.13	\$19,556.50
5	620 South	1325 West	Gutter	42.31	\$2,115.50
5	436 South	Commerce Drive	Gutter	66.26	\$3,313.00
5	518 South	Commerce Drive	Gutter	21.38	\$1,069.00
5	538 South	Commerce Drive	Gutter	28.30	\$1,415.00
5	976 - 1002 North	1500 West	Gutter	263.20	\$13,160.00
5	1520 West	960 North	Gutter	141.01	\$7,050.50
5	140 - 160 South	Mountain Way Drive	Gutter	550.37	\$27,518.50
5	482 South	Commerce Drive	Gutter	29.83	\$1,491.50
5	800 - 1200 North	Industrial Park Road	Gutter	2,623.03	\$131,151.50
5	1497 W. - Geneva Rd	960 North	Gutter	915.95	\$45,797.50
5	1498 West	960 North	Gutter	51.20	\$2,560.00
5	1544 - 1556 West	960 North	Gutter	235.63	\$11,781.50
5	635 South	1325 West	Gutter	32.86	\$1,643.00
5	1358 West	465 South	Gutter	197.56	\$9,878.00
			TOTAL	14,917.78	\$745,889.00

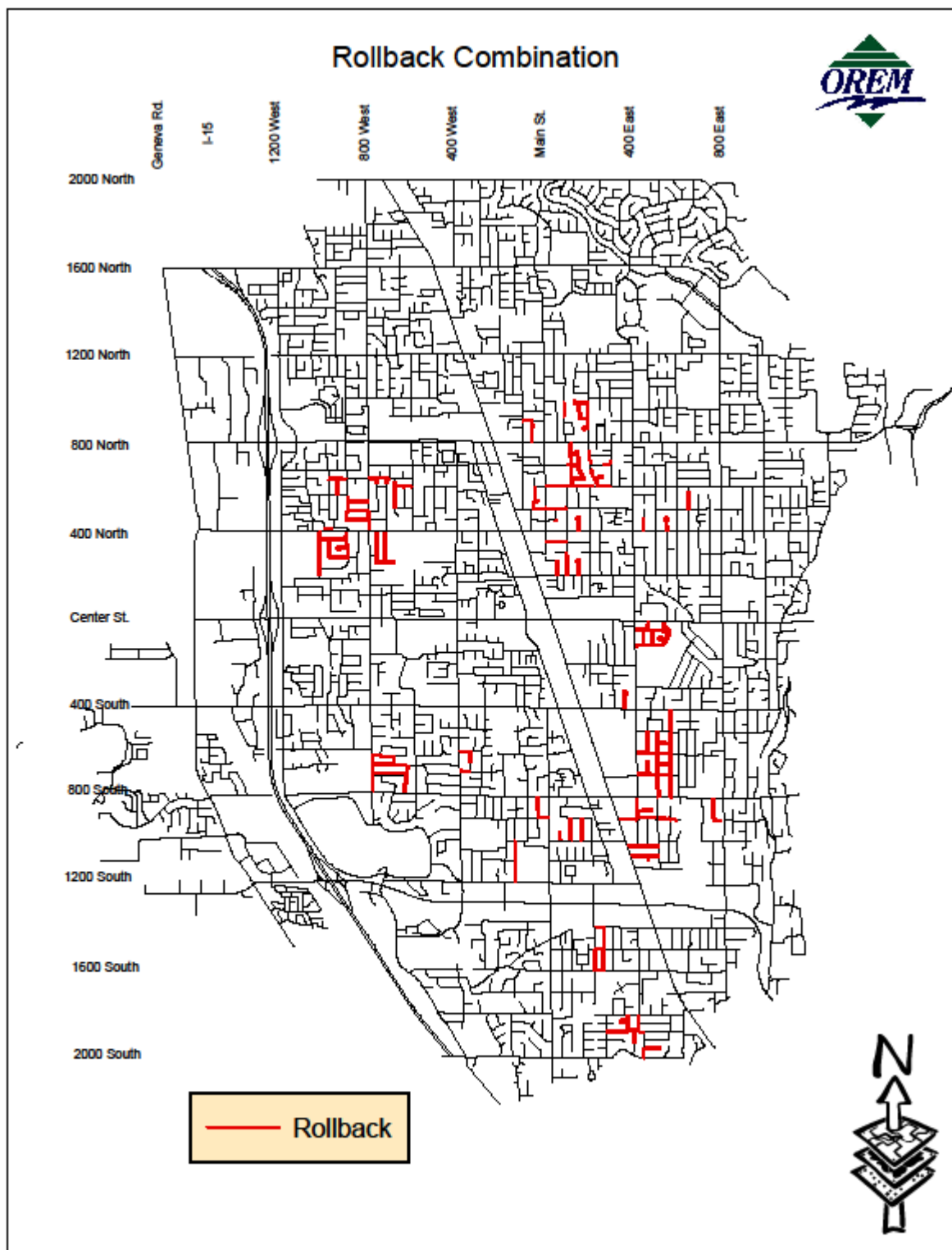
Poor Performing Types of Sidewalk and Gutter

The City maintains approximately 17 miles of rollback combination sidewalk. Rollback does not perform as well as other types of sidewalk and gutter. In many cases, water does not remain in the intended flow line and can work its way over the front lip of the gutter and under the asphalt road. The continued presence of water on the asphalt and in the base below can lead to road damage. Another concern with rollback is its use as an approach. Many citizens install a ramp system using metal, concrete, or asphalt to help them into their driveway. This practice is against City Code and can cause difficulty with water drainage. The majority of rollback combination is well over 50 years of age and deterioration is becoming a concern. At this time, replacement is determined only through the defect inspection criteria unless specified when road construction is scheduled.



Rollback Combination

Poor Performing Types of Sidewalk and Gutter

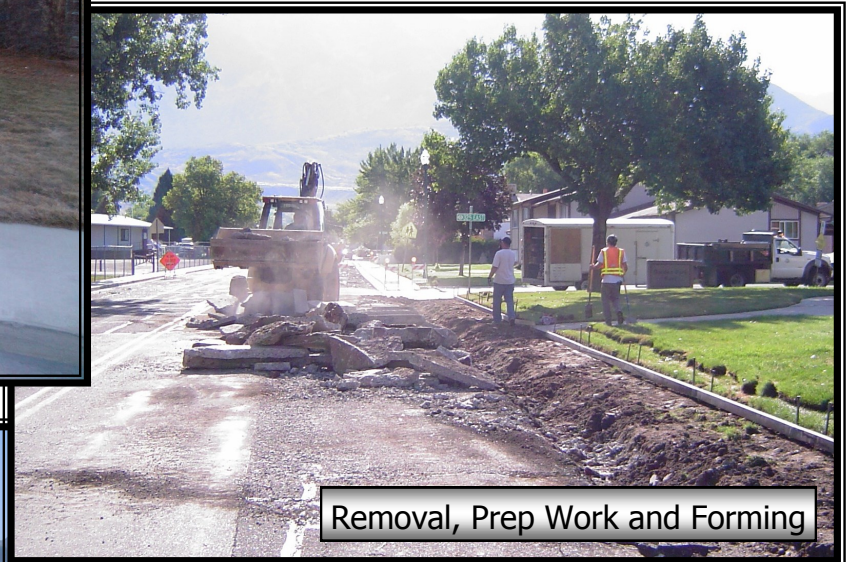


City Crew Maintenance, Replacement and Installation

Planning, organization, specialized equipment and skilled workers help ensure a cost effective, efficient process and quality product. Maintenance, replacement, and installation performed by City crews can include sidewalk milling, sidewalk and gutter replacement, new installation, general flatwork and special projects. City crews replace approximately 8,000 lf of sidewalk and gutter, including an average of 63 ADA access ramps, each year.



Sidewalk Milling



Removal, Prep Work and Forming



Pouring and Finishing Concrete



Flatwork/Special Project

Challenges

Tree Removal:

As trees become more mature, the roots and root system can increase in quantity and size. Roots can grow under and lift sidewalk, causing a tripping hazard or drainage problems. These trees are defined as "Nuisance Trees." In many cases, the only resolution is to remove the tree and root system and replace the affected sidewalk. City code clearly states that those who have control over the property are liable.

City Code concerning this matter states:

13-3-1. Definitions.

D. **Nuisance Tree** shall mean:

2. The roots of any tree or portion thereof which causes the surface of a public street, curb, gutter, or sidewalk to be up-heaved or otherwise disturbed;

13-3-6. Responsibility for Correcting Nuisance Tree.

Where a Nuisance Tree exists upon property, the property owner, landlord, tenant, or his or her agent, and all other persons having control of the property on which such nuisance exists, shall be deemed to be the cause thereof, and shall be liable therefor.

A. It is unlawful for any person, either as owner, agent, or occupant, to create, aid in creating, or maintaining a Nuisance Tree.

(Ord. No. O-93-0020, Enacted, 07/06/93)

B. The City shall determine if a particular tree is a Nuisance Tree and may cause all Nuisance Trees to be abated at the expense of the owner, agent, or occupant of the property on which the Nuisance Tree is located.

(Ord. No. O-93-0020, Enacted, 07/06/93)

C. Except as provided in this ordinance, the City may serve a notice in writing upon the owner, occupant, or agent of any lot, building, or premises in or upon which a Nuisance Tree is found, or upon the person who may be the cause of such Nuisance Tree, requiring the person to abate the Nuisance Tree within 15 calendar days. Failure to give a notice as provided herein shall not relieve the cause of any Nuisance Tree from the obligation to abate such nuisance, or from the penalty provided for the maintenance thereof. Notice of appeal may be filed with the Urban Forester within 5 working days of service of the notice to abate. Appeals from the Urban Forester's decision shall be heard by the City Manager within 15 calendar days, whereby a final decision will be made.

(Ord. No. O-93-0020, Enacted, 07/06/93)

D. In case of neglect or refusal of any person to abate any Nuisance Tree within the time specified in the written notice, the City may abate or procure the abatement thereof, and the expense of such abatement shall be charged to the person or entity failing to remove the Nuisance Tree.

(Ord. No. O-93-0020, Enacted, 07/06/93)

In select circumstances, as determined by the City, tree removal for sidewalk replacement may be expedited by having owners sign an agreement. This agreement allows the City to remove the tree at the City's expense. **Working with the City Forester, it has been determined that approximately five trees can be removed annually by the City.** The prioritization of trees to be removed is determined through the inspection process. As we look to the future we may find that the time, expense to the City, and number of trees needing removal may be too great and the code will need enforcement.

Non-Compliant Crossover Ramps:

Many residents install or insert crossover ramps in the gutter. This helps with a smoother transition from the street to their driveway. Ramps installed in areas other than those designated and approved by the City are not allowed. These ramps are not approved because of the drainage issues they may pose.

City Code concerning this issue states:

16-1-1. Damaging streets and sidewalks.

It shall be unlawful to damage or cause to be damaged any street, curb, gutter or sidewalk in the City without a permit to do work on such street, curb, gutter or sidewalk.

(Ord. No. 661, Revised, 04/10/90)

16-2-1. Permit required.

It shall be unlawful to do any construction or excavation work on any street, curb, gutter or sidewalk in the City without a permit from the City to do so. A contract with the City to do such work shall be deemed to fulfill the permit requirement. A permit from the State Highway Department to do work on any state road within the City shall also satisfy the permit requirement of this section with respect to any work on state roads only.

(Ord. No. 661, Revised, 04/10/90)

E. The design and construction of all driveways shall comply with the City of Orem Construction Standards and Specifications.

(Ord. No. 661, Revised, 04/10/90; Ord. No. O-05-0017, Amended, 5/24/2005)

City Code concerning crossover ramps is not specific, making enforcement difficult. Due to the amount of crossover ramps currently in the City, investigation, identification and analysis is needed to determine whether a more specific, detailed solution is needed or even possible.



Non-Compliant Crossover Ramp

Contracted Sidewalk and Street Maintenance

The 2016 State of the Streets report recommends road rehabilitation to be completed on every City street within a 32 year period. Federal Law states that any road receiving rehabilitation or alteration such as a micro-surface, asphalt overlay, or reconstruction, requires updated ADA ramps.

ADA Ramps:

Current funding and resources provide the ability for City crews to replace or install approximately 7,000 LF of sidewalk and gutter, including 43 ADA ramps yearly. If the 2016 State of the Streets recommendations are adopted, approximately 3,600 ADA ramps would need to be updated within the 32 year period or an average of 113 ramps per year. With City crews replacing an average of 43 ramps, 70 additional ramps would need to be contracted. At an estimated cost of \$2,500 per ramp, replacing the remaining 70 would require an additional \$175,000 per year. This contracted amount could be added to the annual road projects.

Missing Sidewalk:

The installation of sidewalk in areas that are without is not currently funded annually. The GO Bond, CDBG, and City crew projects have contributed to the installation of new sidewalk installation in recent years. Nearly six miles of sidewalk is missing in developed areas. Installing new sidewalk in these areas, and in coordination with the annual road projects, would require an average of \$100,000 each year over 32 years.

With the recommended road, sidewalk, gutter, and ADA ramp installation and replacement, the City could resurface all City streets, update all ADA ramps and install sidewalk in developed areas that are without, within 32 years.

Sidewalk Milling:

Sidewalk grinding, milling or cutting is one of the most efficient and cost effective ways of removing sidewalk hazards. Over 7,000 mills have been performed over the past 20 years by City crews. The total number of mills completed each year varies according to time, personnel and weather conditions. Citizen requests and roads receiving rehabilitation receive higher priority.

Allocating annual funding for contracted sidewalk milling could provide a consistent, efficient, and beneficial service to the City. Funding this program could help with rehabilitated road preparation and increase sidewalk replacement production. Contracting sidewalk milling of hazards 3/4" to 2" high, on roads receiving future rehabilitation and high traffic areas, could make it possible for City crews to efficiently mill hazards less than 3/4" in height as well as those requested by citizens.

Through both contracted (\$20,000 - \$25,000 contract) and City crew milling, over eight miles of sidewalk could have trip hazards removed annually.

Summary

The City of Orem's sidewalk system and Sidewalk Management Program are an important asset to the City. Less than 3% of the City does not have any sidewalk and gutter and 95% of the current sidewalk and gutter is standard combination or planter strip. Only 3% of the current sidewalk and gutter has a defect, with less than 1% rated as Extreme, or High.

The Sidewalk Management Staff recommends the following:

City Crews continue to replace or install approximately 7,000 LF of sidewalk and gutter, including 43 ADA ramps yearly, with prioritization as follows:

- 1. Eliminating Extreme and High defects, specifically 2" or greater trip hazards.***
- 2. ADA ramp installation on overlay and reconstruct roads, and known areas with disabled individuals.***

City Crews grind 1/2" - 3/4" sidewalk hazards as time and resources permit, with a contracted \$20,000-\$25,000 project for the removal of 3/4" to 2" hazards.

Work with the City Urban Forester to remove at least five trees annually and replace the hazardous sidewalk caused by the trees.

Contract, in conjunction with the annual road projects, a total of \$175,000 for ADA replacement and \$100,000 for new sidewalk installation in developed areas. This is dependent upon the acceptance of the 2016 State of the Streets recommendations.

By following the Sidewalk Management Program, we can be confident that the money allocated for maintenance and installation will be used appropriately to improve the safety, functionality and aesthetics of the City of Orem's sidewalk system and meet the needs of the citizens.

References:

1. The U.S. Equal Employment Opportunity Commission. EEOC and Title I of the ADA: Overview and History. 2002.
2. ADA Best Practices Tool Kit for State and Local Governments. Curb Ramps and Pedestrian Crossings under Title II of the ADA. 2007.
3. GIS Sidewalk Risk Management and Maintenance Program. Steven C. Jones. 1999. Kathy Kenison, Support Service Manager, URMMA.