

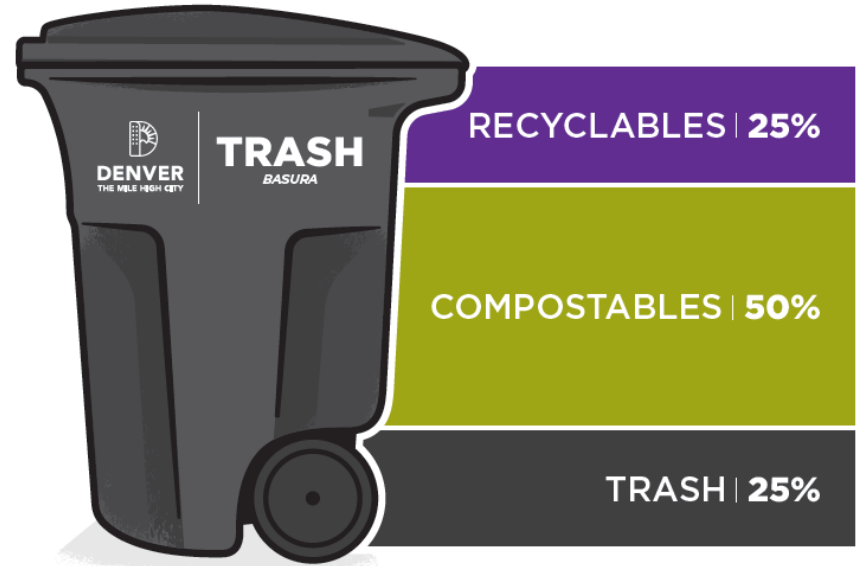
A person wearing a dark Denver uniform and a cap is walking past several recycling bins. The bins are labeled 'CITY AND COUNTY OF DENVER'. The background shows a street with parked cars and a white truck.

Expanded Waste Services and City-wide Diversion Goals

City Council Presentation
10/14/2024

What is Volume-Based Pricing?

- Denver has historically low diversion rates, yet **75% of Denver's waste** is recyclable or compostable
- **Incentivize** waste diversion
- Provide **access** for all residents to recycle and compost
- Support the City-wide goal of diverting **50%** of all waste from the landfill **by 2027** and **70% by 2032**



Emphasis on Diversion

- Opportunity for residents to **take action**
- Situate Denver as a **leader**
- Move toward a more **circular economy** and better resource management
 - Put materials back into the production cycle
 - Extend the life of the City's landfill
- Reduce methane and other **greenhouse gas emissions**

Diversion Goals

Divert 50% of all waste from the landfill by 2027 and 70% by 2032

Vibrant Denver

Keep the City's streets, parks, and neighborhoods clean

A worker wearing a dark hoodie and a cap with "DENVER" on it is walking past a row of black trash bins. The bins have "CITY AND COUNTY OF DENVER" printed on them. The scene is outdoors, possibly at a recycling center or a street cleanup site. A semi-truck is visible in the background.

Implementation

One Year In...

Volume-Based Pricing kicked off in January 2023:

Updated operations

- Increased access to weekly compost through rollout (to be completed by end of 2025) and implemented city-council requested weekly recycling
- Converted compost service from subscription program
- Continuous customer service improvement

Transitioned support systems

- Converted from general fund service for trash and recycling to special revenue fund with tiered pricing
- Designed and implemented affordability rebate (5736 participants with 50-100% of bill covered depending on AMI)
- Implemented a billing system for 180,000 households

Strengthened community engagement

- Increased community engagement
- Maintained additional diversion programs



Program Implementation



Prior to January 2023

- General fund division
- Weekly trash collection
- Bi-weekly recycling collection
- Weekly compost collection - \$9.75/month
- 23% diversion rate in 2022

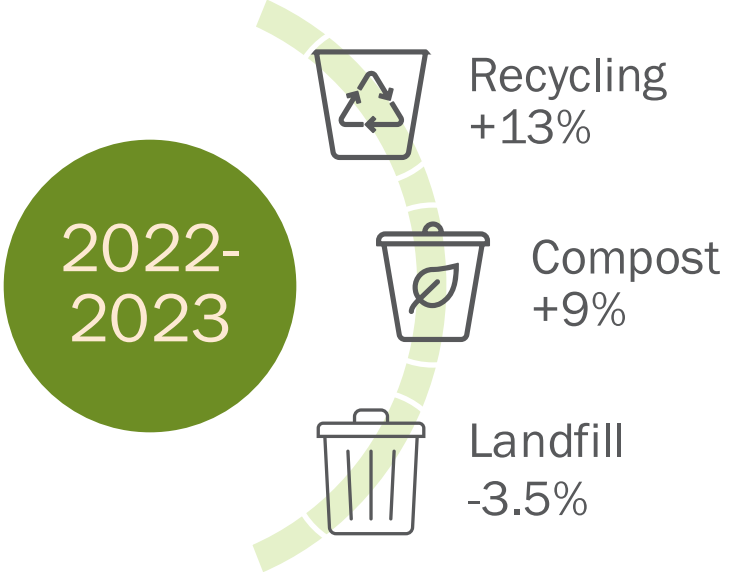
Volume-Based Pricing

- Special revenue fund to stand up new and expanding services
- Incentivize waste diversion
- Tiered pricing for trash cart sizes
- Compost and recycling and additional services included at no additional cost
- Includes Affordability Rebate

Sustainability Goals – Overall Diversion

Overall Diversion is trending in a positive direction

- 26% in 2024 (YTD)
- 26% in 2023
- 23% in 2022



Sustainability Goals – Recycling and Operations

- Weekly recycling had small impact on tonnage collected.
- Customers are currently utilizing 58% less volume per week (10lb vs 17lb per week, with the same number of carts).

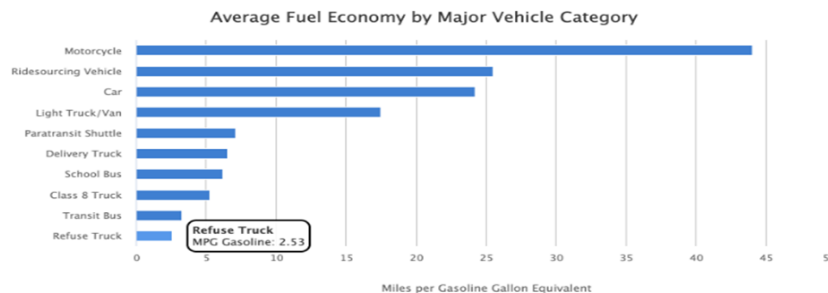
	2022	2023	2024 (through 8/30)
Total tonnage	39,288	44,817	29,750
Total pounds	78,576,000	89,634,000	59,500,000
Average pounds per household per year	436	498	330
Pick-ups per year per household	26	52	35 (to date)
Avg pounds per household per pickup	17	10	9

Sustainability Goals – Recycling and Operations

- Weekly recycling increased miles driven by refuse vehicles by 170,000 miles/year emitting approximately 1200 tons of green house gases and air pollutants

Refuse Vehicles: The Lowest Fuel Economy

Of the major



vehicle categories, Refuse vehicles boast the worst fuel economy, with approximately **2.5 MPG**.

Among the major vehicle categories, the Refuse Truck application is highly inefficient. Garbage trucks are the 3rd highest fuel consumers, using approximately **10,000 Gallons** annually.

Source: [US Dept. of Energy – Alternative Fuels Data Center](#)

Sustainability Goals – Composting and Operations

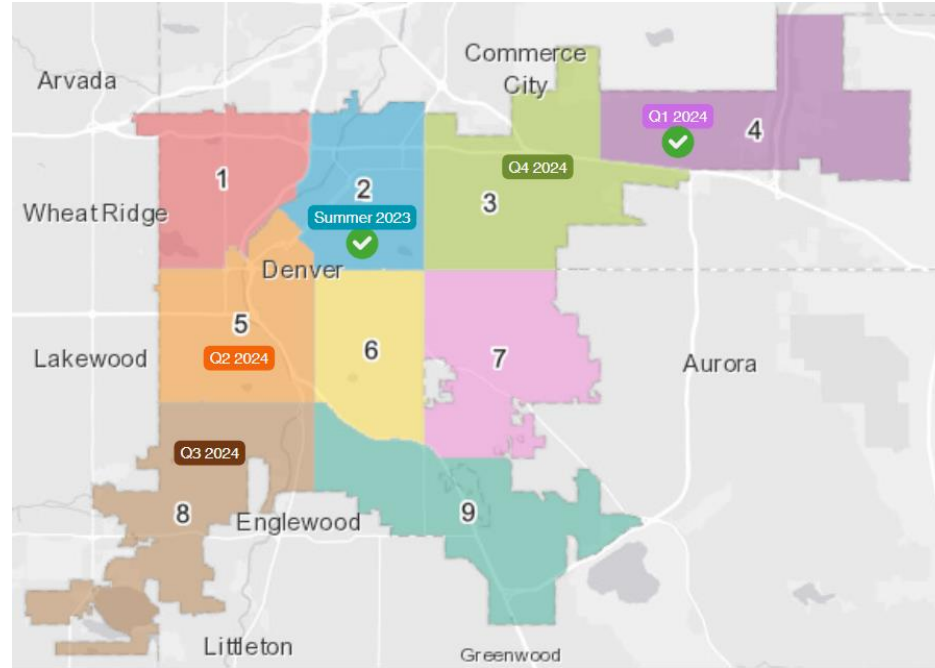
- Compost saw small increase in 2023
- Opportunity for increased diversion is greater with compost
- With completed roll out anticipate 50K tons annually
- Increasing compost tonnage has greatest GHG emissions reduction potential
 - Diverting to compost processing reduces GHG emissions (methane) produces a useful end product (finished compost)

TOTAL % OF WASTE STREAM	2023
Recyclable	20%
Compostables	6%
Annual Compost Tonnage	13.7K

Sustainability Goals – Composting and Operations

- Currently in Waste Areas: 2, 4, 5, 8 (3 starting in Q4)
- Remaining Areas: 1, 6, 7, 9
 - Anticipate 85% of potential customers opt-in

Solid Waste Collection Area	Estimated Customers
Area 1	15,618
Area 6	13,055
Area 7	11,955
Area 9	14,171
Total	54,799
Total Projected	115,000 (65%)



Customer Service Goals

- Overall customer service goal to have 93% route completion (cart picked up as scheduled)
- Currently at 90.7% route completion
- Causes Include:
 - Fleet (assets, availability, age)
 - Staffing (high priority)
- Significant focus on improving customer service levels
- Need to rebalance resources

2024 YTD Route Completions

90.7%

2023
93.4%
Δ from 2023
-2.66%

2024 Route Completions
within 48 hours of scheduled pick-up (data collected
through driver estimates)

99.2%

2024 KPIs

Route Completion TYD (2023 and 2024)

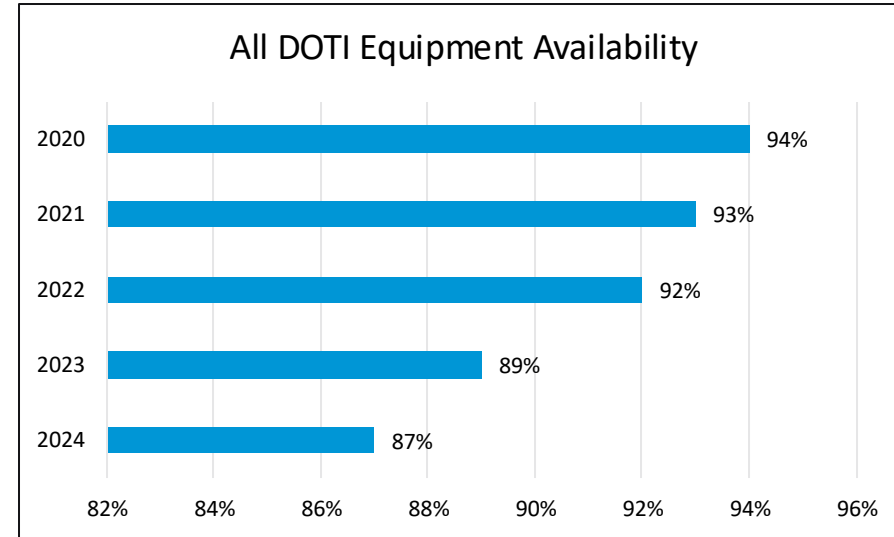
2024 Route Completion within 48h of scheduled pick-up

Hover over chart to see estimated missed pick-ups

Team	Completion	Compost Tons	Recycle Tons	Trash Tons	Missed Collections	Service Disruptions
1	85.20%	1172.54	4546.11	11054.208	1397	1816
2	90.70%	1659.92	2270.46	6997.6	429	677
3	89.90%	1664.72	3619.37	10078.28	1041	1410
4	94.80%	429.09	3960.673	16114.101	933	1271
5	88.00%	570.06	3203.69	12719.47	830	1142
6	95.20%	1308.84	3698.63	9775.86	1271	1741
7	99.00%	1632.49	3229.2	9776.72	474	762
8	79.10%	664.35	3929.903	15370.41	728	1132
9	99.10%	1652.08	3487.04	11506.93	800	968
DPS Parks	92.90%	n/a	325.99	5521.39	n/a	n/a
LIP	87.30%	n/a	n/a	n/a	n/a	n/a

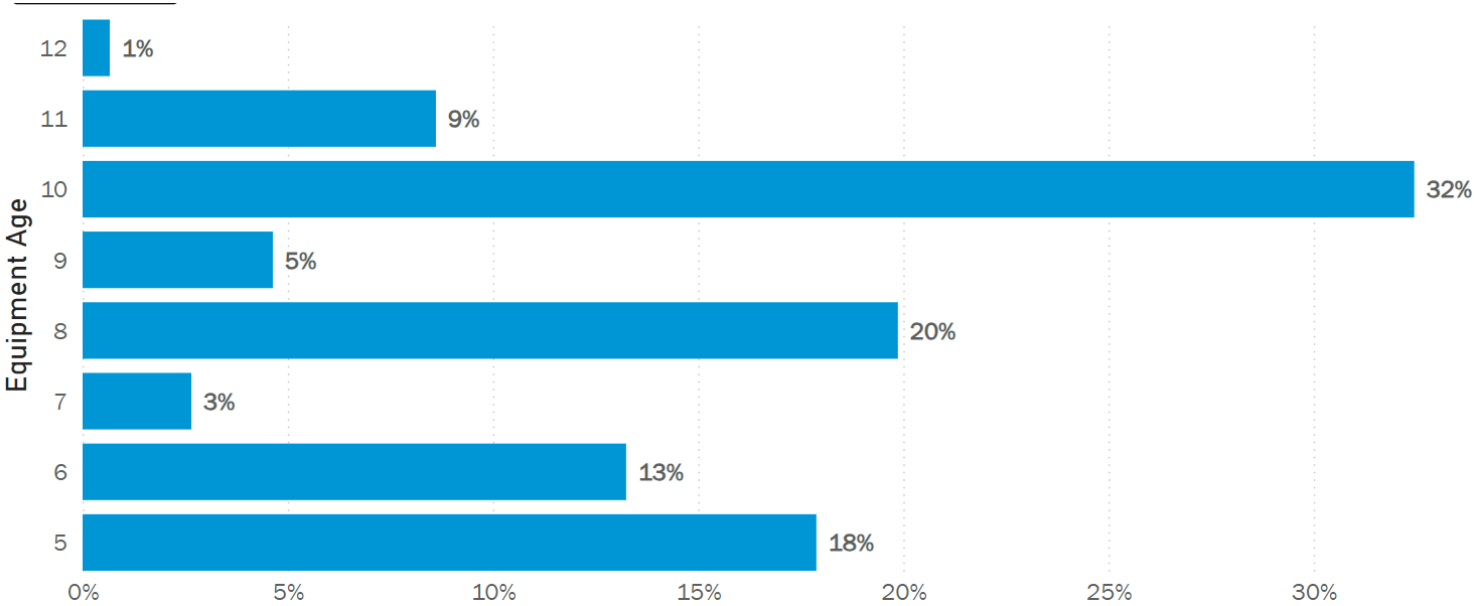
Operations Goals: Fleet

- Fleet (ASL) required to run current service of weekly trash, weekly recycling and eventually expanded weekly compost
 - 108 Overall with 39 Trash, 42 Recycle, 27 Compost
- Current average availability 75–85 city-owned trucks, as well as rent 10 trucks
- Outsourced 6 routes with shift to weekly recycle (not originally budgeted)



Operations Goals: Fleet

- 67% of Solid Waste Fleet past useful life (typically 8 years)
- Solid Waste comprises 40% of fleet maintenance work



A worker wearing a dark hoodie and a cap with "DENVER" on it is walking past a row of black trash bins. The bins have "CITY AND COUNTY OF DENVER" printed on them. The scene is outdoors, possibly at a recycling center or a street cleanup site. A semi-truck is visible in the background.

Questions

Cart Services: Education Progress

Cart Services

SERVICE ALERT: Currently, cart service requests are taking between 4 - 6 weeks to complete. Priority is being given to new accounts and replacements. To submit a request for a cart service, please [login to your Denver Utilities Online account](#). If you need an exchange sooner, you may make your exchange at our cart maintenance facility. Thank you for your patience.

Cart Maintenance Facility
2013 South Osage St.
Denver CO, 80223
Monday-Friday, 8am-2pm

Select the Service Type below to view the average days to complete a cart service request.

Trash	Recycle	Compost
New Account 37	Add Cart 36	Cart Maintenance 46
Cart Upsize 45	Cart Downsize 49	Cart Lost/Stolen 38

Microsoft Power BI

Service Customer Related: Rubicon Collection Issues

Operators log individual and route problems using Rubicon. Pictures are taken as proof of the issue. Carts are also tagged when a *Contamination/Unacceptable* arises. Potential late set outs are reported as *Not Out* when the cart is visible but not in the designated set out location.

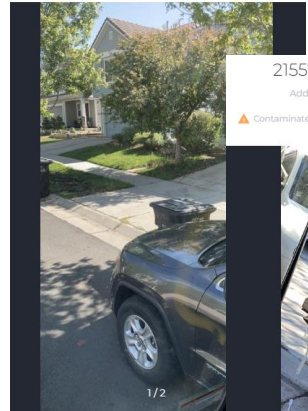
Inspections Enforcement (Citations)

CUSTOMER	ROUTE	DATE	ISSUES REPORTED	IMAGE	SERVICE COMPLETED
3658 N Shoshone St Denver 80211 3658 N Shoshone St, Denver, CO 8...	2153 Presley Casais	07/09/2024 07:31 AM	Not Out		No
3650 N Shoshone St Denver 80211 3650 N Shoshone St, Denver, CO 8...	2153 Presley Casais	07/09/2024 07:31 AM	Not Out		No
77 W Byers Pl Denver 80223 77 W Byers Pl, Denver, CO 80223, ...	2571 Derick Tapia	07/09/2024 07:31 AM	Blocked		No
401 N Garfield St Denver 80206 401 N Garfield St, Denver, CO 8020...	2661 Carlos Estrada	07/09/2024 07:34 AM	Not Out		No
3702 N Quivas St Denver 80211 3702 N Quivas St, Denver, CO 80211...	2153 Presley Casais	07/09/2024 07:35 AM	Not Out		No
153 W Cedar Ave Denver 80223 153 W Cedar Ave, Denver, CO 8022...	2571 Derick Tapia	07/09/2024 07:32 AM	Not Out		No
3000 E Cedar Ave Unit 7 Denver 8... 3000 E Cedar Ave Unit 7, Denver, C...	2672 Luca Floyd	07/09/2024 07:44 AM	Not Out		No
2115 S Gilpin St Denver 80210 2115 S Gilpin St, Denver, CO 80210, ...	2932 John Montoya	07/09/2024 07:51 AM	Not Out		No
5543 N Jericho St Denver 80249 5543 N Jericho St, Denver, CO 802...	2453 Derios Edwards	07/09/2024 07:52 AM	Contaminated / Unacceptable		No
5047 N Akron St Denver 80238 5047 N Akron St, Denver, CO 8023...	2341 Joseph Aleman	07/09/2024 07:53 AM	Not Out		No

5562 N Gibraltar St Denver 80249

Address: 5562 N Gibraltar St, Denver, CO 80249, US

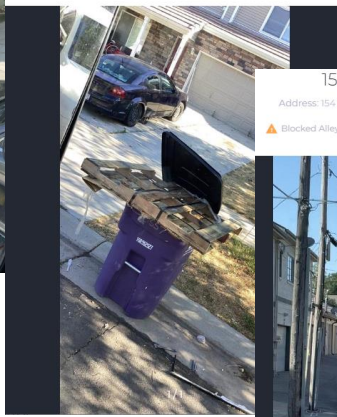
Blocked Timestamp 07/09/2024 09:38 AM



21557 E 53rd Pl Denver 80249

Address: 21557 E 53rd Pl, Denver, CO 80249, US

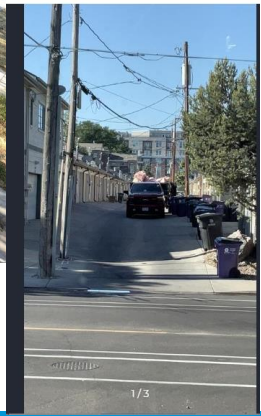
Contaminated / Unacceptable Timestamp 07/09/2024 08:05 AM



154 S Monroe St

Address: 154 S Monroe St, Denver, CO 80209, US

Blocked Alley Timestamp 07/09/2024 08:44 AM



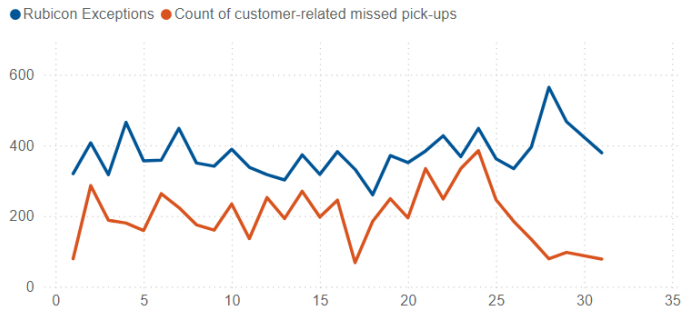
Customer Related: Rubicon Exceptions vs 311 Missed Collections

2024 Rubicon Exception Data

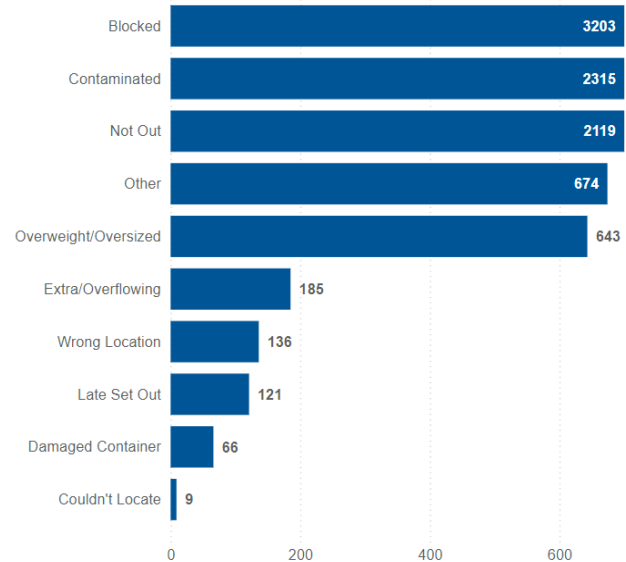
Total Rubicon Exceptions YTD

8,958

Rubicon Exceptions and customer-related missed pick-ups by week (2024)

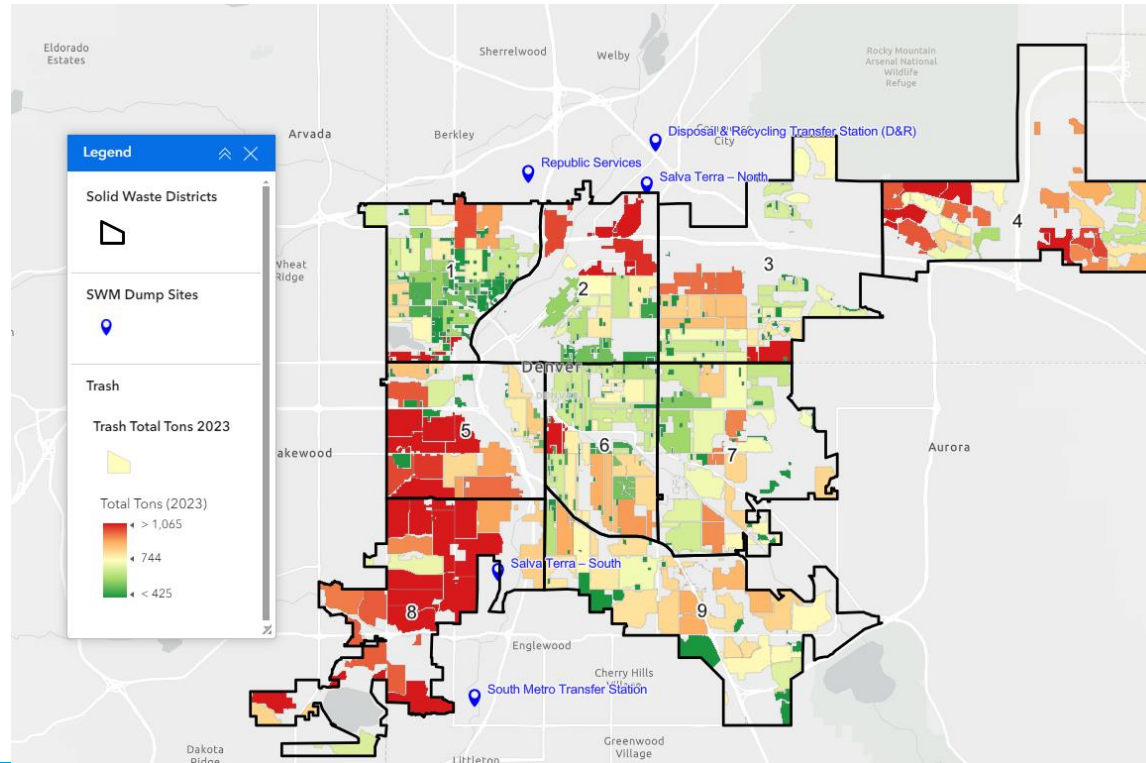


Count of Exceptions by Type



Service Disruptions: Optimization Analysis

Total Tons 2023



Service Disruptions: Optimization Analysis

Final Scoring

