

Alley Snow Plowing in the City of St. Paul, MN

Final Report

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Executive Summary

Historically, the City of St. Paul has never plowed alleys in winter. Residents must determine how and when to plow their alleys. Many residents in St. Paul work with their neighbors to hire private contractors for alley snow plowing. The City is conducting an analysis to better understand current alley plowing situations and examine potential options.

Snow Plowing Operations in the City of St. Paul

The Department of Public Works is responsible for plowing more than 1,800 lane miles including all arterial streets, residential streets, bridges, and cul-de-sacs, as well as some public sidewalks. The City does not plow private streets and alleys. During non-snow emergencies, City plowing efforts are concentrated on main roads and high vehicular traffic areas; while during a snow emergency, efforts include clearing residential streets. The department has its current employees plow main and residential streets and hires private contractors to plow cul-de-sacs. During heavy snow events, staff from Parks & Recreation, Sewer Utility Division, and Traffic Operations Division assist with snow operations as well. The budget for snow operations comes from appropriations from the general fund. Historically, the City budgets for four snow emergencies in a calendar year at approximately \$500,000 to \$600,000 per snow emergency. In recent years, the cost for snow plowing has varied between \$3 to \$4 million.

If the City were to include alley plowing into its operations, there are associated benefits and challenges. In terms of benefits, the City would have the ability to control/manage the placement of snow, which reduces follow-up plowing, and all residents would have basic alley plowing. In terms of challenges, the City expects two main challenges: resource limitations and logistical implementation.

Common Alley Plowing Practices in the U.S.

Local governments have different road systems that require different snow removal services. Alley snow plowing service levels vary greatly across municipalities depending on their capacity and needs. While there are several arguments in favor of providing alley snow plowing services by municipalities, including safety of residents, provision of functional traffic movement, economies of scale, reducing environmental costs, and improving residents well-being; there are also some arguments against it including increased costs, resource limitations, alleys structural conditions, and considerations of public right-of-ways.

Survey Development and Responses

The research team developed a survey with the aim to capture perceptions and concerns of the residents in the city, get feedback of current situation and costs, and gather input related to potential options for alley plowing. The questionnaire consisted of questions related to alley plowing as well as demographic questions to ensure that all voices were heard. The survey was distributed in both online and paper formats.

The research team analyzed a total of 7,834 surveys. Majority of the respondents were white, between 36-65 years of age, medium-high income, own their homes, and have lived in St. Paul for more than 11 years. Most of the respondents lived in zip codes 55104, 55105, and 55116. Out of the total respondents, 90 percent had an alley. 66 percent of the respondents with an alley have an “alley captain” and 12 percent stated that their alleys are not plowed at all. Those with any type of alley plowing arrangement mentioned that they pay the same amount as their neighbors regardless of their alley usage (usually between \$15- \$34 per season) and these costs have remained constant for the past three years.

Overall, the perceived benefits and challenges vary for every type of arrangement. Respondents with an alley who have an arrangement, mentioned the reasonable cost, reliability in timeliness and quality, and getting the alley plowed quickly after a snowfall as benefits of their current arrangements. Respondents without alley plowing services mentioned not having any benefits. In addition, having free riders (residents who have their alley plowed but do not contribute to the neighborhood payment collection) is considered one of the main challenges. Similarly, the satisfaction with the current arrangements also varies based on the type of alley plowing arrangement. Respondents who have alley plowing services for free are the most satisfied, followed by those who have an alley-plowing captain. Respondents without any alley plowing arrangement are extremely dissatisfied.

When asked about whether or not the City should plow the alleys, considering that this change would affect property taxes, respondents have clear feelings. Respondents with an arrangement believe that the City should not provide the service, but respondents without any alley plowing arrangements, believe that the City should provide the service. Those mentioning “It depends” refer to the cost and quality as main factors, but are hesitant/skeptical due to the current street plowing and problems related to trash collection.

Potential Scenarios for Alley Plowing

There are four different scenarios for the City to consider regarding alley plowing. The scenarios are based on environmental scanning of experiences in other cities and the results from the survey that was

administered to the residents of St. Paul. These scenarios vary in the level of city involvement, from maintaining the status quo (Scenario A) to providing an organized citywide alley plowing service (Scenario D). Scenarios in between (Scenarios B and C) are suggested to fill the current service gap and provide options to residents. Results from the survey suggest that most of the residents with an arrangement of alley plowing are satisfied with it and would like to keep their current private services; while most of the residents without alley plowing would like the City to provide the service.

1. **Scenario A – The City does not take any action:** The City maintains the status quo and does not provide alley plowing services to any residents in the City of St. Paul.
2. **Scenario B – The City does not provide alley plowing, but helps residents to coordinate the service:** The City maintains the status quo and does not provide alley plowing services to any residents in the City of St. Paul. However, the City helps residents that request assistance with the coordination of alley plowing services. The City can create a system where volunteers or appointed city staff act as alley captains or work with neighborhood councils to assist those blocks/groups of neighbors that request it.
3. **Scenario C – The City provides alley plowing to residents that do not have the service or are not satisfied with their current arrangement:** The City creates an opt-in program to provide alley plowing to blocks or groups of neighbors that want the service of alley plowing. An opt-in program would still require either City staff or private contractors to plow the alleys. This would require additional City resources such as staff and equipment.
4. **Scenario D – The City provides alley plowing citywide:** The City provides an organized citywide alley plowing service.

Recommendations

To fill the service gap in alley snow plowing, the City should focus on helping in the coordination of private plowing services for residents that do not have or are not satisfied with current services. This option (Scenario B) is preferred to implementing a citywide organized alley plowing service run by the City. Also, the City should consider improving regulations for alley snow plowing, as well as informing and assisting residents who help to organize plowing.

1 Snow Removal Operations in the City of St. Paul

The research team conducted a group interview with Street Maintenance staff to understand the current snow removal operations of the City of St. Paul. The information gathered is important to assess the feasibility of including alley plowing into the City's operations. The group interview was conducted on March 1st, 2019 with Beverly Farragher, Operations Manager; Matthew Morreim, Division Manager; Chris Anderson, Field Supervisor; and Cha Lee, Civil Engineer.

1.1 Snow Removal Operations

The Department of Public Works is in charge of the snow removal operations for the City of St. Paul. The City operations include the anti-icing program (that runs all winter long), pre-emergency, snow events, and snow emergencies. The City is responsible for all roads including arterial streets, residential streets, cul-de-sacs, and identified sidewalks, which represent more than 80 traffic routes and 1,874 lane miles (City of St. Paul, 2019e). The City, however, does not plow or treat private streets and alleys. During non-snow emergencies, City efforts are concentrated on main roads and high vehicular traffic areas; while during a snow emergency, snow removal efforts also include clearing residential streets (City of St. Paul, 2019e).

Currently, an ordinance requires residents to remove ice and snow from their sidewalks within 24 hours of a snowfall (City of St. Paul, 2019d). There is no ordinance that requires residents to plow their alleys. Residents of the city are asked to work with their neighbors and contract with a private operator to plow their alleys (City of St. Paul, 2019c).

The Department of Public Works bases its work on balancing three main factors: Labor, Equipment, and Materials (LEM).

Labor: The Street Maintenance division within the Department of Public works has over 140 employees, responsible for about 20-30 snow events and 4-5 snow emergencies per year. During heavy or frequent snow events, staff from Parks & Recreation, Sewer Utility Division, and Traffic Operations Division assist with snow removal operations.

Equipment: The City has a total of 97 snow removal equipment that includes 57 dump trucks, 19 sander trucks, 16 pick-ups, and 5 pieces of heavy equipment. There is always only one employee per truck.¹

¹Information from St. Paul Public Works on March 30th, 2019 and updated on July 24th, 2019.

Materials: The City uses sodium chloride for temperatures above 15 degrees Fahrenheit, magnesium/sodium chloride for temps down to -10 degrees and uses a very limited amount of sand for traction. The salt is treated with a brine solution to activate the salt, which makes the salt more effective (it is less likely to blow off the street surface) (City of St. Paul, 2019a).

The budget comes from appropriations from the general fund. Historically, the City budgets for four snow emergencies in a calendar year at approximately \$500,000 to \$600,000 per snow emergency. In recent years, the cost for snow plowing has varied between \$3 to \$4 million. The budget for the operations varies over the years, depending on the weather. When the budget is not sufficient for snow removal operations in a given year, the department can request a budget amendment.

1.2 Snow Emergency

The City usually declares a snow emergency after 3” of snow or after the accumulation of 3” of snow (City of St. Paul, 2019e). The declaration of a snow emergency comes after an evaluation of current conditions and depends on various factors, including the type of snow, weather forecast, and snow accumulation.

Usually, the City budgets for four snow emergencies per year with an approximate cost of \$600,000 per snow emergency. The budget is established for normal/average snow seasons (City of St. Paul, 2019b). On an average year, the City declares between four to five snow emergencies each season but this varies with the weather conditions. For instance, in February and March 2019, the City declared seven snow emergencies.

A snow emergency lasts 96 hours and the operations occur in the following order:

- *Day 1 – Night Plow Routes:* From 9:00 p.m. to 7:00 a.m. The City plows arterial streets that are high traffic volume streets. In addition, 50 percent of the north-south residential streets are plowed. These streets are identified with signs that say “Night Plow Route” or “Night Plow Route This Side of Street.”
- *Day 2 – Day Plow Routes:* From 8:00 a.m. to 5:00 p.m. The City plows the remaining 50 percent of the north-south residential streets, as well as all east-west residential streets.
- *Days 3 and 4 – Clean Up:* Used for follow-up plowing and miscellaneous cleanup.

For snow emergency operations, the City works with its current employees to plow main and residential streets and hires private contractors to plow 137 cul-de-sacs. Currently, the City has contracts with two private contractors and the charges are between \$3,450 to \$4,400 (\$16,430 total).

During heavy snow months, such as in February 2019, there are additional staff members who assist with ice and snow removal. Additional staff comes from other divisions within the Department of Public Works and other departments, such as Parks & Recreation. All employees supporting snow removal operations must be City employees with a commercial motor vehicle driver's license.

1.3 Ticketing and Towing

When the City declares a snow emergency, residents are required to follow specific parking instructions to allow for safe and efficient snow removal operations. Therefore, tagging and towing of vehicles violating parking instructions during a snow emergency are essential to snow removal operations. Tagging and towing continue throughout the 4-day emergency on areas that have not been plowed full-width.

The City estimates that, with enough resources, there would be between 4,000 - 5,000 tickets to unmoved vehicles per snow emergency. With the current resources, however, the City issues around 3,000 tickets. Of this number, only around 16.7%- 19%² of the vehicles are towed. The fee amount for each ticket is \$56 and \$202³ if the vehicle is towed.⁴ While the Department of Public Works pays \$120 for each towed vehicle and \$18 per hour to temporary workers issuing tickets, the revenue from the tagging and towing does not go to the department. As of March 2019, the City contracted two private operators for the towing operations.

1.4 Including Alley Plowing into the City's Operations

If the City were to include the service of alley plowing into its operations, there are associated benefits and challenges described below. In terms of benefits, the City would have the ability to control/manage the placement of snow, and all residents would have basic alley plowing. This ability to control/manage the replacement of snow will reduce follow-up plowing due to misplacement of snow.

In terms of challenges, the City expects three main challenges. First, resource limitations; the City would require additional/new equipment as alleys in the city are not engineered to a specific width. In addition, the City does not have sufficient crew to take on this additional responsibility. Even with the current operations, the crew is often overworked and exhausted as they work, on average, 10 hours more than the number of hours they should work during a snow emergency. The City estimates that if it were to plow the alleys, it will cost close to \$8 million in the first year due to additional crew, new equipment, and additional

²Towing totals 2018- 2019. Information received from the City of St. Paul Public Works, last updated on March 15th, 2019.

³Plus additional \$15 storage fee for each additional day the vehicle is not picked up from the impound lot.

⁴If the vehicle is towed, but not yet delivered to the compound lot, drop-off fee is \$75.

facilities. Of this number, the cost for additional crew, facilities, and new equipment would make up 52%, 23%, and 13% of the total respectively.⁵ If the City decides to hire private contractors, its experience with the cul-de-sac contracting shows that there is not sufficient plowing capacity in the private market to take on this task.⁶ Second, it would be risky for the City to plow the narrow alleys, as the crew can damage properties (e.g. hit cars, damage fences, etc.). Finally, reactions to the change. Residents may not be aware of the costs and have unrealistic expectations. For instance, the City may not plow the alleys as frequently as private contractors do. Similarly, residents may not welcome this change as it would take away work from small businesses or private contractors who are currently providing the service. Overall, the benefits are small for the City compared to the costs.

⁵Draft estimate for snow operations. Information received from the City of St. Paul Public Works on March 14, 2019.

⁶Information provided by Kathy Lanty on March 14th, 2019.

2 Environmental Scan of Common Practices for Alley Plowing in the U.S.

Cities, counties, and townships have different road systems that require different snow removal services. Usually, cities are more likely to plow snow from alleys than townships and counties. According to the Office of the Legislative Auditor State of Minnesota (1995), out of a total of 204 cities surveyed, about 58 percent plow all alleys, 14 percent plow some alleys, and 22 percent do not plow alleys. Cities located outside the seven-metro county area tend to plow alleys and tend to have more alleys to plow compared to cities in the seven-metro county area.

2.1 Common alley snow plowing practices across cities in the U.S.

There is great variation in the level of service across cities providing snow removal, particularly in handling alley snow plowing. These variations depend on each city's capacity and needs. Table 3 in Appendix A presents an environmental scan of common practices across some cities in the U.S. In this section, we present a summary of these practices.

Cities that made a change in the service provided: Some cities such as Sandusky, OH and South Jordan, UT that formerly provided alley plowing services, stopped providing the service in recent years. In Sandusky, resource limitations, stone or gravel, and narrow alleys were the main reasons why the city stopped the service. In South Jordan, the city decided to stop the service in cul-de-sacs and dead-end alleys. The major concern that resulted in this policy change was the fear of accidentally hitting people or animals.

The city of Berwyn, IL, which currently not plow alleys, has been exploring adding alley plowing after a snowfall of 5" or more. The argument being to maintain emergency access.

Cities that plow alleys: Some cities provide alley plowing services with some variation in the level of service. For instance, in the city of Farmington, MN snow removal and plowing starts when there is snow accumulation of 2" or more, while other cities such as Burlington, WI starts plowing after snowfall reaches 3" or more. However, in almost all cities that provide the service, alleys are usually the last item on the list to be plowed after all main roads and other residential streets are plowed. In some cases, alleys are plowed only after a heavy snowfall. For instance, the city of Wayne, NE plows alleys when 6" or more snow has accumulated while other roads are plowed after 2-3" of snow. Cities provide the services directly and may hire services from private contractors after heavy snowfall.

Cities that do not plow alleys: Many cities in the U.S. do not plow alleys, such as Chicago, IL, and

Milwaukee, WI among others. Some of these cities consider plowing alleys only after a heavy snowfall. A number of these cities, however, have considered including alleys as part of their snow removal operations. For example, the city of Milwaukee, WI conducted a 3-year pilot program from 2015-2018 to plow alleys following a snowfall of 3" or more. The goal was to determine the feasibility and cost of providing the service by the city. Upon completion of the program, however, the city decided not to provide the service due to various factors including resource limitations, liability for damages to private property, and costs to the city among others.

2.2 Arguments in favor of shifting to city alley plowing

From the environmental scan, there are several arguments used to favor the shift toward alley plowing provided by a city. These arguments include:

- Safety of residents: Snow removal is necessary for routine travel and emergency services.⁷
- Provision of functional traffic movement: Alleys provide access for other public utilities and services such as garbage and recycling collection, as well as access for off-street parking, which is related to residents' safety.
- Economies of scale: Cities may be able to provide alley plowing services at a lower cost compared to block-by-block negotiations.
- Reduce environmental costs: Informal arrangements through private contractors mean that there are more trucks on the roads, which can be harmful to the environment. If cities provide the service, it can reduce the number of vehicles on the roads.
- Improve residents well-being: Informal arrangements are voluntary, and often few residents bear most of the costs while the rest of the neighbors in the block enjoy free service. These informal arrangements lead to frustration, anxiety, and monetary costs to alley-plow captains as well as to the rest of the residents that pay for the service.

2.3 Arguments against shifting to city alley plowing

Similarly, we found other arguments against of shifting alley plowing to a city service including the following:

⁷"Berwyn discusses plowing alleys when snow hits the 5-inch mark". Published in mySuburbanLife.com on February 18, 2014.

- Increased costs: Plowing alleys increase the amount of time, fuel, and wear on equipment especially when alleys are unimproved. In addition, plowing alley is considered expensive as residents throw the snow back into the alley when they clear their parking pads or garage entrances.⁸
- Resource limitations: Usually cities are constrained by resource limitations and give priority to main streets when it comes to snow removal. While the current budget and resources cannot cover the costs of plowing alleys, raising property taxes or maintenance fees may not be welcomed by all residents. Some residents prefer the current arrangements through private contractors as they get alleys plowed quicker and are cheaper than if the service was offered by the city.⁹
- Alleys' structural condition: When alleys are too narrow it can increase the city's logistical implementation. If a city decides to plow narrow alleys in winter, more equipment and additional staff might be needed. In particular, in the City of St. Paul, alleys were not engineered for snow removal and proper drainage. As a consequence, there may not be enough space alongside the alley in which to push and store the snow, which could lead pushing snow into resident's driveways.
- Alleys are not public right-of-ways: In Milwaukee, for instance, since alleys provide rear access to private property and parking for property owners, they are not considered public right-of-ways in the same sense that streets and sidewalks are.¹⁰

⁸“No-plow zones in S. Jordan”. Published in The Salt Lake Tribune on January 13, 2010.

⁹DeMaster, D. (2015) Tales from Saint Paul Alleys. News published on December 1, 2015. Retrieved from streets.com. <https://streets.mn/2015/12/01/tales-from-saint-paul-alleys/>

¹⁰Information from the Department of Public Works of the City of Milwaukee, WI retrieved from <https://city.milwaukee.gov/mpw/divisions/operations/snow/snowfaq#.XF2I31xKiUl>.

3 Survey Development

The research team conducted informational interviews with residents of the City of St. Paul in order to *i*) understand current alley snow plowing arrangements in the city, *ii*) discuss ongoing issues with current alley snow plowing arrangements, and *iii*) explore reactions regarding possible changes. The informational interviews were 30-minute semi-structured interviews with St. Paul residents, including alley-plowing captains, residents participating in community arrangements to plow alleys, residents without alley plowing services, and private contractors. The information gathered through the informational interviews informed the development of a survey that was distributed to the residents of the City of St. Paul.

The survey was developed with the aim to capture perceptions and concerns of residents, get feedback and input on current situations and costs, and gather input related to potential options for alley plowing including associated costs. The researchers developed a 29-question questionnaire that included single-choice, multiple-choice, and open-ended questions. The questionnaire consisted of questions related to alley plowing, including current arrangements, ongoing issues, reactions to potential changes, and expectations. In addition, demographic questions were asked to residents to assess if the survey was representative. The survey was anonymous and no personal information was required.

The survey was distributed in two formats: online and paper. The online version was developed in Qualtrics, distributed through the City's social media outlets (Facebook and Twitter), and was available through a link and a QR code. To supplement the online survey and ensure access to people with limited internet, 250 paper surveys were mailed to addresses in St. Paul randomized at the zip code level. In addition, translation over the phone in Spanish, Somali, and Hmong was available through the City for people with limited English proficiency (refer to Appendix D to see the survey form).

4 Survey Analysis

The research team analyzed a total of 7,834 surveys (see Table 1). Of the online surveys, 167 were blank – the survey was opened but not completed– and 130 individuals responded they did not live in St. Paul and therefore they could not take the survey. Of the paper surveys, only one was not completed. 10 online surveys were accessed through the QR code provided in the paper version. Of the surveys analyzed, 50 were completed by respondents in zip codes outside of St. Paul. Of these surveys, 32 were completed by respondents in a zip code in the borders of St. Paul and 18 in zip codes outside of the city. Some respondents mentioned in their comments that they have recently moved to another city, but they responded as if they were living in St. Paul. Please refer to the presentation that complements this report.

Table 1: Survey Responses

Survey	Total Surveys	Surveys Analyzed	Timeline
Online	8,045	7,749	April 17 - May 3
Paper	86	85	April 15 - May 3

4.1 Demographics

Majority of the respondents were white, between 36-65 years of age, medium-high income, own their homes, and have lived in St. Paul for more than 11 years. Majority of the respondents lived –or referred to a zip code– in 55104, 55105, and 55116 (primary Wards 3 and 4). Out of the total respondents, 90 percent had an alley.

4.2 Alley Plowing Related Questions

Current Arrangements (questions only to respondents with alleys)

Thirty-five percent of the respondents with an alley assessed the condition of their alley to be good; alleys received a grade of 7 - 8 on a scale of 0 to 10 with 0 being extremely poor and 10 extremely good. Most of the respondents use their alley for garbage and recycling pick-up (98%) and accessing their garage/parking spot/driveway (91%). 66 percent of the respondents have an “alley captain” who coordinates the service with a private contractor, 12% stated that their alleys are not plowed at all, and 12% of the respondents have another arrangement including being directly billed by a private plowing company and neighbors

shoveling (each neighbor is in charge of plow/shovel its portion of the alley). Majority of the respondents with an alley captain are located in the western part of St. Paul (primary in Wards 3 and 4).

Most of the respondents who have an alley plowing arrangement always participate in the alley plowing arrangement set for the block. Regarding the current level of service, 36% of respondents said their alleys are plowed after a 2-inch snowfall. In addition, the majority of respondents mentioned that they receive the service relatively fast (35% said it was plowed overnight and 30% within 6 hours). Majority of respondents mentioned they pay the same amount as their neighbors regardless of their alley usage, they pay between \$15- \$34 per season and the alley plowing costs have mostly remained constant for the past three years.

Ongoing Issues

Overall, more than 70% of the respondents who have alleys mentioned the reasonable cost, reliability in timeliness and quality, and getting the alley plowed quickly after a snowfall as the benefits of their current arrangements. Respondents highlighted additional benefits to those listed. These benefits vary based on the type of arrangement:

- Some respondents with an alley-plowing captain compared their services with the street plowing service provided by the City. According to them, their alleys are plowed before/faster, better, and more often than streets. In addition, some respondents said that this arrangement builds community as it brings neighbors together, gives them the flexibility of choosing contractors, and support local businesses.
- Respondents that receive alley plowing services free of charge, highlight the benefit of having a free service.
- Respondents without any arrangement (alley does not get plowed) mentioned not having any benefits.

Half of the respondents mentioned having free riders (neighbors that do not pay for alley plowing services) as the main challenge. Respondents also highlighted additional challenges to those listed. These challenges vary based on the type of arrangement:

- Half of the respondents with an alley-plowing captain mentioned not having any challenges. Some others, however, recognized that the burden of collecting money and coordination falls on the alley-plowing captain. Similarly, some mentioned having to cover the difference of those who do not pay, the lack of willingness to head up responsibility for alley plowing, and the uncertainty if the

alley-plowing captain leaves or decides not to continue, as some of the challenges of their current arrangement.

- Almost half of the residents without any alley plowing arrangement said that not having their alley plowed is challenging as it does not allow them access to their garages/driveways. Some also stated difficulties in collecting money and inconsistent shoveling/plowing of the alley by neighbors.
- Half of the respondents that receive alley plowing services for free mentioned not having any problem. Few, however, recognized that alleys are not plowed if the resident/company that plows goes on vacation or leaves.
- Respondents who self-identified as alley-plowing captains mentioned collecting money and paying out of own pocket to cover the cost of the service, language barriers, the uncertainty around renter/landlord responsibility to pay for the service, uncompensated time and effort, and complaint management as key challenges they face.

Satisfaction with the current arrangements also varies based on the type of alley plowing arrangement. Respondents who have alley plowing services for free are the most satisfied, followed by those who have an alley-plowing captain. However, respondents without alley plowing are extremely dissatisfied. Respondents located in west and east St. Paul are more satisfied with their current arrangements than respondents in the central part of the city.

Reactions to Potential Change (questions to all respondents)

When asked about whether or not the City should plow the alleys, considering that this change would affect property taxes, respondents have clear feelings. Respondents located at the south-west of the city consider that City should not plow the alleys. Almost 60 percent of respondents with an arrangement believe that the City should not provide the service, but 70 percent of the respondents without any alley plowing arrangements, believe that the City should provide the service. Those mentioning “It depends” refer to the cost and quality as main factors, but are hesitant/skeptical due to the current street plowing and problems related to trash collection. Similarly, 55 percent of the respondents without an alley believe that the City should not provide the service. Among this group, those mentioning “It depends” mentioned that taxes should not increase for properties that do not have an alley or do not use the alley. Among the respondents, who self-identified as alley-plowing captains, 35 percent think that the City should plow the alleys and 20 percent believe that the City should not get involved in this task. Almost 40 percent mentioned that it depends on factors such as cost, timeliness, and quality.

If the City was to provide alley plowing services, a little bit more than 40 percent of the respondents believe that the City should provide it because it will alleviate the burden on alley captains, ensure that all alleys in the City are plowed, and ensure that everyone pays. However, 80% of the respondents believe that the City should not plow the alleys because it will increase costs and 72% believe that alleys would not get plowed as often if the City were to provide the service. Most of the respondents also mentioned that they believe that the City is not equipped to provide alley plowing services efficiently based on their street plowing and trash collection experience.

Expectations (questions to all respondents)

If the City of St. Paul was to provide alley plowing services, respondents will expect the City to plow the alleys after each snowfall or after a 2-inch snowfall, alleys to be plowed at the same time as main streets or at the same time as residential streets.¹¹ In addition, residents will be willing to pay an amount that would not be more than the amount they are currently paying or less than \$15 per season. Respondents without an alley are willing to pay less than \$15 a season (or nothing at all). However, some respondents mentioned that they do not want the City to be involved in alley plowing at all when asked about their expectations about City-provided service.

¹¹The City's current practice is plow residential streets only when a Snow Emergency is declared.

5 Analysis of Various Options for Alley Plowing

5.1 Scenarios

There are four different scenarios for the City to consider regarding alley plowing. The scenarios are based on an environmental scan of other cities and the results from the survey that was administered to the residents of St. Paul. The following scenarios vary in the level of city involvement, from maintaining the status quo (Scenario A) to providing an organized citywide alley plowing service (Scenario D). Scenarios in between (Scenarios B and C) are suggested to fill the current service gap and provide options to residents.

Scenario A: The City does not take any action

In this scenario, the Department of Public Works maintains the status quo and does not provide alley plowing services to any residents in the City of St. Paul. Residents are encouraged to work with their neighbors to hire private contractors for alley snow plowing.

Scenario B: The City does not provide alley plowing, but helps residents to coordinate the service

In this scenario, the City maintains the status quo and does not provide alley plowing services to any residents in the City of St. Paul. Residents are encouraged to work with their neighbors to hire private contractors for alley snow plowing. However, the City could help residents who request assistance with the coordination of alley plowing services.

Under this scenario, the City can create a system where volunteers or appointed city staff act as alley captains or work with neighborhood councils to assist those blocks/groups of neighbors that request it. The City can start assisting areas that have been identified as having problems with alley plowing (areas where trash and recycling collection were challenging during winter 2019). The implementation of this scenario might require offering incentives to volunteers who act as alley captains or hiring additional personnel.

Scenario C: The City provides alley plowing to residents that do not have the service or are not satisfied with their current arrangement

In this scenario, the City creates an opt-in program to provide alley plowing to blocks or groups of neighbors that want the service of alley plowing.

All residents can apply to the program. However, to legally comply, a petition with 100% of the adjacent property owners would need to request the service. In addition, these residents would also be required to sign an annual waiver allowing the city to bill them and place the item on their property taxes if they do not pay.

For service delivery, there are two models for the City to consider: Direct city-provided service and city-contract service. Under the first model, the service is administered, delivered, and monitored directly by the City. The City will have to invest in additional equipment or adapt its current fleet. Due to the size of current plow trucks, they cannot be used to most alleys. In addition, the City will need to hire additional personnel to administer and deliver the service.

Under the second model, alley plowing is administered by the City but delivered through private contractors. Similar to the way the City contracts plowing for the cul-de-sacs, the City can divide its area into sub-areas and have alley plowing contractors to bid for the service in these areas. In addition, the City might be required to coordinate street plowing services with private contractors for alley plowing, and with contractors in charge of garbage and recycling.

Scenario D: The City provides alley plowing citywide

For the implementation of organized citywide alley plowing, the City can consider the following models for service delivery: Direct city-provided service and city-contract service. Under the first model, the service is administered, delivered, and monitored directly by the City. If this model is selected, the City should consider conducting a pilot program first. Then, based on the pilot, the City can think of investing in additional equipment or adapting its current fleet, and hiring additional personnel to administer and deliver alley plowing. Under the second model, city-contract service, the service is administered by the City but delivered through private contractors. Similar to the way the City contracts plowing for the cul-de-sacs, the City can divide its area into sub-areas and call alley plowing contractors to bid for the service in these areas. In addition, the City will need to coordinate its street plowing services with private contractors and with contractors in charge of garbage and recycling.

For the implementation of this scenario, the City should (i) communicate with residents regarding its plan. This includes communicating the model for service delivery, timing for implementation, costs, administration, service level, etc.; and (ii) call for a referendum, as many of the respondents of the survey suggested.

For Scenario B and C additional funding will be required to cover the costs of additional personnel or equipment. This funding could be procured by an increase in property taxes. Alternatively, the City may consider charging a user fee or a special assessment to fund alley snow plowing operations.¹² These alternative methods of funding provide the advantage of having revenues dedicated specifically to alley snow plowing, charging exempt properties for the service, and charging direct beneficiaries of the service (for instance, properties without alleys would not be charged).

5.2 Analysis of Scenarios

Scenario A (no action) is an option. However, the survey indicates that residents who do not currently have an alley plowing arrangement find it challenging to coordinate neighborhood alley plowing and would like to have their alleys plowed.

Scenario D (city provides citywide service) should not be further considered in the short-term. The survey suggests that most of the residents with an arrangement are satisfied with it and would like to keep their current private services. Respondents consider that if the City were to provide the service the costs will be higher and the level of service will be lower compared to their current arrangements. This adds on the resource limitations that the Department of Public Works foresees with the implementation of citywide alley snow plowing services. If the City was to provide citywide alley plowing services, the Department of Public Works has estimated one time costs of at least \$3.2 million and annual expenditures of at least \$4.8 million (see Table 2).

¹²These charges could be based on a proxy for alley usage (e.g. alley-front footage which is the common measure).

Table 2: Estimates for alley snow plowing Operations in St. Paul

Items	Count	One Time Costs		Annual Costs		Total Costs
		Unit	Costs	Unit	Costs	
Additional FTE's						
Drivers (1)	38	\$2,000	\$76,000	\$76,000	\$2,888,000	\$2,964,000
Supervisors (1)	7		\$25,000	\$110,000	\$770,000	\$795,000
Overtime (2) (3)					\$365,800	\$365,800
Equipment						
New (4)	45	\$40,000	\$1,800,000			\$1,800,000
Replacement Costs						
Operational Plans (5)			\$250,000			\$250,000
Maintenance Costs (6)				\$2,500	\$112,500	\$112,500
Office support staff (7)					\$75,000	\$75,000
Additional Salt (8)	600			\$100	\$240,000	\$240,000
Additional facilities (9)			\$1,000,000		\$50,000	\$1,050,000
Overhead Fees (OTC, Admin)					\$200,000	\$200,000
Training & Recruitment (3)				\$2,000	\$90,000	\$90,000
Subtotals			\$3,151,000		\$4,791,300	\$7,942,300

Notes: Estimate approximately 2,250 alleys, 60 alleys per shift per driver. (1) Includes Fringes. (2) 10% of annual salary. (3) Applies to drivers and supervisors. (4) 4x4 Pick-Ups with plow. (5) Include route updates, snow plan, etc. (6) Costs per truck. (7) Call center. (8) 150 Tons per Snow Emergency. 4 Events/ per year (\$100/ton). (9) Includes salt storage, assembly space, locker rooms, equipment storage. **Source:** Estimates from the Department of Public Works - City of St. Paul.

Scenarios B (improved coordination) and C (opt-in program) allow the City to give its residents the opportunity to choose the services that better fit their needs while filling the gap for those residents who do not have plowing services. However, Scenario C (opt-in program) is not considered a viable option for three reasons. First, costs could increase significantly due to additional staff, program management, and equipment. Second, uncertainty regarding the number of residents who might sign up for the program makes investments harder to plan for. The number of alleys participating in an opt-in program could vastly differ year to year, affecting staffing and equipment needs each snow season. Third, to legally comply, it would be necessary that 100% of the residents in each alley agree to opt-in into the program. This is especially challenging if property ownership changes and new agreements are required.

6 Recommendations

The City should play a role in filling the service gap experienced by residents without quality alley snow plowing services. Scenario B (improved coordination) provides the best solution. Based on the environmental scan and survey results, the City could enhance alley plowing, by considering improvements in three main areas: regulation, information, and assistance.

In terms of regulation, the City should consider some rules, guidelines, or ordinances regarding alley snow plowing. First, several respondents who plow/shovel their alleys mentioned in the survey that neighbors inconsistently plow/shovel their alley portion. In order to ensure that alleys are cleared within a consistent time frame and ensure access to a garage or main street, the City should consider putting in place an ordinance. Similar to the sidewalk clearing ordinance that requires removal of snow and ice within 24 hours,¹³ the City should put in place rules that require snow to be plowed from alleys within a time frame. Second, several respondents who self-identified as alley-captains or coordinators mentioned that it is difficult to charge rental properties for alley plowing services as neither landlords or renters want to bear the responsibility. The City should set some rules to define the responsibility of alley plowing between landlords and renters.

Regarding information, we identified three main areas for the City to improve. First, the City should do more to inform residents that alleys are not plowed in winter. Based on survey results, many residents do not know how alley snow plowing services work in the city of St. Paul. This information is already available on the website of the Department of Public Works but the City should consider making it available in different languages for people with limited English proficiency. Additionally, the City should consider distributing flyers citywide to inform residents, especially new residents, about the alley plowing system in the City before the snow season/winter begins. Second, the Department of Public Works should consider to provide information regarding alley plowing providers (e.g. name, phone number, website, etc.) on its website and update this resource regularly. According to the survey results, one of the challenges respondents without an arrangement face is finding alley snow plowing contractors. Lastly, the City should inform residents about the services that are provided under the “alley maintenance fee”. According to the survey, several respondents believe that alley snow plowing services are included in the alley maintenance fee they pay.

Lastly, the City should consider assisting residents who help organize alley plowing. The City should work with alley-captains to identify key elements where the City can support the work of alley-captains. The

¹³Chapter 113 and 114 of the Saint Paul Legislative Code.

City could provide resources to connect alley captains so that they can share experiences, information, and resources. In the survey, several respondents who self-identify as alley-captains, refer to the challenges they face, including: Collecting money and paying out of own pocket to cover the cost of the service, language barriers, the uncertainty around renter/landlord responsibility to pay for the service, uncompensated time and effort, and complaint management (previous recommendations address some of these concerns, but further consideration is required).

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Appendices

Appendix A Environmental Scan

Table 3: Environmental Scanning

City ¹	Level of Service	Order of Operations	Timing	Equipment
<i>Cities considering changing from individual to city</i>				
Berwyn, IL ² (Pop. 56,367)	The salt trucks go out first. When approximately 2-3" of snow has fallen the remainder of the snow equipment is called out and put into service.	<ul style="list-style-type: none"> i) Streets designated as snow routes ii) Secondary or residential streets 		Over 20 pieces of equipment
<i>Cities that have changed from City to individuals</i>				
Sandusky, OH (Pop. 25,139)	Stopped providing the service due to: <ul style="list-style-type: none"> i) the amount of time, fuel and wear on the equipment as most alleys in Sandusky are stone and gravel; ii) the very narrow alleys, that do not leave much room to push the snow. 			
South Jordan, UT (Pop. 65,523)	As of 2010, the city can skip plowing dead-end alleys and cul-de-sacs when backing up or turning around is difficult due to fear of accidentally hitting private property, humans or animals. This policy affects about two dozen streets and alleys.			

City	Level of Service	Order of Operations	Timing	Equipment
<i>Cities that plow alleys</i>				
Cudahy, WI (Pop. 18,350)	Plows once at the end of each snowfall. Then is up to the residents to maintain the alley clear.	Low priority		
Minneapolis, MN ³ (Pop. 411,452)	There is no exact amount to define the declaration of a Snow Emergency. Typically, a 4-5" snowfall will be enough to require one but previous accumulations, forecasted weather conditions and time of year all come into consideration when making decisions Total lane miles: 3,200 lane miles Alley miles: 3,700 alleys (about 400 miles)		3,700 alleys (about 400 miles) are plowed in 12 hours	Equipment: 39 tandem-axle dump trucks with sander units and plows; 15 tandem-axle dump trucks with plows; 15 single-axle dump trucks with sander units and plows; 3 motor graders; and 12 front-end loaders with spade-nosed buckets or plows. To round out the fleet, 15 motor graders and four front-end loaders equipped with front and side plows are rented for the winter season and staffed by City operators. To accomplish the alley plowing in the shortest time frame, 20 front-end loaders with operators are contracted on an as-needed basis.
Faribault, MN (Pop. 23,577)	Snowplowing normally begins when accumulation reaches a point where functional traffic flow is inhibited. Plowing continues as long as visibility and operator safety is maintained. Total miles: 130 miles of roadways	i) Arterial and Collector Streets ii) School Zone Streets iii) Residential Streets and Alleys iv) City Parking Lots v) Pedestrian Trails and Sidewalks vi) Skating Rink Facilities	For an "average storm," it is the policy of the City to have all streets plowed curb-to-curb within 18 hours after snowfall stops. A "non-average storm" is plowed curb-to-curb within 24-36 hours based on when snowfall stops.	

City	Level of Service	Order of Operations	Timing	Equipment
<i>Cities that plow alleys</i>				
Farmington, MN (Pop. 22,502)	<p>Services depend on the start and end time of the snowfall and its intensity. The following are the factors that determine when snow removal and de-icing should begin:</p> <ul style="list-style-type: none"> - Snow accumulation of 2" or more - Drifting snow or icy conditions - Time of snowfall in relationship to use of streets <p>Responsible for 83.37 miles of city streets</p> <p>Total miles: 93 miles</p> <p>Alley miles: between 6-8 miles</p>	<p>Streets are classified based on function, traffic volume, and welfare to the community.</p> <ul style="list-style-type: none"> i) Primary routes: Streets that have high volumes of traffic and connect major sections of the city. ii) Low volume residential streets. iii) Cul-de-sacs. iv) Alleys. v) City parking lots. 		<p>The city clears 83.37 miles of city streets and uses seven plows, one grader, and one loader.</p>
Edina, MN (Pop. 50,603)	<p>Services begin when there is:</p> <ul style="list-style-type: none"> - Snow accumulation of 1.5" or more - Drifting of snow or icy conditions 	<p>Streets are classified based on the street function, traffic volume, and importance to the welfare of the community.</p> <ul style="list-style-type: none"> i) Red Routes: High-volume routes that connect major sections of the City and provide access for emergency fire, police, and medical services. ii) Streets providing access to schools and commercial businesses. iii) Low volume residential streets. iv) Alleys and City parking lots. 		
Wayne, NE (Pop. 5,557)	<p>Plowing all streets within 12 hours of a 2" snowfall</p> <p>Total miles: 34 centerline miles</p> <p>Alley miles: 2 centerline miles</p>	<p>Business and residential streets are cleared first and alleys last</p> <p>Residential alleys are normally cleared only after significant drifting or a snowfall of 6" or more</p>	12 hours	

City	Level of Service	Order of Operations	Timing	Equipment
<i>Cities that plow alleys</i>				
Duluth, MN (Pop. 86,066)	Services begin when snow accumulation or icing occurs on Priority 1 streets and shall continue periodically throughout the snowfall. - All priority 1 streets shall be open to traffic (two lanes) within 36 hours after the snowfall subsides. - All Priority 2 streets shall be open to traffic (one lane) within 48 hours after the snowfall subsides. - All Priority 3 public alleys shall be opened and made passable within 56 hours after the snowfall subsides.	<i>i)</i> Main arterials: High-volume streets with a higher probability of accidents <i>ii)</i> Residential streets: Streets that are lower volume <i>iii)</i> Alleys: Plowed once main arterials and residential streets have been cleared.		
Burlington, WI (Pop. 10,652)	Services begin when the snowfall exceeds 3"	<i>i)</i> State highways <i>ii)</i> Major streets <i>iii)</i> Secondary streets <i>iv)</i> Parking lots and alleys		
Gunnison, CO (Pop. 6,250)	Normal storm: The small loader will bucket out the alleys to the closest street and dump snow in the City right of way. Heavy storm: The small loader will bucket out the alleyways and dump into one of the tandem dump trucks assigned to the alleys during that snow event. Snow will then be hauled off to one of the designated storage sites. Total miles: 120 lane miles	<i>i)</i> Main streets and Emergency routes. School bus routes are considered first priority. <i>ii)</i> Main arterials and collectors <i>iii)</i> Residential streets <i>iv)</i> Trails <i>v)</i> Alleys will be plowed concurrently with other priorities as much as possible.		The small loader uses an 8'-4" bucket to open the alleyways

City	Level of Service	Order of Operations	Timing	Equipment
<i>Cities that do not plow the alleys</i>				
Joliet, IL (Pop. 148,172)	Services begin when there is a measurable accumulation of snowfall or if the winter mix is causing a hazardous driving situation such as freezing rain. Responsible for over 500 miles of roadway. Total miles: 510 miles	<ul style="list-style-type: none"> i) Major Arterials, hospital routes, hills, and the bridges ii) Subdivision mains and collector streets iii) All remaining subdivision streets iv) Cul-de-sacs and dead ends v) The City does NOT plow alleys 	Clear all streets within 24 hours after the snow stops falling	A fleet of 34 snow plow trucks and a crew of 32 employees
Dubuque, IA (Pop. 58,410)	Services begin when there is snowfall accumulations of more than 6", motor graders and plow-equipped wheel loaders may be dispatched to assist with plowing operations.	<p>All improved streets (publicly-owned streets) within city limits are plowed and treated when necessary before, during and after a winter snow or ice storm. Alleys are not included in the program (except those in the downtown business district and those alleys that serve as sole access to a residence).</p> <p>Within the zones:</p> <ul style="list-style-type: none"> i) Primary streets are plowed and treated continuously until they are open for vehicular traffic. ii) Then the secondary streets. iii) Finally, all other streets in each zone or route are opened for vehicular travel. 	Clear all improved streets within 48 hours of the cessation of a winter storm	14 city plow/spreader trucks assigned to one of 14 City zones or routes. Personnel: 28 Public Works Department personnel are assigned as plow/spreader truck operators. When budget allows, plows and operators may also be hired from the private sector.

City	Level of Service	Order of Operations	Timing	Equipment
<i>Cities that do not plow the alleys</i>				
Milwaukee, WI (Pop. 599,086)	Responsible for 1,475 miles of City streets	After streets are safe and passable, alternate side parking, crosswalks, bus stops, and intersections are addressed. Does not plow the alleys.	Have all main streets safe and passable 18-24 hours after a snowfall.	
Englewood, CO (Pop. 33,155)	De-icing trucks are dispatched for accumulations up to 4"; with a forecast calling for continued accumulations, snowplows and road graders are then dispatched to begin clearing the grid streets. Responsible for 340 lane miles of streets.	<p>i) Primary grid streets: streets or avenues that are considered main thoroughfares, as well as roadways adjacent to schools and hospitals. They are plowed to full lanes during the storm.</p> <p>ii) Secondary grid streets: streets or avenues that create links to the primary grid streets.</p> <p>*Residential streets: Are not plowed or de-iced unless they have steep hills with chronic icing problems, or a snow emergency is declared. When accumulations are above 8", the centers of all residential streets are "V" plowed.</p> <p>*Alleys: Are not plowed, except after a major storm.</p>		The street crew consists of 11 full-time staff members with 13 pieces of large equipment available. When budget allows, plows and operators may also be hired from the private sector.

City	Level of Service	Order of Operations	Timing	Equipment
<i>Cities that do not plow the alleys</i>				
Chicago, IL (Pop. 2,722,586)	The routes consist of city main streets, neighborhood streets, and Lake Shore Drive. Responsible for maintaining 9,400 lane miles.	<ul style="list-style-type: none"> i) Main routes and Lake Shore Drive. ii) Side streets are addressed once arterial streets are patrolled. 		Side streets are cleared by full-size Snow Fighting Trucks. Narrowest side streets are cleaned by a fleet of over 20 smaller plows, which includes 4x4 pick-up trucks with plows and heavy salt capacity. For major snowstorms, 200 garbage trucks with "quick hitch" plows are also equipped. In addition, heavy equipment and labor are available from other municipal departments for snow clearance during and after a blizzard.
Noblesville, IN (Pop. 59,807)		<ul style="list-style-type: none"> i) Primary: Main thoroughfares, classified as arterials, hills, and bridges. ii) Secondary: Main streets through subdivisions, roads that link arterials and streets with schools. iii) Alternates: Minor residential streets, side streets and cul-de-sacs. <p>*Normally, the city does not plow alleys. During heavier snow accumulations, the need for plowing alleys will be evaluated to assist with the collection of garbage and to assist residents with travel.</p>		12-hour shifts, using as many as 30 snow plows, 18 salt spreaders, and 6 brine application trucks, when necessary.

Notes: ¹ Population retrieved from FactFinder, Total Population. ² The city of Berwyn could begin plowing alleys when snow reaches 5". ³ The city of Minneapolis has an average cost of the snow and ice control effort of \$13 million for a "normal" winter season. **Source:** Information retrieved from the websites of the Department of Public Works of each city (see Appendix B).

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Appendix C Alley Plowing Operations in the City of Minneapolis

If St. Paul considers the adoption of citywide organized alley snow plowing, it would be important to know the approaches and experiences that other cities have had when providing alley plowing services to their residents. To this end, the research team explored how alley plowing services work in the City of Minneapolis. This also addresses the comments of several survey respondents who suggested to explore alley plowing functioning in Minneapolis. As part of the exploration mentioned above, the research team conducted an informational interview with Michael Kennedy, Director of Transportation Maintenance and Repair, and Steve Collin, Street Maintenance Engineer from the Department of Public Works from the City of Minneapolis on June 24th.

The City performs snow and ice control in 3,700 alleys that are about 400 miles.¹⁴ Around 95 percent of alleys are 10 to 12 feet wide, paved in concrete, and V centered shaped cross sections, most of them built by the late 1950s. About 90% of the alleys follow the grid system of the city (are straight), and the other 10% are more complex (T, H, L, or S-shaped alleys). The City has two main reasons to plow and maintain the alleys. First, since the City manages solid waste and recycling collection services, winter maintenance of alleys provides consistent access and safety for workers. Second, to provide access to garages that are off the alleys, so residents can get cars off of streets during snow emergencies.¹⁵

Operations: Snow and ice control comes in two general forms: City-wide comprehensive plowing only, and follow-up or general maintenance that may include material application for de-icing for traction.

- Alley plowing is always done in conjunction with Snow Emergency. It is done using the contractual services but managed by City staff. It is a comprehensive citywide alley plowing done in a 12-hour standard.¹⁶ Plowing frequency is based on the particular snowfall. That is, sometimes alleys are plowed twice, once at the beginning and once at the end of a snow emergency, depending on the timing and amount of snowfall, and/or if it is desired to clear open the approaches plowed back in by street plows. During this phase, there is no application of salt or sand. Comprehensive alley plowing may also be done independently of a Snow Emergency after the accumulations of minor snowfalls.

Typically, there are four snow emergencies, and alleys are plowed six times in a season.

¹⁴Plowers may count alleys differently. Based on their calculations, there are around 4,100 alleys, as alleys with complex shapes may be counted as more than one. For instance, T shaped alleys are counted as two as they take two physical passes to complete.

¹⁵For the City of Minneapolis, there is no exact amount of snowfall to declare a Snow Emergency. Typically, the City declares a Snow Emergency after a four-inch snowfall, but previous accumulations and forecasted weather conditions are considered when making the decision.

¹⁶In 1988, the City shifted from a 24-hour standard to a 12-hour standard for alley plowing. This resulted in the need to outsource for services as the City did not have the resources to continue in-house.

- Maintenance plowing is on an as-needed basis and performed with in-house resources. If snow has accumulated from a few snowfalls and warrants plowing, or snowpack and icy conditions hamper access for residents and safe operations for solid waste collection staff, then alleys are addressed. During these operations, a combination of front loaders, or trucks with material spreaders will be used to scrape or remove ice and to treat approaches, hills, curves, and intersections with sand for traction. When temperatures are favorable, straight salt may be applied to enhance the service level. Maintenance plowing is scheduled one day before the solid waste and recycling collection schedule. For example, if solid waste and recycling are scheduled to be picked up on Tuesdays, alleys are plowed on Monday or Tuesday morning (by the night shift). Maintenance plowing also includes responding to complaints on an as-needed basis.

Service Delivery: The City contracts out the alley plowing services. Contractors provide front-end loaders and operators to provide alley plowing services to five service areas. They are responsible for damage claims by residents as part of the contract. The contract includes specifications about the equipment required for alley snow plowing services,¹⁷ requires all operators to be equipped with a portable telephone for communications and discusses work procedures¹⁸ and insurance requirements among others. The contractual basis of payment is on a straight hourly rate basis.

For the previous contract over two seasons, the City had two contractors, one of them provided 20 loaders and the other provided three. Each loader plows 200 alleys per night, on average. Contracts have historically been for one or two seasons, with an option of an annual extension for another one or two seasons. The contract duration is changing for the upcoming bid to a 3-year contract.

Contractors work under the direct supervision of Public Works, Street Maintenance, commonly called the Street Department. For this purpose, the Street Department has 15 alley plow supervisors (3 per service area) plus one manager that oversees the whole operation including the downtown area.

Some of the benefits of having outsourced alley-plowing services are cost-effectiveness, and consistency in the level of service provided to the residents. A very rough estimate of the cost to property owners for alley snow and ice control is that the average seasonal expenditure is approximately \$1,500,000. When spread over some 100,000 parcels that are served by alleys, it comes to about \$15 per property, per season.

¹⁷The equipment is required to be equivalent in size, weight, and horsepower to a Cat938 or Volvo L90 loader, and must be capable of exerting down pressure while plowing. The equipment must be equipped with a four-in-one bucket or a 2 ½ c.y. Capacity: all shall have a spade nose cutting edge attachment on the bucket that is not less than 96 inches or greater than 110 inches wide.

¹⁸Alley plowing is usually performed 4 to 8 times each winter. Each call out will be to work on a minimum of 8 hours and more likely to be 10- to 12-hour shift of work, or more in extreme cases.

Challenges mentioned by the City include the lack of competition related to outsourcing alley plowing services (the City used to have 3-4 contractors bidding for alley plowing services but now it relies on two). It accounts for the risks related to the dependence on only two vendors and is a factor in bid high prices for the service. In addition, the City requires contractors to apply down pressure when plowing alleys, however, contractors do not always do it because it can damage the equipment. The City also indicates that they receive some complaints regarding snow windrows created while plowing alleys, and about property damage. Snow windrows are the responsibility of the residents, just like driveway windrows, while contractors are responsible for property damages per contract language.

The City also noted that because comprehensive or maintenance plowing is not performed after every snow event, there will be times when there are successive smaller events with varying freeze-thaw cycles, and alleys accumulate a significant build-up of snow and ice pack. This may lead to slippery conditions, and wheel ruts that hinder turning movements of vehicles. Public Works will need to apply sand or other abrasives for traction. These conditions will also be consistent across the City, and some people may perceive a loss in service level compared to what they provided for themselves in the past. These conditions may persist until temperatures allow for plows to break bonded ice or remove some softened ice pack.

Funding: The total snow budget for the City is around \$12 million, of which \$1.5 million are used for alley plowing (about \$1 million goes to the contractors). All the funding comes from the general fund (mostly from property taxes). When the costs of snow and ice control efforts are higher than expected, the City can first balance resources within the general fund, or use resources from the contingency fund.

Appendix D Survey Form

The next pages contain the paper survey form that was distributed to 250 properties in St. Paul. The online survey included the same questions as well as one additional question: “Do you live in St. Paul?”

Alley Snow Plowing in St. Paul

The City of St. Paul does not plow alleys in winter. Residents in St. Paul usually work with their neighbors to hire private contractors for alley snow plowing. Currently, the City is exploring the options to provide this service.

Researchers from the Humphrey School of Public Affairs at the University of Minnesota worked together with the City of St. Paul to develop this survey. The purpose of this survey is to capture perceptions and concerns of the residents in the city as well as get feedback as to preference for any future change with associated costs.



This survey is anonymous and will take about 10-15 minutes to complete. If you want to take this survey online, scan the QR code on the right. We greatly appreciate you taking the time to respond to this survey. Your feedback is valuable to the City for developing its next steps.

Please put your completed survey in the pre-paid envelope, and put it in the mail by May 3.

Need this translated? Call us at 651-266-6100
 ¿Necesita esta traducción? Comuníquese con nosotros al 651-266-6100
 Ma u baahan tahay tarjamadaan Nago soo wac 651-266-6100
 Xav tau qhov no txhais los? Hu rau peb ntawm 651-266-6100

1. Do you have an alley?
 - (a) Yes
 - (b) No (**go to question 14**)

2. On a scale of 0 to 10 with 0 being extremely poor and 10 extremely good, overall, how would you rate the condition of your alley?

0	1	2	3	4	5	6	7	8	9	10
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3. In what ways do you use your alley? (select all that apply):
 - I access my garage through the alley
 - The City picks up recycling from the alley
 - The City picks up the garbage from the alley
 - Emergency vehicles (e.g. fire trucks, police, ambulance) have access through the alley
 - Other (please specify): _____

4. What is your current alley snow plowing arrangement?
- (a) We have an "alley-plow captain" or coordinator. A neighbor collects money from all neighbors in the block and coordinates alley plowing with a private contractor.
 - (b) A neighbor plows the alley and collects money from the neighbors.
 - (c) A neighbor plows the alley free of charge.
 - (d) None. Our alley is not plowed at all. **(go to question 11)**
 - (e) Other (please specify): _____

5. How often do you participate in this arrangement?

- (a) Every year
- (b) Some years
- (c) Never

6. How often does your alley get plowed?

- (a) After each snowfall
- (b) After a 2 inch snowfall
- (c) After a 3 inch snowfall
- (d) Only when the City calls a snow emergency*
- (e) More than once after a snowfall of ____ inches
- (f) Other (please specify): _____

**The City of St. Paul declares a snow emergency after snowfalls of 3 inches or more to remove snow from the roads.*

7. How fast does your alley get plowed?

- (a) Overnight
- (b) Within 6 hours
- (c) Within 12 hours
- (d) Within 24 hours
- (e) Other (please specify)_____

8. How much do you pay compared to your neighbors?

- (a) We all pay the same amount
- (b) We pay based on the amount of alley front footage
- (c) I pay less because I do not use the alley
- (d) I pay more because I do use the alley

9. How much does alley plowing cost you on average per season?

- (a) It gets plowed for free

- (b) \$1-\$14
- (c) \$15- \$24
- (d) \$25- \$34
- (e) \$35- \$49
- (f) \$50-\$99
- (g) \$100 or more

10. How has the price changed in recent years?

- (a) It has stayed the same for the past 3 years
- (b) It has increased every year
- (c) It has decreased every year
- (d) It varies every year based on snowfall

11. What are some of the benefits of your current arrangement? (select all that apply):

- The cost is reasonable
- The service is reliable in quality
- The service is reliable in timeliness
- The price is flexible
- Alley gets plowed often or every once in a while
- Alley gets plowed quickly after a snowfall
- Other (please specify): _____

12. What are some of the challenges of your current arrangement? (select all that apply):

- It is expensive
- The service is not reliable in quality
- The service is not reliable in timeliness
- Some neighbors do not pay
- No one volunteers to organize the service with a private contractor
- It is difficult to find contractors
- Some contractors have strict requirements regarding participation, parking etc.
- Other (please specify): _____

13. On a scale of 0 to 10 with 0 being extremely dissatisfied and 10 extremely satisfied, overall, how satisfied are you with your current arrangement?

0	1	2	3	4	5	6	7	8	9	10
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If the City were to plow the alleys, it may affect your property taxes even if you do not have an alley. Please answer the following questions.

14. Considering your experiences with alley plowing, should the City of St. Paul provide the service?

- (a) Definitely, yes
- (b) Definitely, no
- (c) Either way, I do not have a strong preference
- (d) It depends (please specify) _____

15. Why should the City plow the alleys? (select all that apply):

- I believe it will ensure that all alleys will get plowed
- I believe it will help with my garbage and recycling collection
- I believe it will alleviate the burden on the "alley captains"
- I believe the cost will be lower
- I believe it will improve efficiency
- I believe it will ensure that everyone pays
- I believe it will enforce quality
- I believe it will enforce payment
- Other (please specify): _____

16. Why the City should **NOT** plow the alleys? (select all that apply):

- I believe my current arrangement is better than the service that the City will provide
- I believe alleys would not get plowed as often if the City provides the service
- I believe the costs will be higher if the City provides the service
- Other (please specify): _____

17. If the City were to plow the alleys, how often do you expect them to plow alleys?

- (a) After each snowfall
- (b) After a 2 inch snowfall
- (c) After a 3 inch snowfall
- (d) Only when the City calls a snow emergency*
- (e) Other (please specify) _____

** The City of St. Paul declares a snow emergency after snowfalls of 3 inches or more to remove snow from the roads.*

18. If the City were to plow the alleys, how fast do you expect the alleys to get plowed?

- (f) Overnight
- (g) Within 6 hours

- (h) Within 12 hours
- (i) Within 24 hours
- (j) Other (please specify): _____

19. If the City were to plow the alleys, in what order would you expect the alleys to get plowed?

- (a) At the same time as main streets
- (b) Soon after main streets
- (c) At the same time as residential streets
- (d) Soon after residential streets

20. If the City were to plow the alleys, how do you imagine the service to be provided?

- (a) Administered and delivered directly by the City
- (b) Administered by the City, but delivered through private contractors
- (c) Other (please specify): _____

21. If the City were to plow the alleys, how much would you be willing to pay for it annually on your property tax?

- (a) Less than \$15
- (b) \$15-\$24
- (c) \$25-\$34
- (d) \$35-\$44
- (e) \$45-\$54
- (f) \$55-\$99
- (g) \$100 or more

22. Age:

- (a) Less than 18
- (b) 18- 22
- (c) 23- 35
- (d) 36- 50
- (e) 51- 65
- (f) 65 or over

23. Which of the following do you identify as?

- (a) Hispanic or Latino
- (b) White
- (c) Black or African American
- (d) American Indian or Alaska Native

- (e) Asian or Asian American
- (f) Pacific Islander
- (g) Other (please specify): _____

24. Do you rent or own your home?

- (a) Rent
- (b) Own

25. What is your zip code?

26. How long have you lived in St. Paul?

- (a) Less than one year
- (b) 1 - 3 years
- (c) 4 - 10 years
- (d) More than 11 years

27. How much is your annual household income?

- (a) Less than \$10,000
- (b) \$10,000 to \$14,999
- (c) \$15,000 to \$24,999
- (d) \$25,000 to \$34,999
- (e) \$35,000 to \$49,999
- (f) \$50,000 to \$74,999
- (g) \$75,000 to \$99,999
- (h) \$100,000 to \$149,999
- (i) \$150,000 to \$199,999
- (j) \$200,000 or more

28. Please provide any other comments or suggestions you may have below: