

Audit of Contract Payments to DARTS



January 16, 2025

Dennis Guy, Senior Audit and Investigations Specialist Domenic Pellegrini, (Retired) Senior Audit and Investigations Specialist Cindy Purnomo Stuive, Audit and Investigations Analyst Brigitte Minard, Deputy Auditor General Charles Brown, Auditor General

Contents

Executive Summary	3
Audit Objectives	6
Background	6
Scope and Methodology	7
Detailed Findings	8
Overpayments	8
Passenger Registrations	8
Support Persons	8
Special Events	8
Special Events Analysis	9
How the Overpayments Occurred	10
Ticket-to-Ride	10
Group Bookings	10
Rides to Polling Stations (Municipal, Provincial, and Federal Elections)	10
COVID-19	11
Noted Control Weaknesses	11
Data/Digital Asset Custody and Control	11
Need for Clear Direction	12
Master Operating Agreement	13
Were the Overpayments Deliberate?	13
What Should be Done About the Overpayments?	14
Recommendations and Management Responses	15

Executive Summary

The objectives of this audit were to assess the administration of certain contract payments to DARTS, with a view to concluding on the veracity of payments made, adherence to certain contract terms, as well as the effectiveness of management, system and oversight processes for ensuring compliance with the agreement.

This audit was launched as a "spontaneous audit" (at the discretion of the Auditor General) upon receiving and evaluating a complaint received in late 2023 regarding certain anomalies in the amount of trip subsidies paid to, and received by DARTS, which suggested certain amounts claimed by DARTS had led to persistent overpayments.

According to the Master Operational Agreement (MOA) which is currently in effect on a month-to-month basis, the City agrees to reimburse DARTS for forgone fares ("free trips") that the City specifies and designates as "special events", as well as for other defined circumstances. This results in the City paying to DARTS an additional amount of compensating subsidy each month. The monthly amount of special event subsidy has historically been based on reports submitted by DARTS. In their complaint to the Office of the Auditor General (OAG), the City's Accessible Transportation Services (ATS) Section became concerned that DARTS was incorrectly coding some trips as "special events", thus not collecting fares from passengers when they should have been, or in some cases coding trips as "special events" even when passenger fares were collected, thus doubling the amounts received for those trips.

After preliminary review of the information indicated that these erroneous payments may have been persistent over many years, the OAG analyzed claims as far back as 2012 and found evidence of significant overpayment. A scope of audit was established that addressed the following lines of enquiry:

- What is the quantum of overpayment made to DARTS over the period from 2012 to 2023?
- How did these overpayments happen?
- What control weaknesses led to the overpayments?
- Were the overpayments a deliberate act?
- What should be done about the overpayments?

The main actors involved in the administration of accessible transit subsidy is DARTS, which tracks fares and performs the coding that establishes the amount of subsidy due from the City, and ATS, which has an oversight role in managing the DARTS contract. The main system used for ride and fare administration is Trapeze. Although the system is technically owned by the City, ATS has limitations

in accessing this application for verification purposes, and relies on DARTS for important data and reports, as it is in the custody and control of DARTS. It is our understanding that this has been a contentious situation for ATS because of having to rely so significantly on DARTS for information and data extracts for the purposes of monitoring.

As far as the OAG's audit methodology is concerned, the audit relied on extensive analysis of ride booking and financial data provided by ATS and the City's Finance and Administration section, with a particular focus on the number of trips recorded in performance reports and how the trips were coded. For greater efficiency, the entire quantum of overpayment was identified for the period 2018 through 2023 (five years) by analyzing all transactions, and the amount of error for the balance of the years 2012 through 2017) where identified errors occurred was estimated by extrapolation.

There were three (3) categories of subsidy that were subject to analysis for overpayment. For the first category, "payments for passenger registration", the total subsidy for the period 2018-2023 was negligible, therefore no further work was done. For the second category, "payments for support persons", total subsidy for the period was \$782,387. Our analysis of subsidy data from 2023 showed that the overpayment in this category was less than 1% of total subsidy which we deemed as immaterial, so no further analysis was completed.

For the third category of subsidy, "payments for special event trips", the quantum of error was more significant. According to OAG's analysis, the amount of overpayment for years 2018-2023 was \$115,934. As a percent of total subsidized fares this was 3.4%, or approximately \$19,322 per year. On this basis, our projection of likely error for the entire period 2012 through 2023 was \$230,000. However, the error rates for 2020 and 2021 were likely an anomaly due to the very low amounts of subsidy during COVID, which have the effect of dampening the overall rate for the projections, which would make the estimate overly conservative. Using an overall error rate calculated without those anomalous years, we projected a total amount of overpayment during 2012-2023 as \$263,000.

It is important to understand that there are two possible scenarios in which erroneous claims could be generated, and they involve two different types of error.

The first error type (type A) occurs when a fare is collected from a passenger and is erroneously coded as a subsidized trip. This results in the double collection of revenue by DARTS. At the year-end reconciliation, the amount of error would be naturally corrected as the City, with the way the contract is administered, ends up clawing back surplus or making up any DARTS deficits depending on the circumstances.

The second error type (type B) occurs when a fare is not collected from a passenger for what is erroneously recorded as a subsidized trip. This results in a revenue loss that is ultimately borne by the City.

Insofar as what should be done about the overpayments, OAG concluded there is little in the way of meaningful action that can be implemented to recover the lost amounts. DARTS expenses are fully funded by the City, with any deficits funded and surpluses being recovered. In theory, the way to address the overpayments would be to collect from passengers in years past who should have paid full fare but were covered erroneously by City subsidy. In our estimation, this would be impractical.

Regarding the question of how this was allowed to happen, OAG found that these errors stemmed from inaccurate and/or careless data entry of ride booking codes. OAG found no evidence that DARTS staff intentionally manipulated the data to recover more subsidy than they should have. In fact, there is little incentive or benefit from them doing so. Having said that however, it could also be said that there is little incentive for DARTS to ensure a high level of accuracy in coding these trips, given the current contractual arrangements and lack of consequences for error.

In reviewing how subsidized ride administration is organized and administered, we found a number of contributing control weaknesses that should be addressed to mitigate mistakes like this in the future:

- ATS staff do not have independent access to Trapeze functionalities and relevant data that could be beneficial to their oversight role.
- Clear communication of designated "special events", along with instructions / reminders of using designated ride booking codes for their intended use, is generally lacking.
- The Master Operational Agreement (MOA) between the City and DARTS is out of date.
- ATS is reliant on accurate input by DARTS, and on gaining timely access to it.
- The current MOA lacks any incentives or contractual tools that motivate DARTS to ensure quality/accuracy of data, and lacks meaningful mechanisms to address shortfalls in DARTS performance generally.

OAG made four (4) recommendations which are listed at the end of this report.

Audit Objectives

The overall objectives of this audit were to assess the administration of certain contract payments to DARTS, with a view to concluding on the veracity of payments made, adherence to certain contract terms, as well as the effectiveness of management, system and oversight processes for ensuring compliance with the agreement. More specifically, the purpose of the review was to investigate the overpayment of subsidies for forgone fares, and determine the nature and extent of the problem and recommend improvements to any control weaknesses.

Background

The City and DARTS entered into a Master Operational Agreement (MOA) on July 1, 2012. Although the MOA expired on June 30, 2017, it is still in effect on a month-to-month basis. Section 3.2.3 of the MOA refers to Service Fares and Charges, and item (g) of this section indicates that the City agrees to reimburse the contractor (DARTS) for forgone fares as provided in items (d) support persons, (e) special events, and (f) passenger registrations for orientation interviews.

More specifically, the MOA indicates that the City agrees to reimburse DARTS for forgone fares as follows:

- 3.2.3 (d) Support persons to regular passengers shall not pay a fare and / or other fee.
- 3.2.3 (e) The City may direct the Contractor to forego collection of fares for trips to and from special events that may be designated by the City from time to time.
- 3.2.3 (f) Applicants to the service and their support person or companion travelling to and from a registration and orientation interview, as outlined in the "Passenger Registration Support Services" section (3.3.10) of the Agreement, shall not pay a fare and / or other fees.

In November of 2023, Accessible Transportation Services (ATS), responsible for managing the City's agreement with DARTS, noticed that the number of "special events" (free trips subsidized by the City) were greater than expected. After closer inspection, ATS determined that DARTS appeared to be using the "special events" to code for group booking trips as well true "special events". This would be contrary to the MOA as outlined above, which clearly specifies - "the City may direct the contractor to forego collection of fares for trips to and from special events that may be designated by the City from time to time". That is, it should be the City's Accessible Transportation Services (ATS) that determines what is considered a special event, not DARTS.

Upon receiving the complaint from ATS, (Fraud and Waste Report #70283), the Office of the Auditor General conducted a preliminary assessment of the data, and because of various discrepancies found in the administration of forgone revenues, decided to conduct an audit of payment for ride bookings that are eligible for reimbursement as part of the Master Operating Agreement (MOA) between the City of Hamilton (the City) and DARTS.

Scope and Methodology

An audit scope was established that addressed the following lines of enquiry:

- What was the quantum of overpayment made to DARTS over the period from 2012 to 2023?
- How did these overpayments happen?
- What control weaknesses led to the overpayments?
- Were the overpayments a deliberate act?
- What should be done about the overpayments?

As far as audit methodology is concerned, the OAG relied on extensive analysis of ride booking and financial data provided by ATS and the City's Finance and Administration Section, with a particular focus on the number of trips recorded in performance reports and how the trips were coded. For greater efficiency, the entire quantum of overpayment was identified for the period 2018 through 2023 (five years) by analyzing all transactions, and the amount of error for the balance of the years 2012 through 2017) where identified errors occurred was estimated by extrapolation.

Detailed Findings

Overpayments

There were 3 categories of subsidy that were subject to analysis for overpayment – reimbursement for passenger registrations, compensation for forgone fares related to support persons and for rides to special events designated by the City. Each category was carefully reviewed as follows:

Passenger Registrations

During the six-year period from 2018—2023, the total subsidy paid to DARTS for passenger registration and orientation interviews was \$333.

This amount was considered negligible, therefore, no further work was done.

Support Persons

During the six-year period from 2018-2023, the total subsidy paid to DARTS for Support Persons was more than \$780,000.

Before embarking on a review of all six (6) years, OAG performed analysis on a one-year extract of this data and compared the subsidy paid to DARTS (as reported to ATS) to the subsidy that *should* have been paid to DARTS in 2023. The 2023 analysis revealed that the overpayment was less than 1%, or \$847.

This amount was not considered material. Therefore, no further work was done to determine any overpayments for previous years.

Special Events

According to data supplied to OAG by ATS, during the six-year period from 2018-2023, the total subsidy paid to DARTS was \$136,735. OAG performed analysis to identify the amount of overpayment of subsidy in each of those years – 2018-2023 inclusive. A summary of the results is contained in the chart, "Special Events Analysis", on page 9.

Special Events Analysis

	2018	2019	2020	2021	2022	2023	Total 2018-2023
Subsidy (a)	\$ 33,105	\$ 47,663	\$ 7,787	\$ 790	\$15,434	\$ 31,956	\$ 136,735
Recalculated Subsidy (b)	\$ 831	\$1,089	\$ 11,034	\$ 5,538	\$ 1,401	\$ 908	\$ 20,801
Under/(Over) Payment (c) = (b-a)	(\$ 32,274)	(\$ 46,574)	\$ 3,247	\$ 4,748	(\$ 14,033)	(\$ 31,048)	(\$ 115,934)
Subsidy Issued as % of Recalculated Subsidy (d = a/b)	3984%	4377%	71%	14%	1102%	3519%	657%
Total Fare Revenue (e)	\$ 708,178	\$ 864,450	\$ 333,105	\$ 306,598	\$ 523,562	\$ 720,365	\$ 3,456,258
Under/(Over) Payment as % of Fare Revenue (f) = (c/e)	(4.6%)	(5.4%)	1.0%	1.5%	(2.7%)	(4.3%)	(3.4%)

The analysis showed that annual under / over payments for special events could be as high as \$46,574 out of \$47,663 in actual paid out subsidy (98%). In fact, the actual subsidy payments for special events to DARTS were more than 6 and a half times higher (657%) than the amount recalculated by the OAG. Having said that, during the two years affected by COVID, DARTS was underpaid for these subsidies, so it wasn't necessarily consistent. However, these amounts we considered immaterial. Further, we decided to calculate the overpayments as a percent of all subsidy fares and found they were ranging from 1.0% underpaid to 5.4% overpaid, respective of the total revenue for special events.

The lack of data prevented any detailed analysis of subsidy overpayments for the six (6) years from 2012-2017, inclusive. Therefore, estimations had to be made to account for the period from 2012-2017. These estimations were based on the trends we observed in 2018-2023, using two different assumptions. Using a straight average of percent of error over the six years 2018-2023 and applying it to the earlier 2012-2017 period, the total overpayment for 12 years was estimated to be \$230K. Extrapolation using an average error rate that did not include the COVID years resulted in a calculation of \$263K overpayment. We therefore concluded the overpayment for the 12 years 2012-2023 inclusive was likely in the range of \$230-263K.

How the Overpayments Occurred

The reason for the overpayments was quite simply inaccurate data entry of ride booking codes. This was not caught in the City's oversight, in part, due to the City's lack of custody and control over the software application and captured data, which is detailed in the section below titled "Noted Control Weaknesses".

Ticket-to-Ride

For example, DARTS was inconsistent when booking 'special event' trips to-and-from Hamilton Tiger-Cat home games. Consistent with conventional transit, DARTS passengers ride for free to Hamilton Tiger Cat home games by showing their gameday ticket. This program, called "Ticket-to-Ride" by the HSR is one type of event designated as a "special event"; therefore, it is considered a forgone fare as outlined in the Master Operating Agreement (Section 3.2.3).

Of the 216 trips that DARTS provided to-and-from Tim Horton's Field during the 2023 season, only 134 were properly coded as special events; 52 were coded as group bookings, and a variety of other codes were used for the remaining 30.

Group Bookings

Another example of DARTS' inconsistent data entry occurred with group booking codes. They often used codes that have nothing to do with the event itself.

During our analysis, we found rides to Hamilton Tiger-Cat home games that used group codes like "Frame", "Steve", "foot", "York", and others. These codes do not reflect the designation of a "special event" and therefore were not captured accurately to reflect the intended forgone fare.

We also found instances of rides to the NHL Heritage Classic, hosted by Hamilton in 2022, that were booked with the code "Bulldog"; yet Hamilton Bulldog games are not designated as a special event and therefore do not qualify as forgone fares.

We found too many instances of inconsistent / inaccurate codes being used for group bookings to list here, however, one example was the use of the code "PANAM" when booking rides for people to get to isolation centres during COVID.

Rides to Polling Stations (Municipal, Provincial, and Federal Elections)

Between 2018 and 2023 there were six elections: two Federal elections, two Provincial elections, and two Municipal elections. To promote voter turnout, the

HSR / ATS declares rides to polling stations as "special events", so that passengers are not charged for these rides.

DARTS only used the booking code "VOTE" to indicate rides to a polling station during the 2019 Federal election. This code was not used for the other five elections (2021 Federal, 2018 and 2022 Provincial, 2018 and 2022 Municipal).

COVID-19

The HSR and DARTS did not collect fares between March 19 – June 30, 2020 due to the COVID-19 pandemic. The 6,500 rides that DARTS provided during that period were booked inconsistently as either "same day" or "C-19" at a ratio of 5:1. A ride booked as "same day" wouldn't get captured as a forgone fare since it is a code used regularly during day-to-day service.

In comparison, all 1,424 of the free rides to vaccination clinics were coded as "VAX", which was confirmed to align with the location of inoculation sites in the city.

Overall, OAG concluded that:

- DARTS was inconsistent in identifying free trips to events that ATS considers "special events".
- DARTS was inconsistent when using group codes.
- There were inconsistencies on whether elections are considered "special events"
- There were errors on the treatment of rides during the first wave of the COVID-19 pandemic in the first half of 2020.

Noted Control Weaknesses

OAG identified control weaknesses in the following areas:

Data/Digital Asset Custody and Control

Trapeze is the computer software application designed to register accessible transit clients, as well as to book trips, schedule, and dispatch vehicles. It is also used for trip planning, and real time vehicle location.

The security of the data collected on trip information is not under the City's control. The data regarding DARTS' clients trip information, is retained in the Trapeze software. Access to this data is controlled by DARTS, and is stored by an external

service providers. Therefore, even though ATS relies on this data to calculate and verify the subsidy owed to DARTS, it depends on others for the security of this information. Adding to this lack of data control is that DARTS can make changes to this information at any time.

So, to perform an oversight role on the contract, ATS relies heavily on the data and access to data DARTS provides it. ATS staff do not have any independent access to Trapeze functionalities and relevant data that could be beneficial to their oversight role. Indeed, they have less access than was provided to the OAG during the audit. Since the City manages the contract with Trapeze it could be argued that it should therefore maintain custody and control of the Trapeze application and the service data.

This control weakness was previously identified by the Office of the Auditor General (OAG) during a recent audit of fleet management and vehicle safety (Report AUD22007) remains as of the writing of this report. Specifically, the OAG recommended in Appendix "C" to Report AUD22007:

"Recommendation 6: We recommend that the Trapeze application and the service data be under the control of the City. The Transit Division needs access to all the Trapeze functionalities and captured data, and this should be a critical requirement of the terms that form part the next agreement with a contractor. Consideration should also be given to having future contracts include some level of authority over routing decisions by the City."

Need for Clear Direction

The audit found that clear communication of designated "special events", along with instructions / reminders of using designated ride booking codes for their intended use, was generally lacking.

A list of all designated "special events" (as qualified in the Master Operating Agreement) was requested from ATS to determine whether DARTS is compliant with the City's direction. The list provided by ATS did not appear to be complete.

The need for formal communications that are timely, effective, and sufficient regarding contract management practices was recently identified in Appendix "C" to Report AUD22007:

"Recommendation 4: We recommend that Transit's contract management practices be improved to ensure adequate contract management documentation is maintained by the City, including for amendments, non-conformances, and penalties, ensuring that contract management administrative requirements are strictly adhered to, maintaining appropriate contractor boundaries, and

formal communications with them are timely, effective, and sufficient."

Master Operating Agreement

The Master Operational Agreement (MOA) between the City and DARTS is out of date, having expired in 2017 and it continues to be in effect on a month-to-month basis. The agreement indicates that the City is to reimburse DARTS for fare revenue that DARTS may have lost for providing free transportation to its clients. However, it only limits reimbursement for such foregone fares to Support Persons, Special Events and Passenger Registrations.

As previously mentioned, ATS oversight is constrained by lack of independent access and/or control of the data. It is reliant on accurate input by DARTS of data, and on the timely access to it. This needs to be addressed in a future contract.

In addition, the current MOA lacks any incentives or contractual tools that would motivate DARTS to ensure accuracy in the data, and does not have meaningful mechanisms to address shortfalls in DARTS performance.

The need for a new, modern legal document that meets the City's requirements was recently identified in Appendix "C" of another audit of DARTS - AUD22007:

"Recommendation 1: We recommend that the existing Memorandum of Agreement (MOA) be substantially redesigned with a view to ensuring safe and efficient operations, clear standards, and effective remedies and contingencies. The MOA is dated, and lacks many critical areas of contract language such as driver training, vehicle safety, remedies for non-performance or conformance, penalties for non-compliance, vehicle specifications and standards, etc. A new, modern legal document that meets the City's requirements is needed."

Were the Overpayments Deliberate?

The audit did not find any evidence that DARTS staff intentionally manipulated the data to recover more than they should have. In fact, the is no incentive or benefit for DARTS to do so. Not only does the City subsidize DARTS for revenue foregone in providing free service to its passengers that are attending special events, at the end of each year the City also provides DARTS with a much larger payment that effectively makes it whole if it runs a deficit. This payment (referred to as the Municipal Contribution in the Financial Statements) is used to offset DARTS' total expenditures so that it balances to total revenue. At year end DARTS is therefore compensated for any shortfall in unfunded expenses, and the City claws back any surpluses – essentially operating under a breakeven model.

Having said this however, there is also little incentive for DARTS to ensure a high level of accuracy in coding these special event trips, given the current contractual arrangements and lack of consequences for error.

What Should be Done About the Overpayments?

Recovery of the overpayment would essentially require a complete analysis going back to 2012, calculating the exact overpayments for the first six years, as well as identifying which type of errors led to the overpayments.

There were two different types of error that occurred, each with different implications for loss to the City.

The first error type (type A) occurs when a fare is collected from a passenger and is erroneously coded as a subsidized trip. This results in the double collection of revenue to DARTS. At the year-end reconciliation, the amount of error would be naturally corrected as the City, with the way the contract is administered, ends up clawing back surplus or making up DARTS deficits depending on the circumstances.

The second error type (type B) occurs when a fare is not collected from a passenger for what is erroneously recorded as a subsidized trip. This results in a revenue loss that is ultimately borne by the City.

Making the City whole for past overpayments would require collecting money from passengers who were not charged when they should have been, as far back as 2012. This task would be a complex undertaking. Even if it were feasible, it would likely cost more to administer than the revenue collected. It would require up-to-date contact information for passengers that had travelled many years ago, and communication with each of them individually.

OAG arrived at the conclusion there is little in the way of meaningful action that can be implemented to recover the lost amounts, and that recovery would likely be impractical.

Recommendations and Management Responses

OAG made the following recommendations:

Recommendation 1

That HSR management ensure the inclusion of terms in a new Master Operating Agreement (MOA) with DARTS that would facilitate stronger oversight capabilities, and incentive and penalty mechanisms to more confidently assure contract compliance and quality of data.

Management Response

Agree.

The City's Transit Division will ensure that any new Agreement for contracted services is updated in accordance with audit findings and industry best practices to facilitate stronger oversight and contract compliance, including incentives and penalties as may be required.

Estimated Completion: Q4 2025.

Recommendation 2

That Accessible Transportation Services (ATS) consider hosting all ride booking software and data in-house which could include a cloud-based solution so long as HSR/ATS retains administrative privileges, or in the alternative obtain unambiguous rights to full read access and data extraction capability without the necessity of going through DARTS.

Management Response

Agree.

In 2023, ATS began meeting with the City's Information Technology staff to determine the resources and workplan that may be required to bring software and data back into the care and control of the City in order to continue implementing Management responses to AUD22007. This change would result in ATS being the controller of the software, and the Contractor would become a permitted user. It the current configuration, the roles are reversed.

Estimated Completion: Q1 2026.

Recommendation 3

That the ride codes for all special events to be used by DARTS be set by HSR management at the beginning of, and as necessary during each year. Any changes required during the year should be approved by HSR management via an addendum as needed, and ATS should ensure that DARTS only uses the approved codes set by HSR management when booking foregone fares trips (i.e. support persons, special events, and passenger orientation).

Management Response

Agree.

The City's Transit Division will annually establish a list of special events and applicable codes to be applied against fares at time of travel. The Transit Division may periodically modify these codes. The Contractor will be informed of the codes and will be responsible for ensuring the codes are correctly applied, auditing work performance to ensure established standards are met and any reporting requirements established by the City. The Contractor will be responsible for ensuring any subcontractors are adhering to the same standards and requirements.

While special event fares are already in the Agreement, more specific language will be incorporated into any future Agreements for service.

Expected Completion: Q1 2025.

Recommendation 4

That DARTS issue monthly reports invoicing ATS for forgone fares and that ATS verify the correctness of amounts before issuing payment.

Management Response

Agree.

The City's Transit Division will clarify and issue reporting expectations for the Contractor with regards to reporting foregone fares arising from special events.

ATS will verify the information provided by the Contractor monthly as a part of invoice reconciliation prior to payment.

More specific language on the above will be included in any future Agreements for service.

Expected Completion: Q1 2025; independent reports pulled by ATS are contingent upon restoration of the VPN tunnel to the DARTS server, expected in January 2025.



Charles Brown CPA, CA Auditor General

Brigitte Minard CPA, CA, CIA, CGAP, CFE Deputy Auditor General

Dennis Guy

Senior Audit and Investigations Specialist

Cindy Purnomo Stuive IAP Audit and Investigations Analyst

Domenic Pellegrini CPA, CMA, CIA (Retired) Senior Audit and Investigations Specialist

Phone: 905-546-2424 ext. 2257 Email: auditorgeneral@hamilton.ca

Website: hamilton.ca/audit



SPEAK UP – Reporting Fraud and Waste

Online: Hamilton.ca/fraud Phone: 1-888-390-0393

Mail: PO Box 91880, West Vancouver, BC

V7V 4S4

Email: cityofhamilton@integritycounts.ca

Fax: 1-844-785-0699

Copies of our audit reports are available at: hamilton.ca/audit

Alternate report formats available upon request.