TO: Ann Arbor City Council
CC: Milton Dohoney, Interim City Administrator; Marti Praschan, CFO; Craig Hupy, PSSAA; Sara Higgins, Strategic Planning Project Coordinator
FROM: John Fournier, Assistant City Administrator
RE: Winter Sidewalk Maintenance
DATE: 11/19/21

In this memo I provide an analysis of the feasibility of creating a winter sidewalk maintenance program in the City of Ann Arbor in response to Council Resolution 21-0421. The resolution asks the City Administrator to provide advice on the following issues:

- Review, assess the feasibility, and propose cost estimates and strategies for a municipal sidewalk snow removal program;
- Review the City's snow removal policies and strategies and recommend adjustments to our operational model to address identified deficiencies that would make the pedestrian transportation network safe and consistently accessible to all users during the winter. An immediate goal should be to eliminate snow piles in crosswalks, sidewalk ramps, crossing islands and impeding access to bus stops. Recommended solutions should include, but are not limited to:
    - Strategies for addressing problems by zone/area of the City (e.g., DDA, residential neighborhoods, commercial and transit corridors); and
    - Immediate remedies that can be implemented by the winter of 2021-2022, such as changes to city ordinances, enforcement strategies, and/or changes in city operations.

The resolution also directs the administrator to take action on the following items:

- Pilot solutions, preferably along a major transit corridor(s) and in the DDA, during the winter of 2021-2022 and report back to Council on the success of these pilot operations; and
- Conduct community engagement strategies to determine the level of community support for municipal sidewalk snow removal and preferences for a funding source, such as a millage or user fee.

Baseline Operations

To start, it is important to understand a general baseline of what our current operations are. The City plows or treats approximately 350 lane miles of major streets, 400 lane miles of residential streets, and several miles of protected bike lanes when we experience winter weather conditions. In advance of winter weather, the City will treat as many roads as it can with either rock salt or a liquid brine (which we have favored in recent years for environmental reasons).

If more than four inches of snow falls, we will begin plowing activities with a primary focus on trunk lines, major roads school routes, hills, known trouble spots for poor driving conditions, and the next day's trash collection routes. Once these routes are clear, the city focuses on the remaining residential streets. Bike lanes that are not separated are plowed with the street. Bike lanes that are separated are treated within 24 hours of the end of a snowfall event. In events less than 4", the City addresses major roads, protected bike lanes and trouble spots. Residential roads are then then treated as needed.

When the City is activated for a winter weather event, we draw staff from both Public Works, Engineering-Transportation, and Parks Operations to drive trucks for treating and plowing roads. The maximum number of people and equipment available for each event is dependent on variables

such as staff availability, time and duration of the event, overlap with other emergency work such as water main breaks, and equipment downtime. Additionally, one street maintenance technician is now assigned to clearing protected bike lanes as these hold the same clearing priority as roads.

In a large snow event public works moves to continual 12-hour shifts until the roads are clear. The maximum number of staff the City can realistically activate during one 12-hour day shift to clear streets is between 25-29 depending on worker availability. This includes up to 2 people from Parks Operations and Signs and Signals who assist with road plowing. On the night shift we may activate 20 or fewer employees depending on staff availability. In a large snow event Parks Operations may loan up to four trucks to assist in plowing.

Once Parks Operations staff are done with their street clearing assignments, they will begin clearing up to 57.2 miles of sidewalks, 35 of which are in city parks and 22.2 of which are not. For instance, Parks Operations clears sidewalks along some portions of South Main Street, Washtenaw, Plymouth Road, Pauline, Huron Parkway, and Eisenhower usually because these sidewalks are adjacent to or immediately affronting city parks or city owned property. These stretches of sidewalk represent about one third of the total sidewalk clearing activity completed by Parks Operations. It is worth noting that understanding how Parks Operations swings between street and sidewalk clearing, and what set of sidewalks they are clearing now will be important to understand some of the included proposals.

Feasibility and Financial Analysis: Defining Areas of Service

The first objective laid out by the Council resolution is to discuss the feasibility and costs associated with a winter sidewalk maintenance program, and following those directions staff prepared an economic model and applied it to several different program options that theoretically would provide the services Council has requested. Each of these options divide the City into four areas and propose specific solutions for each area. These areas are:

Downtown

This area encompasses the DDA district in its entirety. Our recommendation for downtown sidewalk clearing in all circumstances is to work with the current model, where the Main Street Biz, merchant associations and larger institutional buildings/employers (such as apartment buildings, or buildings owned by the University of Michigan) clear sidewalks in a patch-work of activity that generally results in clear sidewalks in a timely manner. Improvements to service would be made by working with the BIZ, merchant associations and building owners to ensure better clearing of curb ramps and cross-walks and continued timely clearing of sidewalks. The city could also explore adding downtown curb cut and cross-walk clearing to Parks Operations assignments in the days after a snow event to ensure that pedestrian routes remain clear and safe.

Major street sidewalks

Staff identified 47 miles of major street sidewalks to include in this category, largely based on the location of major bus routes in the city (as identified by the AAATA). Streets included in this category are Dexter Road, Huron Street, Industrial Highway, Miller Avenue, Packard Street, Pauline

Boulevard, Plymouth Road, Pontiac Trail, South Main Street, South State Street, Stone School Road, and Washtenaw Ave.

Our recommendation for this group of sidewalks varies by scenario, but in each instance we propose a robust solution to address this infrastructure. Should this program ultimately be pursued by the Council we would recommend that public dollars should be prioritized to focus on these sidewalks because of their importance to the transit network. However, it is also important to recognize that many of these sidewalks are in front of businesses and so by prioritizing these sidewalks the City would be subsidizing the obligations of businesses to clear sidewalks to a greater degree than residents.

<u>City owned facilities and parks</u>

Currently the city clears some pedestrian crosswalk islands, sidewalks and paths totaling 57.2 miles for each snow event. Thirty-five of these miles are in city parks while 22.2 miles are not. Generally speaking, Parks Operations prioritizes paved paths and sidewalks, though currently not all of them are cleared off for each snow event. Parks prioritizes keeping a single pedestrian through-way clear in each direction within each park rather than clearing every paved path in a park, which means that paths that help pedestrians traverse a park are cleared but paths that lead to seasonal features, do not provide through-way travel, or are redundant for through-way travel are not cleared. Unpaved paths or trails are not maintenanced during the winter.

The City Council resolution directs that these paths and sidewalks be prioritized for clearing with roads, and so this memo explores various cost or operational models for achieving this prioritization. However, we are not proposing to expand the universe of parks paths that are cleared at this point.

<u>Residential sidewalks</u>

The largest area of sidewalk in the city is the combined network of residential sidewalks, which includes everything left over that is not downtown, along a major corridor, or related to a park, or that is not a part of a college campus. We estimate this network of sidewalks to total 385 miles in length (432 miles total including sidewalks along major streets). Among the various models we propose either a full-service city staffed snow clearing operation, a city-paid contracted sidewalk clearing operation, or a city-backed pay-for-service vendor who residents can voluntarily contract with.

Feasibility and Financial Analysis: Assumptions

We present six models for service delivery of sidewalk clearing that vary in ambition, scope, and cost. It is important to keep in mind that for each of these scenarios, the cost is sufficiently large that each would require the City Council to identify additional dedicated revenue or specific cuts to existing programs. Stated another way, we cannot carry out an effective pedestrian infrastructure snow maintenance program in Ann Arbor with existing resources while maintaining existing levels of service in other critical areas.

Additionally, providing these services in any configuration requires either hiring substantially more employees or procuring a significant amount of contracted labor, and staff cautions that both of these scenarios may not be feasible at this moment in time. In the current labor market, the City is already struggling to hire public works staff for existing positions. While labor market conditions will likely improve for employers at some point in the future, under current conditions it is unlikely that we would be able to hire the necessary people to effectively manage these programs with internal staff. In terms of contracted labor, staff cannot say with certainty that there is enough contractor capacity to meet the demand created by this program. We are recommending a request for information process to determine contractor interest and capacity, and detail this proposal later in this memo.

Nonetheless, the proceeding analysis has been drafted without regard for budget constraints, labor market favorability, or contractor capacity and instead we focus only on analyzing the size and scope of new city programs that would be needed to meet the additional services the City Council is considering. Further discussion and direction will be required from the City Council before any of these program options could be pursued.

We made several important assumptions in crafting these scenarios. First, we assume that we will only deploy city resources to clear sidewalks if accumulations total one inch or more, and our performance standard is to have all included sidewalks clear within 24 hours after snow has stopped falling. According to the National Oceanic and Atmospheric Administration, the City of Ann Arbor averages 17 snow events annually that exceed one inch of accumulation, though that number could be as high as 25 and as low as 10. For planning purposes, our model assumes 25 applicable snow events annually. This is most relevant for the scenarios where we evaluate the use of contracted labor. The number of snow events still impacts the financial estimates for scenarios where we evaluate the use of full-time or temp labor because the number of snow events directly corresponds to the estimates of overtime hours needed annually, however while this financial impact is important it is probably not dispositive for consideration of these alternatives. Similarly, Ann Arbor's snow season extends from October through April, a seven-month period, and so in the scenarios where we evaluate the use of temporary labor for the program, we assume temps would be employed for seven months.

In some of the scenarios presented, the city must acquire additional snow clearing equipment. In these instances, "fleet" costs are added annually to the cost calculation. When the city acquires a new piece of equipment, which is to say a vehicle of any type that is not a replacement of an existing piece of equipment but a true expansion of the city's fleet, the hosting department pays the entire cost of the acquisition. Once the vehicle is acquired, the hosting department pays an annual amount of funds into the city's fleet fund that is calculated by dividing the estimated cost of replacement of the vehicle by the number of years until the piece of equipment is due for replacement. Therefore, when the vehicle needs to be replaced the cost has been prepaid into the fleet fund and the impact to operating budgets is minimal. Additionally, the city began charging a green fleets fee to departments to pre-fund the additional cost of converting our light vehicles to battery powered or alternative fuels vehicles when the technology becomes available. Each of these costs are critical to the successful management of our city's fleet activities.

The scenarios presented are organized in terms of which are the least resource intensive and escalate to the scenarios that are the most resource intensive. The financial scenarios are also presented over two fiscal years, to capture the startup costs in year one and the labor, operating, and maintenance costs in year two and all figures are presented in 2021 dollars.

Scenario 1: Contracted Labor with Focus on Major Thoroughfares
Total two-year cost: $1,291,179

In this scenario, the City would contract with vendors to clear sidewalks, curb cuts, and cross walks along 47 sidewalk miles of major transit corridors and in city parks. In our model, this service would include the cost of returning service after the storm was over to make sure that curb cuts and cross walks remain free of snow (though it is important to Note that in Grand Rapids when they attempted to include return services in their RFP, no contractors bid on the work). City parks would be cleared by contractors because Parks Operations staff would continue to be dedicated to street clearing activities during a snow event, however the Council has asked that parks be prioritized at the same time as city streets, and so we need to hire additional labor to complete these two tasks concurrently. In the residential neighborhoods and in the downtown, the City would undertake a more active education and enforcement campaign to encourage compliance with the city's sidewalk clearing ordinance, but would not directly manage labor to clear pedestrian infrastructure of snow in these areas.

In addition, the City could create a recommended vendor program and through its enforcement and education program encourage city property owners who are chronically unable to clear their sidewalks to contract with the vendor for snow clearing service. It is notable that this program would be entirely voluntary. At this point, it is unknown what the cost to residents would be for this program as it would have to be negotiated with the vendor. However, the cost to the City would be minimal.

This program is estimated to cost the city $1,291,179 over two years, but this estimate has high elasticity. We based the financial model on the cost per mile experienced by other Cities who have run a municipal sidewalk clearing program, including Grand Rapids, MI, Rochester, NY, Syracuse, NY, East Dundee, IL, St. Charles, IL, and the Snow Buddy program here in Ann Arbor. These cities all offer some version of municipal sidewalk clearing, but it varies by municipality. Some cities only clear the sidewalks during major snow events, some only clear a small portion of their sidewalk network, and some have only done the program as a pilot and have not formalized longer term agreements with vendors that might be more expensive. Most of the cities require some level of resident participation, whether it be salting or removing the last 1" of snow. Some of these cities told us that what kept them from expanding their program to a larger footprint in their communities was contractor capacity, which is notable for Ann Arbor. With these important caveats in mind, the average cost per mile per event of these cities is $202.41 and this is the amount used for our analysis. It bears repeating, that we provide this figure with the caveat that it comes with high elasticity and a more reliable figure would not be possible until we engaged in a bidding process for information gathering.

It is also important to consider that if contractor capacity is an issue for this scenario, which we suspect it would be, then building this program over time would involve some growing pains. We

would need to work with a contractor or contractors while they built capacity and learned to manage a large snow clearing operation such as this one. We would also likely need to make investments in our customer service operation so we could adequately field calls related to unsatisfactory service from a snow clearing contractor and deal with them in a timely manner.

Under this scenario we would recommend adding two supervisors who would work together to manage the vendor or vendors required to clear our pedestrian infrastructure along major corridors, work with merchants downtown to improve snow clearing, and work with residents to ensure compliance with our snow clearing ordinance.

Finally, it should be noted that anytime major work is proposed to be completed by contractors who work alongside unionized employees we must be very sensitive to our obligations under our collective bargaining agreements. Pursuing this option may require some bargaining with our unions, and some work arrangements that might add costs above and beyond what is projected in this memo.

Scenario 1 Cost Breakdown

Major Thoroughfares	$237,832
Parks	$177,109
Public Works Supervisors	$221,108
Year 1 Costs	$636,049
Year 2 Costs	$655,130
Total Two-year Cost	$1,291,179

The cost of this scenario can be lowered if we lower the level of service the city is guaranteeing. The above costs assume a maximum of 25 snow events a year at one inch in depth or more. Ann Arbor averages five snow events of three inches in depth or more, with a maximum of 10 per year. Using an assumption of 10 events, and only guaranteeing service at three inches or more, the costs would change in the following manner:

Scenario 1 w/ Lower Level of Service Cost Breakdown

Major Thoroughfares	$95,133
Parks	$70,844
Public Works Supervisors	$221,108
Year 1 Costs	$387,085
Year 2 Costs	$398,698
Total Two-year Cost	$785,783

Scenario 2: Contracted Labor with Focus on Neighborhoods and Major Thoroughfares
Total two-year cost: $5,246,017

This scenario is identical to Scenario 1, except the City would contract with vendors to clear the entire 432 miles of neighborhood and major street pedestrian infrastructure instead of the City relying on education, enforcement, and recommended vendors to support better snow clearing in the residential neighborhoods. All of the same caveats exist with this scenario as do with Scenario 1,

except that concerns about contractor capacity are heightened given the much larger footprint of pedestrian infrastructure that we are proposing to clear.

Scenario 2 Cost Breakdown

Neighborhoods / Major Thoroughfares	$2,186,028
Parks	$177,109
Public Works Supervisors	$221,108
Year 1 Costs	$2,584,245
Year 2 Costs	$2,661,772
Total Two-year Cost	$5,246,017

The cost of this scenario can be lowered if we lower the level of service the city is guaranteeing. The above costs assume a maximum of 25 snow events a year at one inch in depth or more. Ann Arbor averages five snow events of three inches in depth or more, with a maximum of 10 per year. Using an assumption of 10 events, and only guaranteeing service at three inches or more, the costs would change in the following manner:

Scenario 2 w/ Lower Level of Service Cost Breakdown

Neighborhoods / Major Thoroughfares	$874,411
Parks	$70,844
Public Works Supervisors	$221,108
Year 1 Costs	$1,166,363
Year 2 Costs	$1,201,354
Total Two-year Cost	$2,367,717

Scenario 3: Temp Staff with Focus on Major Thoroughfares
Total two-year cost: $3,747,618

Under this scenario, the City would hire a staff of nine seasonal temporary employees who would work for seven months. During that time, they would clear 47 miles of pedestrian infrastructure of snow along our major thoroughfares and an additional three seasonal staff to clear 35 miles in our parks during snow events. We would also add two supervisors to manage these employees, work with downtown merchants to improve snow clearing activities, and pursue an education, enforcement, and preferred vendor program in our residential neighborhoods.

An important factor that would contribute cost to this option is the need to procure additional snow clearing equipment. The City would need to acquire approximately $1.1 million in additional equipment, with a $121,250 in annual operating and maintenance costs, $159,893 in annual fleet costs, and $53, 298 in costs related to our green fleets policy.

There would also likely be additional costs to the City beyond the costs associated with snow clearing. We would be hiring new employees with the intent of clearing sidewalks for 25 snow events over seven months. There would be approximately 76-101 additional working days during their seasonal tenure with the city where they would be doing other work, and that other work will

have costs associated with it that at this point are unquantifiable but would almost certainly be impactful on the City's operating budget.

Finally, it should be noted that anytime major work is proposed to be completed by non-union employees who work alongside unionized employees we must be very sensitive to our obligations under our collective bargaining agreements. Pursuing this option may require some bargaining with our unions, or some work arrangements that might add costs above and beyond what is projected in this memo.

Scenario 3 Cost Breakdown

Major Thoroughfares and Supervisors	$737,693
Parks	$371,026
Operating, Maintenance, and Fleet Costs	$366,667
Startup Costs	$1,119,250
Year 1 Costs	$2,227,970
Year 2 Costs	$1,519,648
Total Two-year Cost	$3,747,618

Scenario 4: Full-time Staff with Focus on Major Thoroughfares
Total two-year cost: $6,083,644

Scenario 4 includes the City hiring nine full-time staff members to clear pedestrian infrastructure along the 47 miles of major streets and an additional three full-time staff to clear sidewalks and paths in parks. We would also add two supervisors to manage these employees, work with downtown merchants to improve snow clearing activities, and pursue an education, enforcement, and preferred vendor program in our residential neighborhoods.

The City would need to acquire approximately $1.1 million in additional equipment, with a $121,250 in annual operating and maintenance costs, $159,893 in annual fleet costs, and $53, 298 in costs related to our Green Fleets policy.

There would also likely be additional costs to the City beyond the costs associated with snow clearing. We would be hiring 14 new employees with the intent of clearing sidewalks for 25 snow events during the year. There would be an entire year of work days beyond that where these employees would complete additional work for the City, and that other work will have costs associated with it that at this point are unquantifiable but would almost certainly be impactful on the City's operating budget.

Scenario 4 Cost Breakdown

Neighborhoods, Major Thoroughfares and Supervisors	$1,313,069
Parks	$946,402
Operating, Maintenance, and Fleet Costs	$366,667
Startup Costs	$1,119,250
Year 1 Costs	$3,378,721

Year 2 Costs	$2,704,923
Total Two-year Cost	$6,083,644

Scenario 5: Temp Staff with Focus on Neighborhoods and Major Streets
Total two-year cost: $14,355,834

In this scenario, the city would hire 49 temporary employees to clear pedestrian infrastructure of snow in our residential neighborhoods and along our major thoroughfares. We would also hire an additional three employees in Parks Operations to clear paths and sidewalks in our parks, and add two supervisors to manage these employees and work with downtown merchants to improve snow clearing.

The City would need to acquire approximately $4.9 million in additional equipment, with a $563,162 in annual operating and maintenance costs, $703,143 in annual fleet costs, and $234,381 in costs related to our Green Fleets policy.

There would also likely be additional costs to the City beyond the costs associated with snow clearing. We would be hiring 49 new temporary employees with the intent of clearing sidewalks 25 times during the year. There would be an entire year of work days beyond that where these employees would complete additional work for the City, and that other work will have costs associated with it that at this point are unquantifiable but would almost certainly be impactful on the City's budget.

Scenario 5 Cost Breakdown

Neighborhoods, Major Thoroughfares and Supervisors	$3,441,138
Parks	$371,026
Operating, Maintenance, and Fleet Costs	$1,645767
Startup Costs	$4,922,000
Year 1 Costs	$8,734,164
Year 2 Costs	$5,621,669
Total Two-year Cost	$14,355,834

Scenario 6: Full-time Staff Focus on Neighborhoods and Major Streets
Total two-year cost: $21,946,883

In this scenario, the city would hire 49 full-time staff members to clear pedestrian infrastructure in our neighborhoods and along major streets, three additional staff members to clear paths and sidewalks in parks, plus two supervisors to manage these employees and programs, and work with merchants downtown to improve pedestrian infrastructure clearing activities.

The City would need to acquire approximately $4.9 million in additional equipment, with a $563,162 in annual operating and maintenance costs, $703,143 in annual fleet costs, and $234,381 in costs related to our Green Fleets policy.

There would also likely be additional costs to the City beyond the costs associated with snow clearing. We would be hiring 49 new employees with the intent of clearing sidewalks for 25 snow events during the year. There would be an entire year of work days beyond that where these employees would complete additional work for the City, and that other work will have costs associated with it that at this point are unquantifiable but would almost certainly be impactful on the City's budget.

Scenario 6 Cost Breakdown

Neighborhoods, Major Thoroughfares and Supervisors	$6,605,195
Parks	$946,402
Operating, Maintenance, and Fleet Costs	$1,645767
Startup Costs	$4,922,000
Year 1 Costs	$12,473,597
Year 2 Costs	$9,473,286
Total Two-year Cost	$21,946,883

Feedback from the Transportation Commission

When we presented a preliminary version of this report to the Transportation Commission, we received several constructive comments that led us to investigate further improvements to our analysis. Among them were offering cost estimates for some of these scenarios that provided a lower level of service; presenting a scenario that just involved clearing curb cuts and pedestrian cross walks rather than sidewalks; presenting a scenario that involved only clearing neighborhood sidewalks within one mile of a school; and comparing the total cost of current street clearing operations to the various pedestrian infrastructure clearing scenarios presented below. Following is a discussion of each of these ideas, and an explanation as to why or why they were not included in this follow up report.

<u>Lowering the Level of Service</u>

Lowering the level of service would be an effective way to lower cost in the scenarios that involve contracted labor. However, it would not lower cost for any scenario that involves hiring internal labor to do the work. This is because regardless of whether you have 10 snow events a year or 25, you still need to hire enough labor and procure enough equipment so you are adequately staffed and prepared for a single major snow event. We have added additional cost figures to Scenario 1 and Scenario 2 that reflect a lower level of service, with a city sidewalk clearing response involving contractors being activated at three inches of snow rather than one inch of snow.

<u>Limiting Work to Curb Cuts and Crosswalks</u>

The Transportation Commission asked us to cost out scenarios where we only clear curb cuts and crosswalks rather than sidewalks in an effort to try to control costs. We put together a new economic model to estimate the time and effort it would take to only service this infrastructure.

Assuming this work would be completed along all sidewalks in the City, we estimate that using internal labor it would require an additional 29 staff members to make sure all areas were clear of snow within 24 hours and 15 staff members to ensure all areas were clear within 48 hours. In addition, we would still need to procure between $3.3 and $1.9 million worth of equipment. Total costs using internal, full-time labor and a 24-hour clearing window would be as follows:

Curb Cut and Crosswalk Only Cost Breakdown

Neighborhoods, Major Thoroughfares and Supervisors	$3,690,869
Parks	$946,402
Operating, Maintenance, and Fleet Costs	$1,083,769
Startup Costs	$3,252,500
Year 1 Costs	$8,973,540
Year 2 Costs	$5,892,671
Total Two-year Cost	$14,866,211

This Scenario is essentially the same as Scenario 6 above in terms of assumptions, but at 1/3 less cost and it involves no sidewalk clearing. You could apply a similar reduction to other scenarios to determine costs as well. For instance, if you wanted to know what it would cost to do curb cuts and crosswalks only along major transit corridors using temp labor, it would be approximately $2.5 million. Given the significant cost that this option still would demand, and the fact that this cost does not include clearing any actual sidewalks of any snow, we opted not to pursue it further as a recommendation for the Council.

Clear Pedestrian Infrastructure within One Mile of Schools

We turned to our GIS team to determine how many miles of City sidewalks are within one mile of a school, and it is nearly all of them (99.8%). We then asked how many sidewalks are within a ½ mile of a city school, and it was still nearly all of them (88.7%). As a means to limit the scope of the sidewalks included in this project, proximity to a school would not be an effective standard.

Comparing Cost of Street Clearing to Sidewalk Clearing

We attempted to determine the total cost of street clearing operations in a detailed manner however it is a rather complicated calculation that involves determining shares of time spent on street clearing among equipment, vehicles, staff, and facilities that are used throughout the year for multiple purposes. While it is possible to render this figure, it would be labor intensive, and ultimately we concluded that because there are so many more lane miles of road than miles of sidewalk, and because the vehicles and equipment needed to clear streets are so much more expensive than what is needed to clear sidewalks, the cost of our street clearing operations would certainly be greater than the cost of even the most ambitious sidewalk clearing scenarios presented in this report.

Immediate Actions and Pilot Solutions

The City Council resolution requested pilot solutions that could be implemented in the winter of 2021-22, especially downtown and along major transit corridors. However, staff advises that any major improvements to the clearing of pedestrian infrastructure along major corridors can only be achieved with a significant infusion of public funds as detailed in the scenarios provided above. There are pilot solutions that staff can pursue immediately with little financial impact, however. Those include:

1) Convening a working group of representatives from the Main Street BIZ, the merchant associations, property owners, and major institutional building owners to begin discussions and implement solutions for better snow clearing operations in the DDA district.

2) Work with the Police Department and Community Standards to build a more robust education and enforcement campaign for snow clearing in our residential neighborhoods. Work with the Attorney's Office to amend City Code related to sidewalk clearing to ensure that the code allows for an education campaign related to violations of the code.

Conclusions and Recommendations

Staff has determined that it is theoretically possible to provide a city-wide pedestrian snow clearing program, however the costs associated with such a program are significant. Additionally, there are serious logistical obstacles that would be difficult to overcome in terms of hiring the staff required to complete such a program, acquiring enough contracted work to complete such a program, and aligning contracted or temp workers with our collective bargaining agreements.

It is also important to note, any of the scenarios presented in this memo would require additional revenue generation or an off-setting expense reduction to fund—whether it be the $1.3 million cost associated with scenario 1 or the $22 million cost associated with scenario 6.

Staff recommends the following steps to continue work on this project:

1) Discuss the report and options for future work with the Transportation Commission and City Council.

2) As directed in resolution 21-0421, carry out a public engagement process to determine community interest in a municipal snow clearing operation for pedestrian infrastructure and determine community opinions of acceptable costs.

3) Carry out an RFP or RFI process to determine contractor capacity, interest, and cost that could be used to further determine feasibility of using contractors for portions of this work.

4) Begin work implementing solutions for better outcomes in the DDA district with property owners downtown and in the neighborhoods with Community Standards, as detailed in the *Immediate Actions and Pilot Solutions* section of this memo.