



City of Minot Sanitation Department

ONCE PER WEEK VS. TWICE PER WEEK COLLECTION

Jason Sorenson, Assistant Director of Public Works
March 22, 2019

Introduction

The Public Works Department has been asked to evaluate the economic benefit of switching to a once per week waste collection service. In theory there would be a large amount of savings if the City cut waste collection service in half. The following report will outline the data and analysis for projected savings.

The Sanitation Department employs nine heavy equipment operators, one foreman, and one superintendent. Currently, the City collects waste from 12,693 households twice per week on a Monday/Thursday or Tuesday/Friday rotation. Wednesday is reserved for other miscellaneous duties such as operator training, waste collection for the downtown business district, picking paper at the landfill or additional maintenance tasks. The service utilizes automated collection trucks and waste carts supplied by the City.

Current Conditions

There is currently a total of 12,693 service stops for waste collection. Each of these stops is serviced twice per week using six dual-arm trucks and a smaller single arm. The number of stops per route depends on a few factors such as how many alley collections, how hilly the terrain, whether streets are long and straight, and how many parked vehicles are on the street. The routes have been optimized over the past year and a half and break down like this:

| Route | Mon/Thurs Total Carts | Tues./Fri. Total Carts | Totals per Truck |
|--------------------|------------------------------|----------------------------|------------------|
| 600 | 915 | 982 | 1,897 |
| 601 | 956 | 877 | 1,833 |
| 602 | 1,115 | 1,093 | 2,208 |
| 603 | 1,080 | 1,025 | 2,105 |
| 604 | 1,075 | 1,022 | 2,097 |
| 605 | 897 | 923 | 1,820 |
| Totals | 6,038 | 5,922 | 11,960 |
| Average | 1,006 Carts/Day/Truck | 987 Carts/Day/Truck | |
| 609 (Mini) | 483 | 250 | 733 |
| | | | |
| Grand Total | 6,521 | 6,172 | 12,693 |

The City implemented Fleetmind™ technology when the transition was made to automated collection. Fleetmind™ provides tons of data and analytics for our collection system. As the figure above shows, each truck is scheduled to collect approximately 1,000 stops per day. Data from the trucks indicates that 70% - 80% of the stops actually have carts out for collection on Monday/Tuesday collection. Collection on Thursday/Friday falls an additional 10%. The highest number of carts dumped in a single day is 819. This number of carts is being collected in a 9-hour day leaving enough time to dump the last load of the day, clean the truck and do preventative maintenance on the automated collection arms.

Once Per Week Collection

When looking at reducing to once per week collection there are a few assumptions to be made and additional considerations. Based on the info above, it is important that routes remain close to about 800 stops per day to ensure all the other duties can be completed without incurring overtime. When transitioning to once per week collection it is reasonable to assume that participation would increase to 90% or more. Also, since trash is only collected once per week the amount of trash in the containers would increase. This would mean the drivers would end up making three separate trips to the landfill by dumping three times per day instead of two. It takes approximately one hour to leave the route, drive to the landfill to dump and return to the route.

The following are options for transitioning to once per week collection:

OPTION 1

- 4 dual arm trucks
- 1 single arm truck
- current four-day per week schedule

Results in about 750 stops per truck per day. The system would have capacity to grow as accounts are added. Wednesday would continue to be available to accommodate holiday schedules.

OPTION 2

- 3 dual arm trucks
- 1 single arm truck
- current four-day per week schedule

Results in about 997 stops per truck per day. This option would result in daily overtime due to the number of required stops per day. Would only be feasible if around 80% or fewer utilized the service each week. The system would be at capacity and growth would be very difficult to accommodate resulting in additional staff and trucks.

OPTION 3

- 3 dual arm trucks
- 1 single arm truck
- Five-day per week collection

Results in about 800 stops per truck per day. Collection crews currently work four nine-hour days and four hours on Wednesdays. A five-day schedule would require crews to work eight-hour days. It is likely 800 carts would not be able to be collected each day without incurring overtime. Growth would be difficult to accommodate in this option. It would eliminate a spare day during the week to accommodate holidays. Wednesday would also be lost to address worker training, vehicle maintenance, bulk collection, dumpster collection, paper picking at the landfill, or downtown business district service. It is critical that sanitation vehicles are available on collection day. If staff is required to work late or weekends additional mechanics or overtime will be necessary in the Vehicle Maintenance Department.

Financial Impact

CURRENT SYSTEM

- 9 Heavy Equipment operators - \$93,440 per person per year (including benefits)
- 6 dual arm trucks
- 1 single arm truck
 - Maintenance - \$5,000 per year per truck
 - Fuel - \$5,100 per year per truck
 - Insurance - \$3,000 per year per truck
 - Software - \$2,200 per year per truck

2019 Sanitation Budget - \$2,241,111

OPTION 1

- 7 Heavy Equipment Operators
- 4 dual arm trucks
- 1 single arm truck

Budget Savings - \$217,000 or \$1.42 per household per month on the sanitation bill with 12,693 accounts.

This equates to a 9% reduction in collection fees for a 50% reduction in service.

OPTION 2

- 6 Heavy Equipment Operators
- 3 dual arm trucks
- 1 single arm truck

Budget Savings - \$310,000 or \$2.04 per household per month on the sanitation bill with 12,693 accounts.

This equates to a 12% reduction in collection fees for a 50% reduction in service.

OPTION 3

This option has the same amount of manpower and collection vehicles as option two, so projected savings are anticipated to be approximately the same.

Other Considerations

If the decision is made to move to once per week waste collection, there are some additional considerations that should be taken into account:

Recycling has been a topic of discussion in recent months. The current waste collection system was designed to be step one of recycling and could be tailored to accommodate recycling by swapping one of the collection events per week with recycling. This would leave once per week garbage collection and once per week recycling. This is an efficient system that allows the same drivers and collection vehicles to do both waste collection and recycling collection. Another option would be to swap one garbage collection for recycling every other week. Pursuing once a week collection would require the addition of two more trucks and drivers, thus taking us back to the system currently under use.

As stated before, there are 12,693 total stops for waste collection. That total consists of 835 35-gallon carts, 9,801 65-gallon carts, and 2,057 95-gallon carts. It would be reasonable to assume those with 35- and 65-gallon carts would want to upsize. If all 10,636 would want to upsize the additional containers would cost in excess of \$500,000.

When looking at sanitation complaints, most are requesting additional services not less. Many people ask for more city-wide cleanup events, curb side compost collection, or unlimited bulk pick up. The majority of complaints are due to missed collection during holidays, which is a single pick up during that week.