

TransLink HandyDART Service Performance Review 2019

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A Message from the CEO of TransLink

We believe that excellent transportation leads to an improved quality of life. That's why HandyDART is such an essential component of Metro Vancouver's transportation system. Our goal is to make the entire system accessible to as many people as possible.

HandyDART service is unlike any other service in our network. It provides unique, door-to-door service for customers who are not always able to use our conventional system without assistance. In 2019 alone, HandyDART accommodated nearly 5,000 trips a day across the region. This service provides our customers with an accessible connection to the communities and services that matter most.

Since its inception in 1980, HandyDART has achieved many successes, and we know that as the population ages, we need to better plan our services for the future. To better understand where we need to go, we need a clear picture of the present.

This inaugural and consolidated report of the 2019 HandyDART Service Performance Review (HDSPR) is part of TransLink's continued commitment to transparency. It will serve as a benchmark to track and measure the growth and impact of HandyDART.

We have also been working closely with customers, the HandyDART Users' Advisory Committee and other stakeholders to understand the travel patterns and needs of those who depend on this service. These insights help us improve the customer experience, from booking, boarding, waiting, to the journey itself.

The data contained within this report will help guide our decisions as we work to enhance access to transit and ensure HandyDART remains a viable service for those who depend on it to live a full and active life in the region. Together, we can make meaningful improvements that meet the needs of HandyDART customers now and into the future.

A handwritten signature in black ink that reads "Kevin Desmond". The signature is fluid and cursive, written in a professional style.

Kevin Desmond
CEO, TransLink

HandyDART in 2019 at a Glance

This study focused on the performance of the HandyDART system, TransLink's service for customers who are unable to use the conventional transit system due to disabilities. The following provides a summary of the key findings from this study, which included a review and analysis of performance metrics related to usage and delivery of HandyDART services including Supplemental Taxi.



RIDERSHIP TRENDS AND CHARACTERISTICS

- Ridership overall has increased faster than population growth and faster than budgeted trips.
- Ambulatory customers made up the largest share of customer trips served which can help inform service planning and vehicle procurement.
- HandyDART vehicles served almost all customer trips that involved wheelchairs.
- Customers aged 20 – 35 have the highest average trip rates, which trends lower for older age groups.
- Even with lower trip rates, the large number of customers in older age groups represent the largest amount of trips taken.
- Cost per trip of delivering the service has decreased since 2017 and in 2019 was \$39.26.

REGISTERED CUSTOMERS

- Since 2010, customers aged 55 – 75 represent the largest increase in HandyDART registrations and is reflective of an aging population in the region.

SERVICE LEVELS

- HandyDART vehicles provided 518, 900 service hours in 2019.
- HandyDART vehicles delivered 1,198,300 trips and Supplemental Taxi delivered 183,500 trips.
- In total, 1,381,800 trips were delivered.

ON-TIME PERFORMANCE

- 87% of vehicle trips pick customers up within the promised on-time window of 15 minutes before or after the scheduled time.

SAFETY ON-BOARD

- Injury rates have decreased steadily each year since 2014; in 2019 they were only 27% of the 2014 level.

SYSTEM EFFICIENCY

- Less than 1% of HandyDART trips were intermodal with conventional transit service (connecting with bus, SkyTrain, SeaBus or West Coast Express).

CALL CENTRE

- Waiting on hold makes up approximately half of the time (around 3 minutes) customers spend on calls to the HandyDART line.
- Customers abandon about 1 in every 10 calls with most of them abandoned in the first two minutes of waiting.

CANCELLATIONS, DENIALS AND REFUSALS

- Customer cancellations account for almost 9 out of 10 trip cancellations. Many customers cancel trips for legitimate reasons such as rescheduling of appointments or programs.
- Denials and refusals decreased by 86% from 2014. In 2019 denials averaged 0.08% of requests and refusals averaged 0.11%.

CUSTOMER PERSPECTIVES

- Customer ratings for both **HandyDART** and for **Supplemental Taxi** were high on the following measures:
 - » Service overall
 - » On-time performance
 - » Ease of booking
- Customer ratings for driver's skills to assist passengers who have a physical disability were high for HandyDART drivers; ratings for taxi drivers were lower.
- Customer ratings for **HandyDART** were high on the following measures (but no information about Supplemental Taxi):
 - » Feeling safe from injury on board
 - » Cleanliness and good repair of vehicles
 - » Courteous, competent and helpful HandyDART drivers
- The combined rating of value for money was high (the measure does not separate HandyDART and Supplemental Taxi).
- For Supplemental Taxi, most customers said that drivers had provided *door to door Supplemental Taxi service and ensured their seatbelt was secure before departing.*

Introduction and Background

This review describes the performance of TransLink’s HandyDART service in 2019. It is the first year TransLink has prepared a standalone review for HandyDART in order to provide an in depth understanding of the service. TransLink tracks performance to ensure it is meeting demand from its customers and meeting their expectations.

Past TransLink reports on HandyDART performance have included the following:

- **Accountability Centre** – Since 2017, information about HandyDART service has been available on TransLink’s Accountability Centre¹. Transit performance tracking includes customer satisfaction and some HandyDART performance indicators.
- **Transit Service Performance Review: HandyDART Summary** – As of 2019, HandyDART service has also been included in the system-wide Transit Service Performance Review, a report that is a comprehensive summary of ridership, cost, utilization, and reliability of TransLink’s services. This includes a dashboard to summarize key characteristics and key performance indicators (KPIs) for HandyDART².
- **Customer Service Performance** – Annual survey of experience and satisfaction for HandyDART customers³. The primary objectives of the research are to evaluate the quality of service provided by HandyDART (including Supplemental Taxi), determine the reasons for change in usage and identify areas for improvement.
- **Corporate Reports** – TransLink produces annual Statutory and Accountability reports, featuring HandyDART, that provide a summary of operations and highlight strategic, service, capital, and operational plan successes⁴.

¹ <https://www.translink.ca/Plans-and-Projects/Accountability-Centre.aspx>

² <https://public.tableau.com/profile/translink#!/vizhome/2018TSPR-HandyDARTSummaries/TitlePage>

³ <https://www.translink.ca/Customer-Service/Customer-Service-Performance.aspx>

⁴ <https://www.translink.ca/About-Us/Corporate-Overview/Corporate-Reports.aspx>

As part of its commitment to delivering a world-class transit customer experience throughout the region, TransLink is committed to transparency and performance improvement. An annual program of performance reporting supports this with reporting for conventional transit and, more recently, a more customized report for HandyDART recognizing the unique nature of this service. Some features of HandyDART that don't apply to conventional include:

- Customers must be registered and eligible to use the HandyDART program.
- Customer must book and cancel trips in advance.
- Trips, including schedules and routes, are created in response to customer requests.
- Service is door to door.
- Drivers will accompany customers to and from the vehicle.

HandyDART is TransLink's brand name for custom transit and is provided when registered customers with disabilities are unable to use conventional transit services without assistance for part or all of their travel requirements. The service is delivered in several forms:

- **HandyDART service** – trips provided with branded, accessible vehicles, operated for TransLink under contract. In this review when we refer to HandyDART service we usually mean this service unless we specifically say that we are referring to the whole HandyDART program.
- **Supplemental Taxi service** – taxis sent to provide service when HandyDART vehicles are not available. Reasons may include periods of high demand or serving customers when HandyDART vehicles are delayed in traffic or other circumstances. Customers pay a regular HandyDART fare and TransLink pays the rest of the taxi fare.
- **Intermodal trips** – Trips involving HandyDART and conventional transit.

STUDY OBJECTIVES AND APPROACH

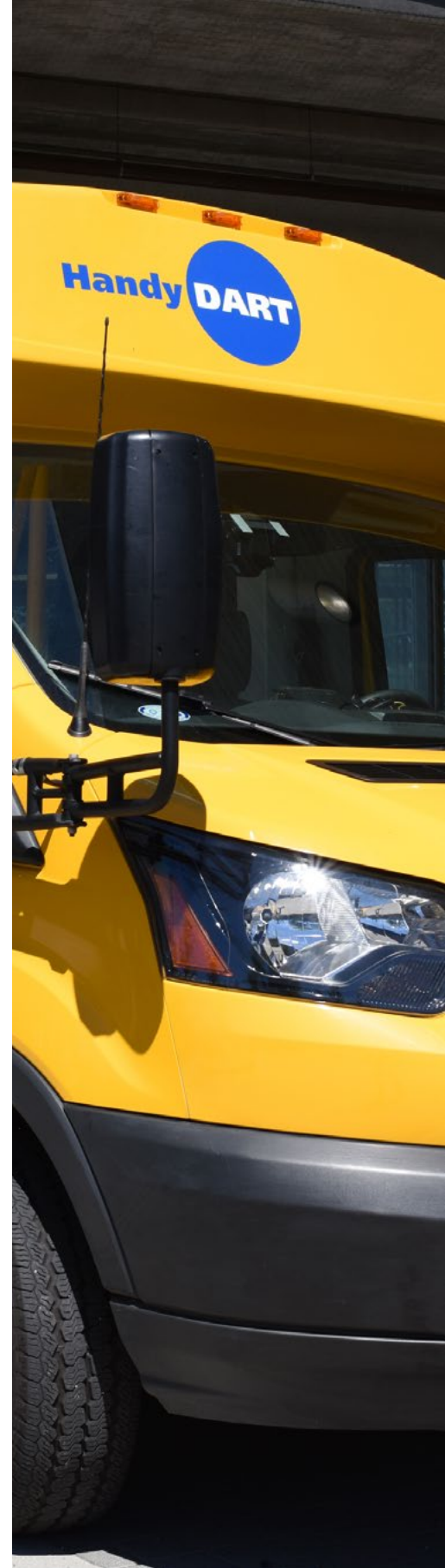
The objectives of this HandyDART Service Performance Review include:

- Design a foundational review that will lead to annual reporting on HandyDART performance.
- Identify performance trends (e.g. trips delivered, denials, refusals, on-time performance) using available data sources.
- Identify performance challenges.
- Conduct data analysis that helps to advance the understanding of HandyDART performance.

This review identifies metrics that provide insights about the effectiveness and efficiency of the service and the customer experience across the HandyDART program. The review also includes key trends in performance, as well as advice about areas of high performance that should be maintained and challenges that require attention.

In advance of undertaking detailed data analysis, the study team met with two groups that represent HandyDART stakeholders: the HandyDART Users' Advisory Committee (HDUAC) and HandyDART Riders' Alliance (HRA). The groups provided their perspective on HandyDART service and the current reporting. The study team also met with several groups within TransLink, Coast Mountain Bus Company and First Transit, the HandyDART operator, to gain further insights into HandyDART performance, available metrics and reporting. Findings from these meetings are provided in Appendix 1.

In addition to reporting on 2019 performance, this review is also a guide for future reviews that may be updated regularly and enhanced with improved data collection, system upgrades and analysis.



What is HandyDART?

This section provides an overview of HandyDART and provides definitions that are helpful to understand some of the metrics later in the review.

HandyDART vehicles are equipped to service passengers with disabilities including those using a wheelchair. Customers using the Supplemental Taxi can also request an accessible taxi that can handle wheelchairs and other mobility devices as shown in Figure 1.



Figure 1 – HandyDART and Accessible Taxi Vehicles

Here are some other features and services that relate to HandyDART and are not included in this review:

- **HandyCard** – an identification card that enables eligible customers to travel on conventional transit at concession fares with their required attendant who travels for free.
- **TaxiSaver** – a voucher program for HandyCard holders. Customers can purchase a limited number of taxi fare discount vouchers and use them for taxi trips they book themselves.
- **Conventional Transit** – the scheduled, fixed route bus, SkyTrain, SeaBus and West Coast Express service that makes up the rest of the transit system. Much of Metro Vancouver’s conventional transit system has accessibility features such as:
 - » Vehicles with low or level floors and boarding ramps and lifts for high-floor vehicles;
 - » SkyTrain stations with elevators and many bus stops with curb ramps and shelters; and
 - » Other features such as audible stop announcements and passenger information displays.
- **Compass Card** – Compass Card is TransLink’s electronic smart card for fare payments.



ACCESS TRANSIT OVERVIEW

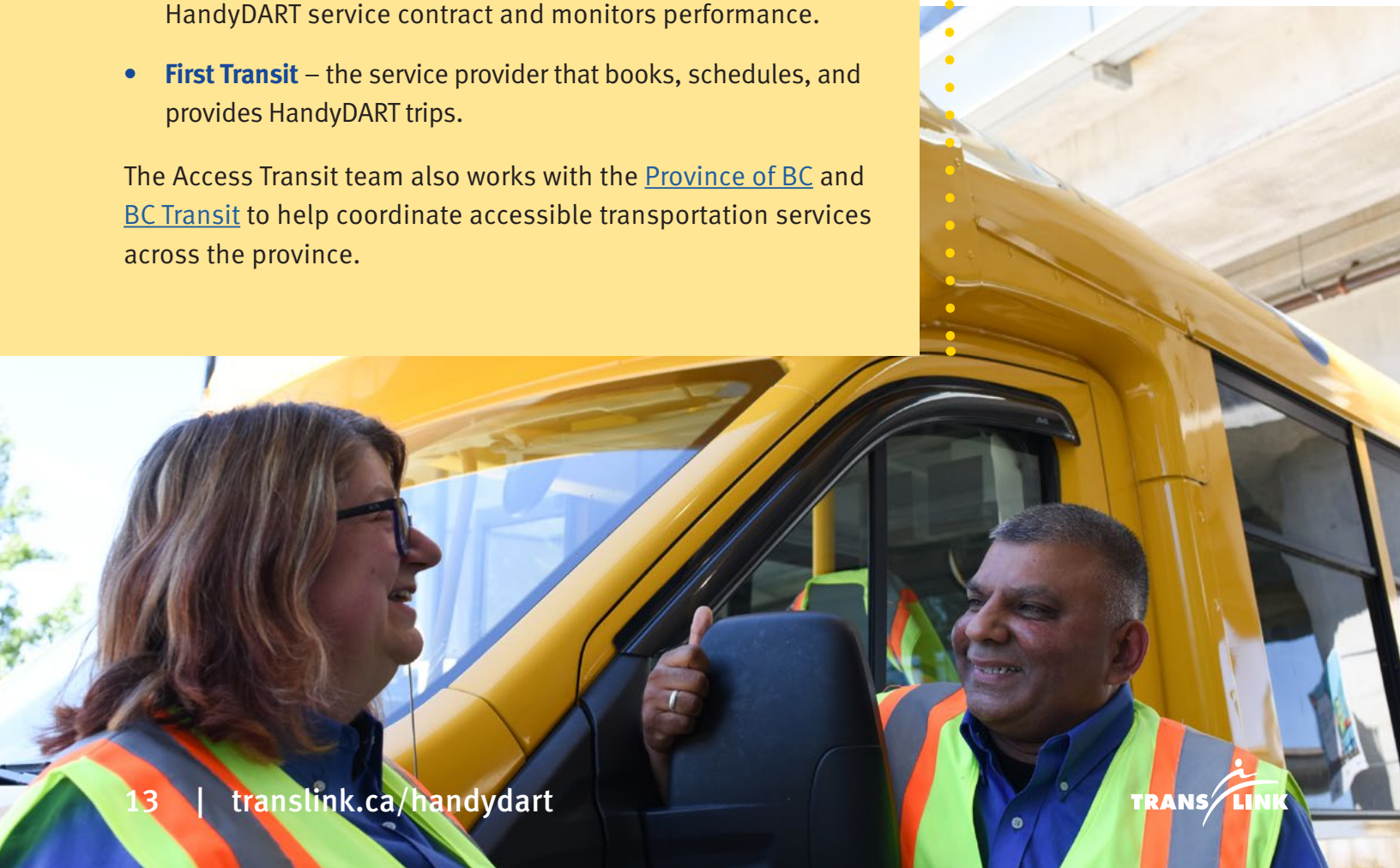
The Access Transit program was established to ensure that accessible transit is integrated into all of TransLink's plans, projects, and programs. The Access Transit team works closely with a [Users' Advisory Committee](#) and a [HandyDART Users' Advisory Committee](#) to implement and seek feedback on access transit and conventional programs and services.

THE ACCESS TRANSIT TEAM

The TransLink team that manages implementation of TransLink's accessibility programs, plans, policies, and services consists of:

- **Access Transit Planning** – manages the Access Transit strategy, policies and administers the advisory committees.
- **Access Transit Customer Care** – is the main point of contact for customer services such as HandyDART and HandyCard registration and administering the TaxiSaver program.
- **Access Transit Service Delivery** – administers the HandyDART service contract and monitors performance.
- **First Transit** – the service provider that books, schedules, and provides HandyDART trips.

The Access Transit team also works with the [Province of BC](#) and [BC Transit](#) to help coordinate accessible transportation services across the province.



To prepare this review, the study team reviewed existing data and operational reporting. The team also analysed reports from several existing systems including the scheduling system ('Trapeze') and the call management system used by First Transit, TransLink's annual survey of HandyDART customers, the TransLink accountability dashboard, and previous Transit Service Performance Reviews from the conventional transit system.



TRANSLINK'S HANDYDART CUSTOMER SERVICE PERFORMANCE REPORT

Ipsos, a research firm, conducts an annual survey contacting "past-month users" (who used HandyDART vehicles or Supplemental Taxi at least once in the past month) to gather their opinions about:

- The quality of service provided.
- The reasons for changes in their usage.
- Areas for improvement.

Ipsos conducted 500 telephone interviews in October 2019, with customers aged 18 or older. Customers were first informed about the upcoming survey in a letter so that they would understand and feel comfortable participating in the survey. Overall, the results are statistically valid. Full details are available in the 2019 HandyDART Customer Service Performance Review.

For each question, results are reported in terms of the average score from 1 (least favourable) to 10 (most favourable), and in terms of the share of people answering the survey that gave scores of Good to Excellent (8 – 10).





PRESENTATION OF ANALYSIS

The following sections present the analysis of HandyDART data. The Customer Experience section follows the journey of a customer taking a HandyDART trip, from booking and waiting for a ride, to paying fares and taking the trip. Each sub section presents data related to each segment of the trip. The second section, Operational Insights, presents metrics from TransLink's and the operator's perspective. These are the elements which a customer may not be aware of in their day-to-day experience with the service but are nevertheless important metrics when examining the overall performance of the service. Woven into both sections are the customer perspectives, each relevant to the segment of the trip being made.

To the extent possible the measures are shown without offering opinions and short descriptions of the measures have been provided including tables or graphs to illustrate the data. Also, where it is appropriate, comments that were heard from the groups in engagement discussions have also been included.



The Customer Experience

BOOKING A TRIP

To book a trip, a customer must call HandyDART and make a reservation. Customers can book a casual trip which is taken on a one-time basis. They are able to make a trip reservation up to seven days in advance but not later than 4:00 pm the day before. Customers can also make subscription trips which are repeated trips to and from the same location on a daily or weekly basis. In total the HandyDART system responded to 1.8 million trip requests in 2019.

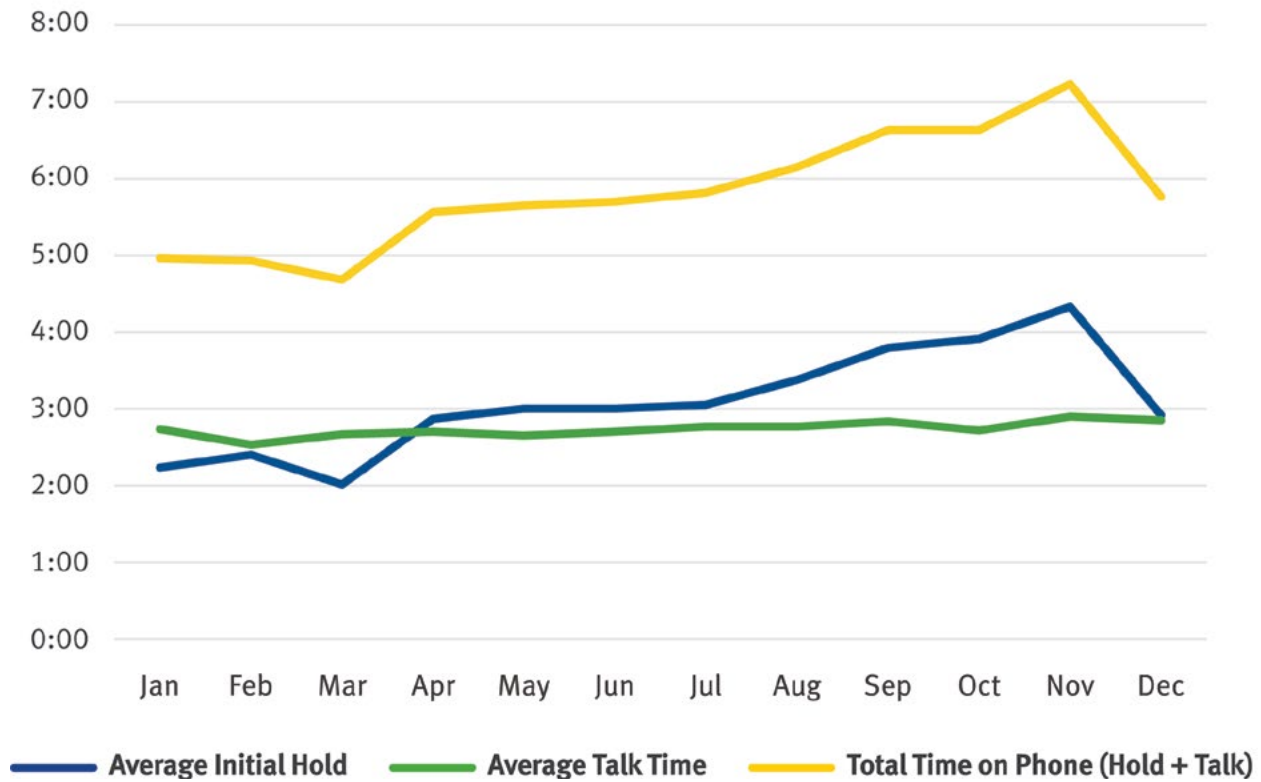


Figure 2 – Phone Call Duration in Minutes

CALL WAIT TIME

In 2019, customers calling the HandyDART line waited on initial hold an average of approximately 3 minutes (3:05) before their call was answered by an agent.

Once they are answered by an agent, calls lasted under 3 minutes on average (see Figure 2). When combined with hold times, customer calls lasted 5:40 on average, of which approximately half is wait time. Average call handling times showed little overall deviation month to month while hold times varied more.



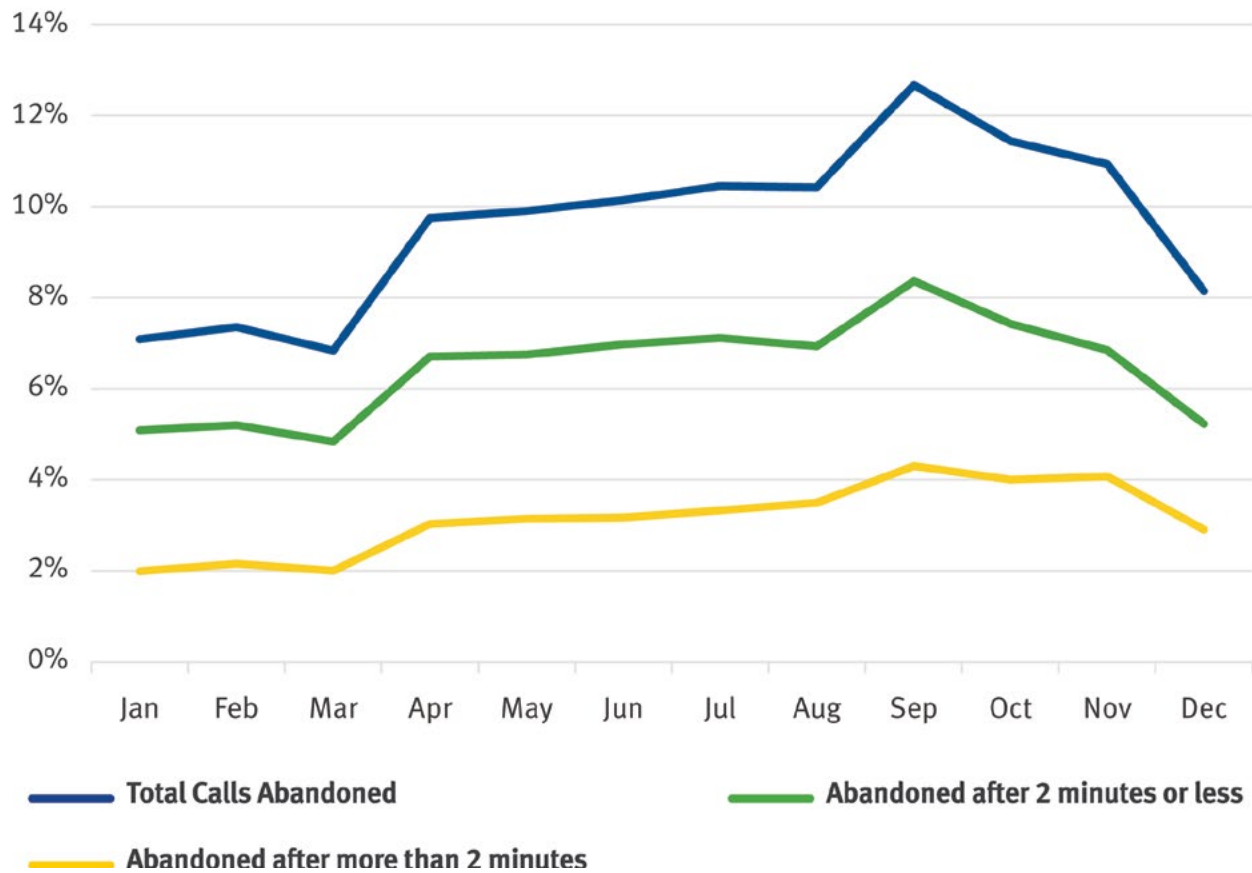


Figure 3 – Calls Abandoned (hung up) as Percent of All Calls Received

When customers ended the call prematurely (10% of all calls) they did so after an average of under 3 minutes (2:41). Figure 3 shows that the rate of calls abandoned trended up slightly through 2019 with approximately 7% of all calls abandoned after two minutes or less and the rest taking more than two minutes. Reasons for abandoned calls are not reported.



CUSTOMER SATISFACTION ON EASE OF BOOKING

People answering the Customer Satisfaction survey rated ease of booking a trip as 8.5 out of 10 in 2019 (Figure 4) with 76% giving a score of 8 – 10 out of 10. Both scores have trended upward in the past few years.

Customers rated their ability to book trips when they want them—the “availability” of HandyDART—as 8.6 out of 10 in 2019 (Figure 5) with 80% of customers rating 8 – 10 out of 10. This trend has also been rising since 2010.

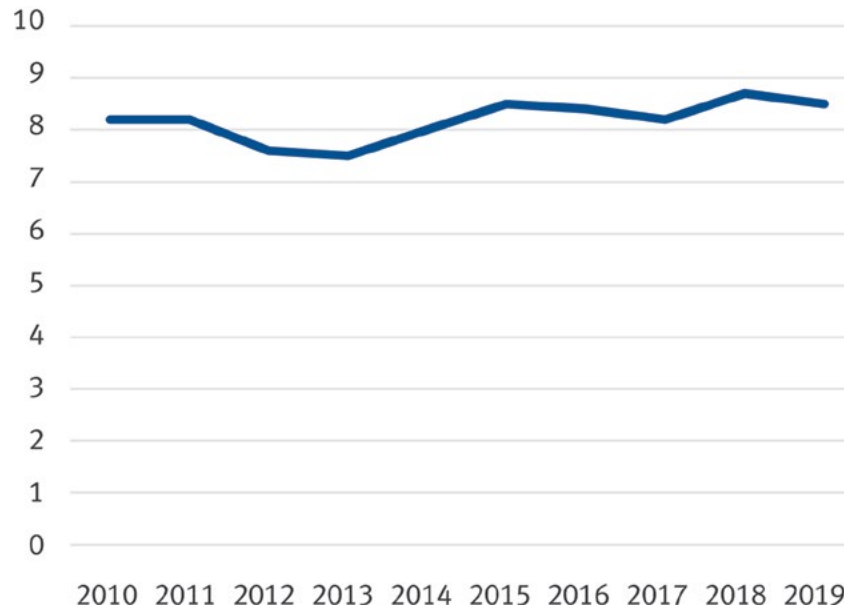


Figure 4 – Average Satisfaction Score for Ease of Booking a Trip with HandyDART

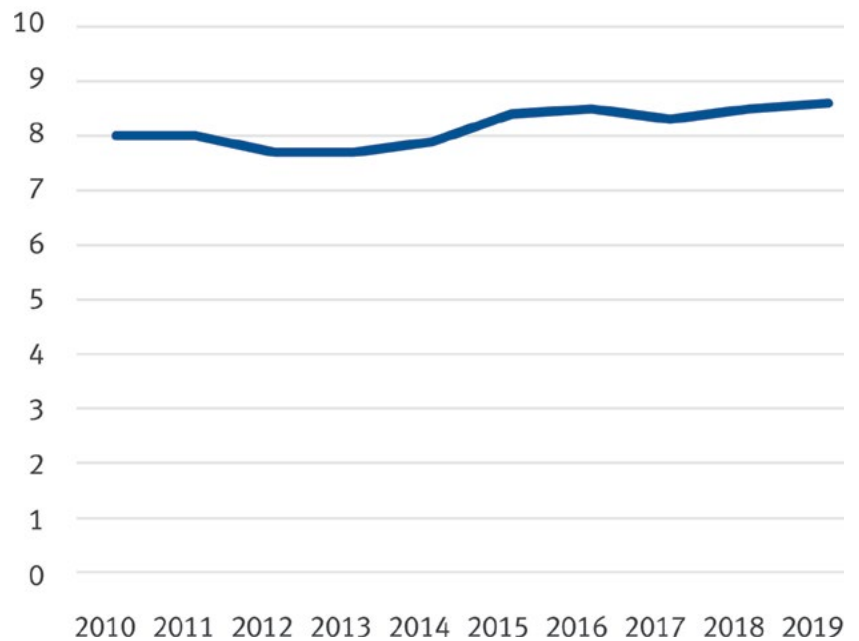


Figure 5 – Average Satisfaction Score for Availability of HandyDART

DENIALS AND REFUSALS

Trips that are requested and not booked are tracked in two categories, Denials and Refusals.

Denial – A HandyDART customer trip request that is not accommodated. Denials occur because requests for trips cannot be accommodated in the schedule when they are received close to the desired travel day, for peak travel times with high demand for service or for some long trips that cannot be served.

Refusal – A HandyDART trip that a customer refuses when offered. Trip refusals occur when a requested trip time is unavailable, an alternative time is offered (up to an hour before or after the requested time) and the proposed time is not agreeable to the customer.

In a request for a round trip, if the trip in one direction is agreeable to the customer and the trip in the other direction is not, the customer may refuse the entire trip. This is recorded as one refusal and one denial.

A potential relationship between Denials and Refusals was raised by stakeholders. Some stated that they were not sure how Refusals and Denials are recorded. Moreover, from a customer perspective, a denied or a refused trip both result in the customer being unable to receive the trip they want. In this sense, the definitional difference may matter less to the average customer. This is an area for potential exploration to ensure there is shared understanding and confidence in the HandyDART data and processes.

Tracking the reasons for both denials and refusals may also provide insight about the patterns and opportunities for improved performance. It is noted that collecting data on refusals may need to be approached cautiously and in collaboration with stakeholder groups to address potential concerns.

Both denials and refusals have decreased in past years (Figure 6). In 2019, denials averaged 0.08% of requests and refusals averaged 0.11%. The rates varied considerably through the year with Denials increasing and Refusals declining. There was also a sharp increase in denials in November and December due to the potential transit strike and higher than normal holiday demand (Figure 7).

Future evaluation may also consider the potential benefits of providing more service either with HandyDART vehicles or with Supplemental Taxi.

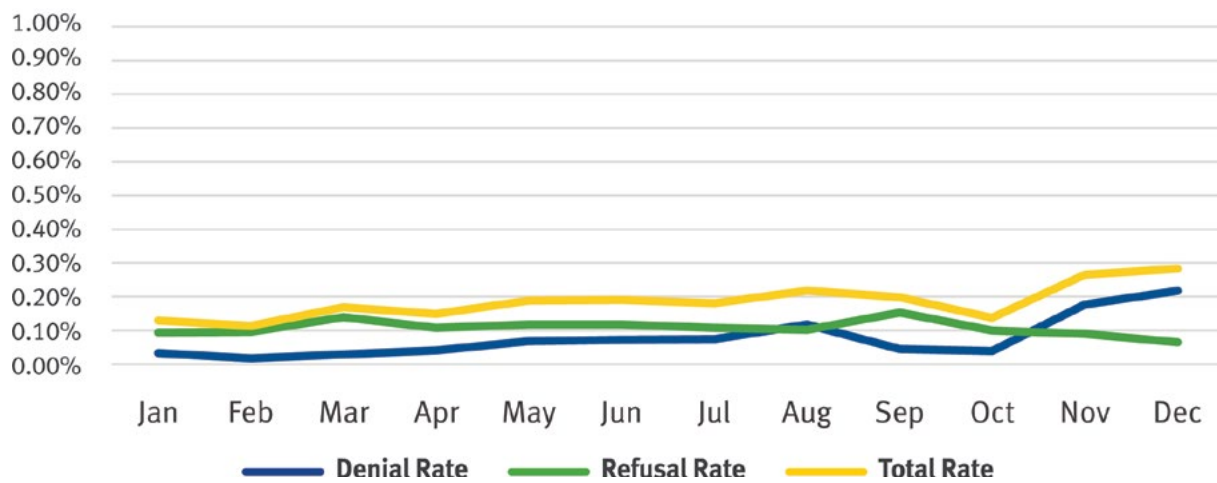


Figure 6 – HandyDART Denial and Refusal Trends by Year

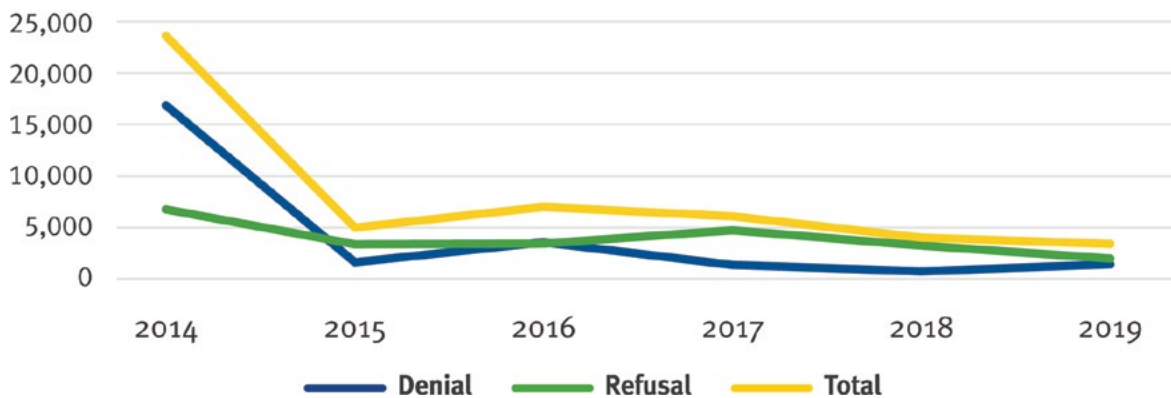


Figure 7 – HandyDART Denials and Refusals, Rate by Month in 2019

TRIP CANCELLATIONS

Almost one in four (approximately 436,000) customer trips were cancelled after booking. Cancellation categories include the following:

	CANCEL TYPES	DEFINITION
BY CUSTOMER	Advance Cancel	All cancellations that are made prior to the day of service
	Cancel Late	A cancellation that is made within 2 hour of the scheduled trip time
	Cancel at Door	A cancellation that is made when the driver comes to the accessible entrance of the pick-up
	Same Day Cancel	A cancellation that is made on the day of service but more that 2 hours in advance
	User Error Cancel	A HandyDART user makes a error in the booking. Instead of deleting the booking the user cancels the booking. In this way all booking history is recorded.
	No Show	The customer does not show up for their scheduled trip
EXTERNAL FACTOR	Site Closure Cancel	A cancellation of multiple customers as the result of a closure of workshop, adult day program, etc.
	Weather Cancel	Cancellations due to inclement weather (user defined cancellation type)
	Statutory Holiday Cancel	All subscription trips other than dialysis are canceled on statutory holidays (user defined cancellation type)
	Other Cancel	Weather and statutory holiday cancellations
	Missed Trip	HandyDART fails to pick up the customer. The driver arrives at the pick-up too late for the customer to go or misses the trip completely

Most cancellations are due to customer reasons (Figure 8) though specific reasons are not reported. Stakeholders noted that there are many legitimate reasons for customers to cancel trips that they previously booked, including feeling unwell. However, late cancellations (within 2 hours of the trip) and no shows can impact vehicle schedules and result in unproductive travel time. This can impact other customers' travel experience by changing their trip durations and can also impact customers requesting service since late cancellations may take up space in the schedules that could have been used by someone else.

The data also records requests for Standby Trips, where customers make late requests after the booking window has closed. These are not guaranteed but may be accommodated if space comes available, such as by cancellations. In 2019, HandyDART accommodated 11,700 Standby Trips, 0.9% of total trips delivered, and was unable to fulfil requests on a further 17,700 trips.

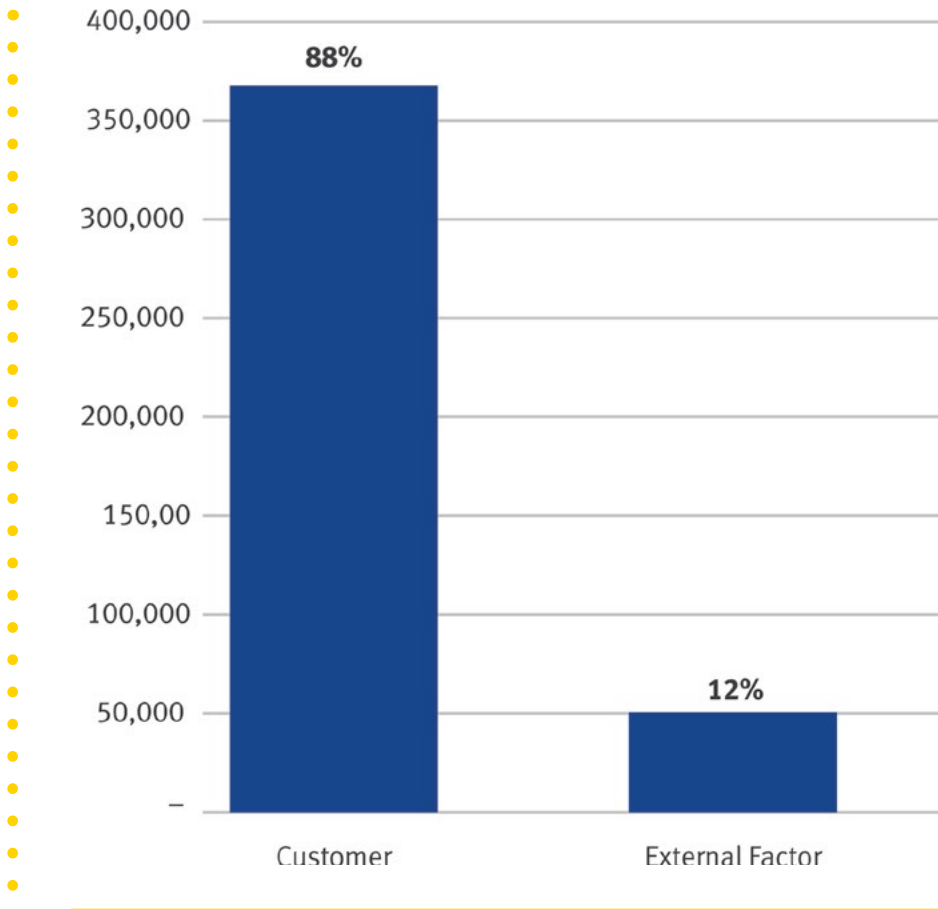


Figure 8 – Origins of Cancellations

WAITING FOR THE RIDE (ON-TIME PERFORMANCE)

For service reliability, TransLink measures the arrival times of HandyDART vehicles compared with the time promised at the time of booking.

The categories (also illustrated in Figure 9) are:

- **Early** – Arriving more than 15 minutes before the scheduled time. The customer does not need to board the vehicle until the start of their scheduled pickup window.
- **On-Time (Prior)** – Arriving up to 15 minutes before the scheduled time.
- **On-Time (After)** – Arriving 1 – 15 minutes after the scheduled time.
- **Late** – 15 – 30 minutes after the scheduled time.
- **Excessively Late** – More than 30 minutes after the scheduled time.
- **Missed** – Arriving more than 60 minutes after the scheduled time and the customer accepts the trip.

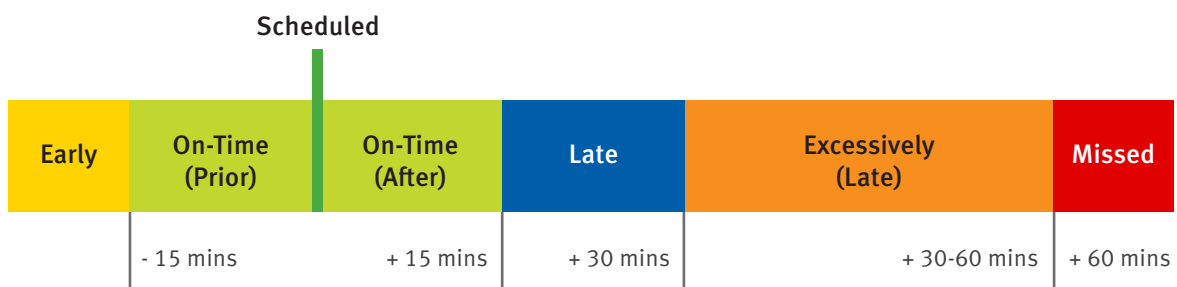


Figure 9 – Illustration of On-Time Performance categories

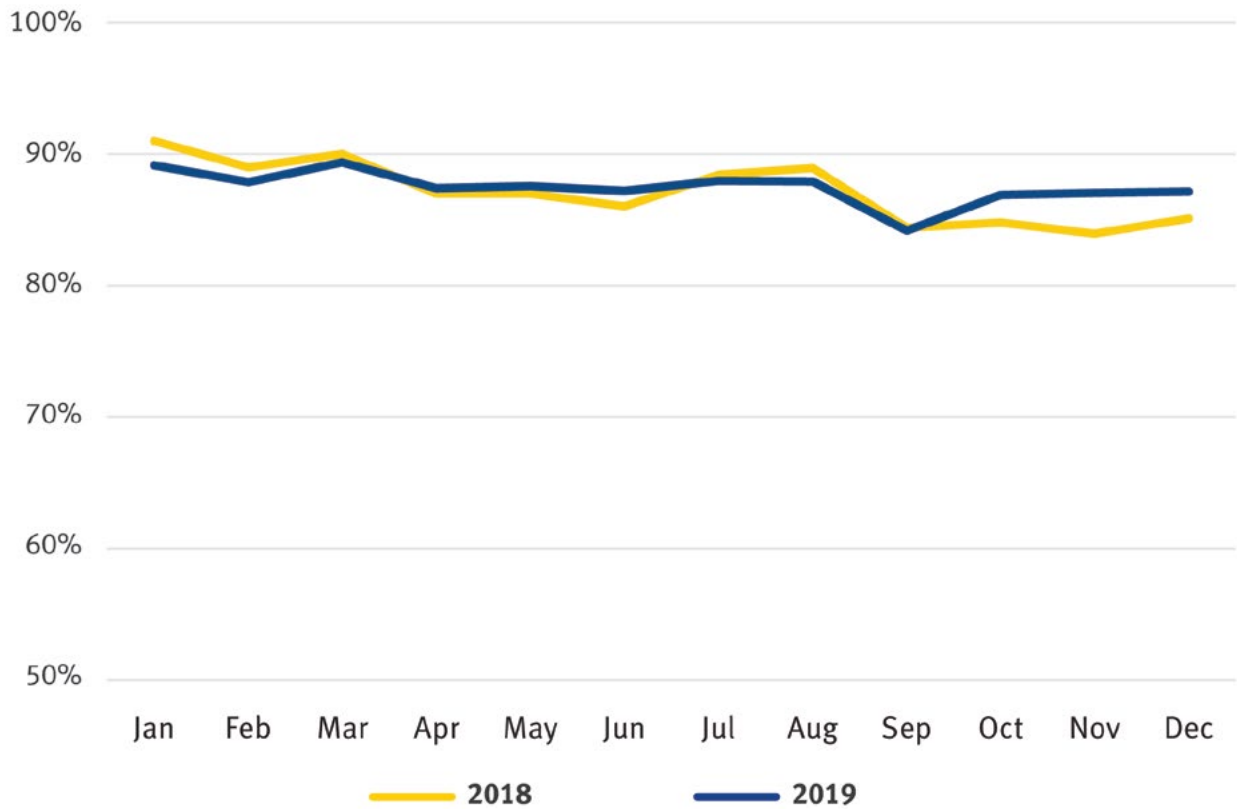


Figure 10 – HandyDART Early and On-Time Performance

In 2019, 75% of trips were reported as on-time, the same as in 2018. Figure 10 illustrates the trends by month comparing the two years. Note that this metric includes early trips as well as on-time trips since a customer does not need to board the vehicle until their on-time window.



Looking at the elements of on-time performance, Figure 11 reveals more detail:

- 43% were on-time in the 15 minutes before the stated pick-up time.
- 32% were on-time in the 15 minutes after the stated pick-up time.
- 14% of trips arrived early more than 15 minutes before the pick up time (the customer does not have to board until their agreed upon pick up window).
- 12% arrived late for pickup outside the 30-minute pickup window (note rounding).

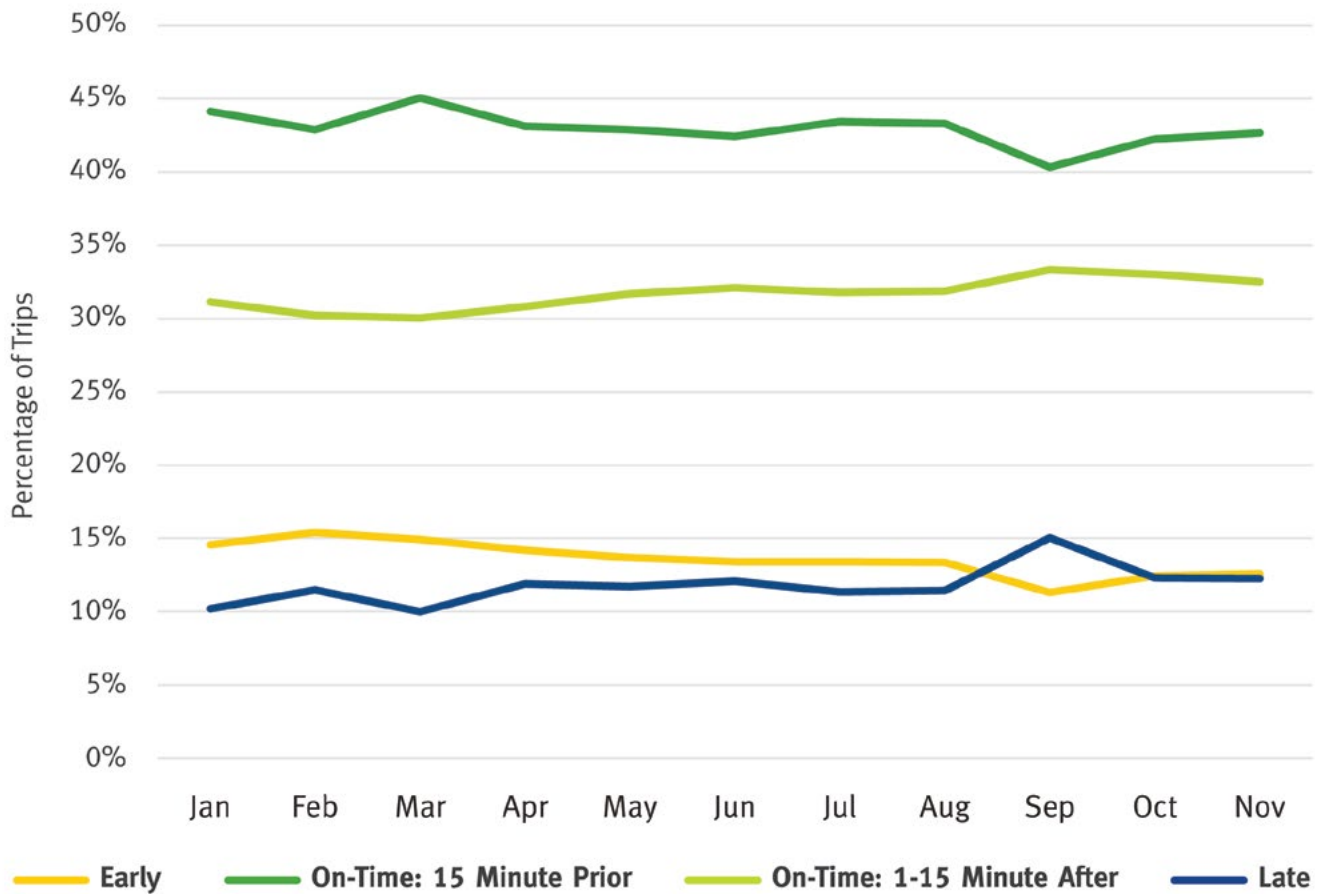


Figure 11 – HandyDART Monthly On-Time Performance

Overall, 4,400 trips were excessively late out of the 1.4 million trips provided (0.31%). HandyDART's rate was 0.27% and Supplemental Taxi's rate was 0.61% of booked trips. Note that taxi trips are deployed as a supplemental service, used for relief, overflow, or emergency purposes in order to complete HandyDART trips and can, therefore, receive less notice to fulfill a trip.

The HandyDART system also missed (see definition above) 1,400 scheduled trips (0.1%) in 2019. Of these, 58% were by HandyDART and 42% were by Supplemental Taxi. Measuring by the number of trips delivered, HandyDART missed 0.07% and Supplemental Taxi missed 0.33% of booked trips.



CUSTOMER SATISFACTION OF ON-TIME, RELIABLE SERVICE

Customers satisfaction scores for on-time, reliable HandyDART service were 8.0 out of 10 in 2019 (Figure 12), consistent with past years. For Supplemental Taxi, customer satisfaction scores were 8.2 out of 10, also consistent with past years and shown in the same figure.

68% of customers scored HandyDART’s on-time, reliable service as 8 – 10 out of 10 while 73% of customers score Supplemental Taxi service as 8 – 10 out of 10.

The satisfaction scores are similar for both HandyDART and Supplemental Taxi which may relate to the perception by some customers that Supplemental Taxi is a reliable alternative to HandyDART vehicles and an acceptable alternative to having HandyDART service denied.

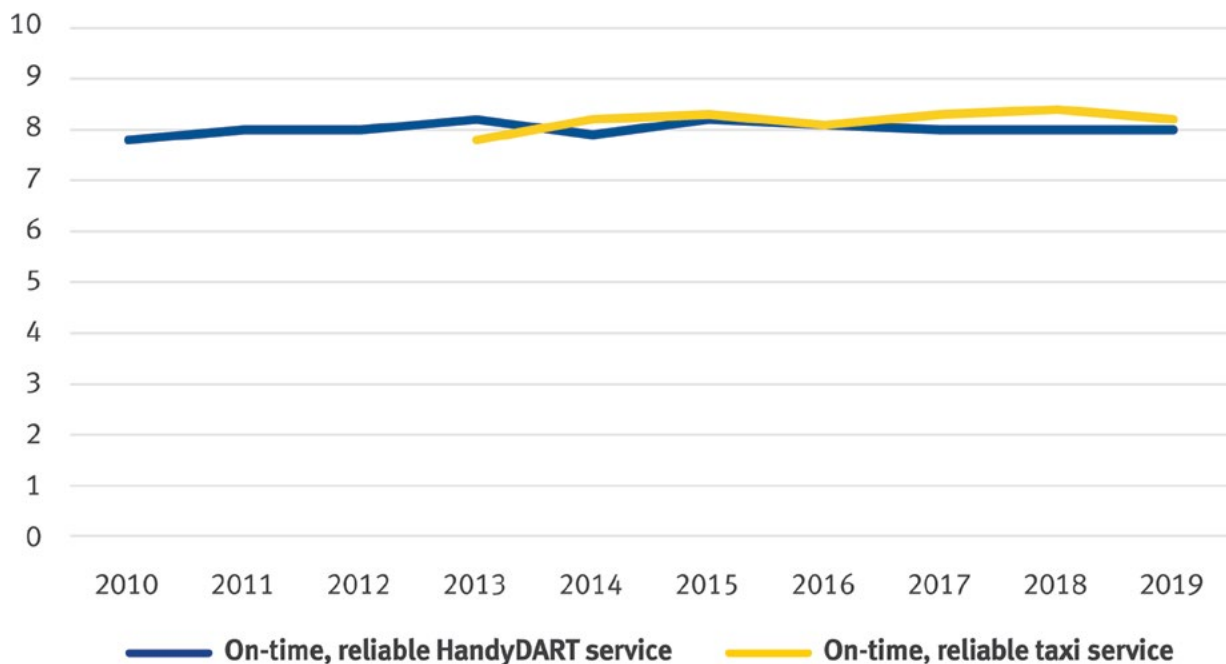


Figure 12 – Average Satisfaction Scores for On-Time, Reliable HandyDART and Supplemental Taxi Service



FARE PAYMENT BY FARE MEDIA

For HandyDART service, customers can pay by several methods including:

- **FareSaver** – prepaid discount fare single trip paper tickets purchased in books of 10. FareSavers can be purchased from the driver and are not available for sale on weekends.
- **Compass Monthly Pass** – monthly, prepaid, unlimited ride pass loaded on a blue Compass Card when purchased and loaded from the HandyDART office.
- **FareCard** – monthly, prepaid, unlimited ride paper pass.
- **U-Pass** – unlimited ride monthly pass for full time post secondary students paid through student fees.
- **Cash** – currency paid to the driver at full fare rates.

Revenue in 2019 was \$3.29 million. FareSavers were used most, accounting for 77% of fare revenue in 2019, a stable rate compared to 2018. Compass monthly passes accounted for 14% in 2019, having increased both in value and in share from 2018. They accounted for close to a third of the growth by value.

Farecards accounted for only 5% of fare revenue in 2019, a significant reduction from 7% in 2018. This was a 22% reduction in the amount of revenue. Cash maintained its share of revenue at 4% in 2019. Figure 13 compares 2018 and 2019 by fare media.

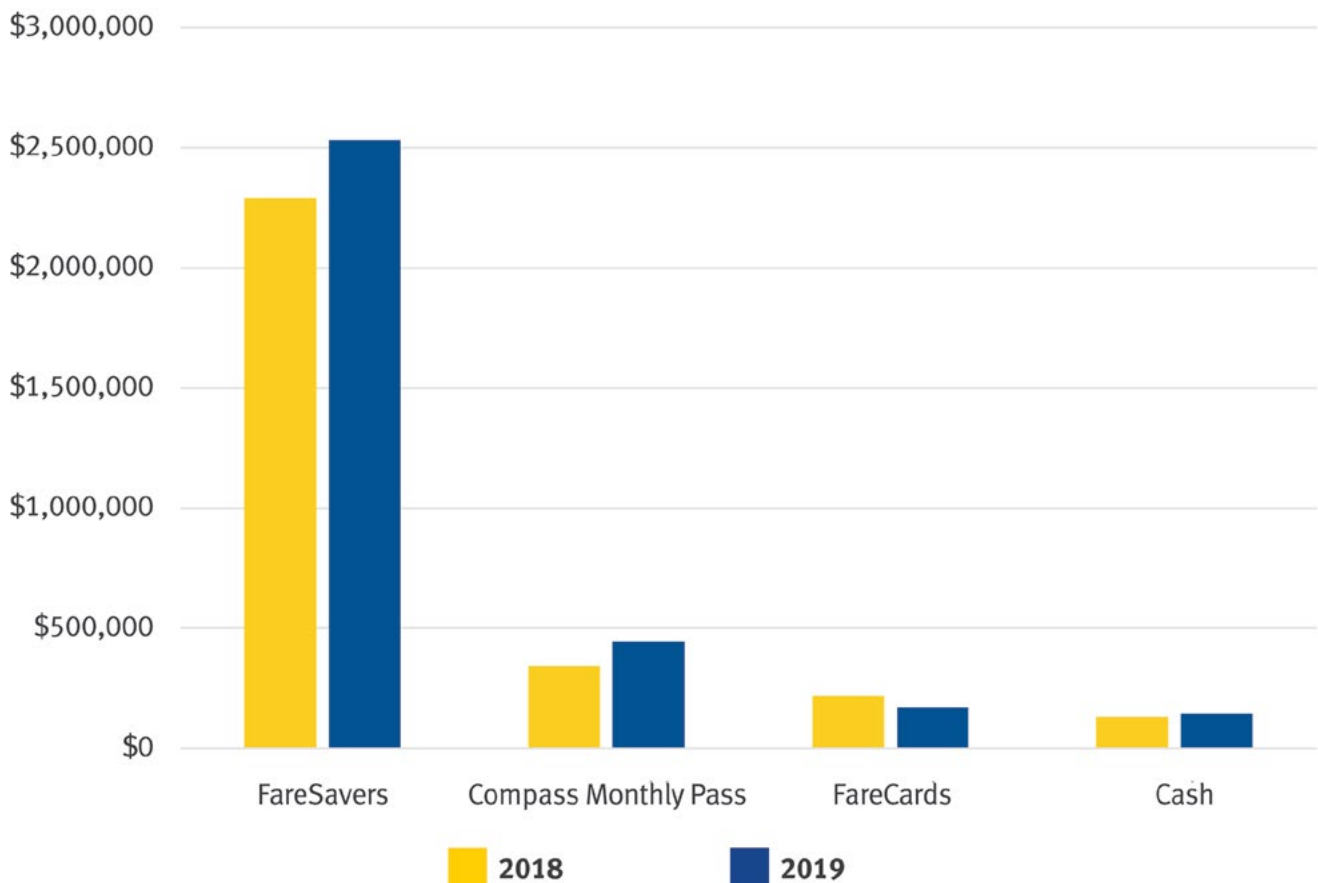


Figure 13 – Fare Payment by Media Type

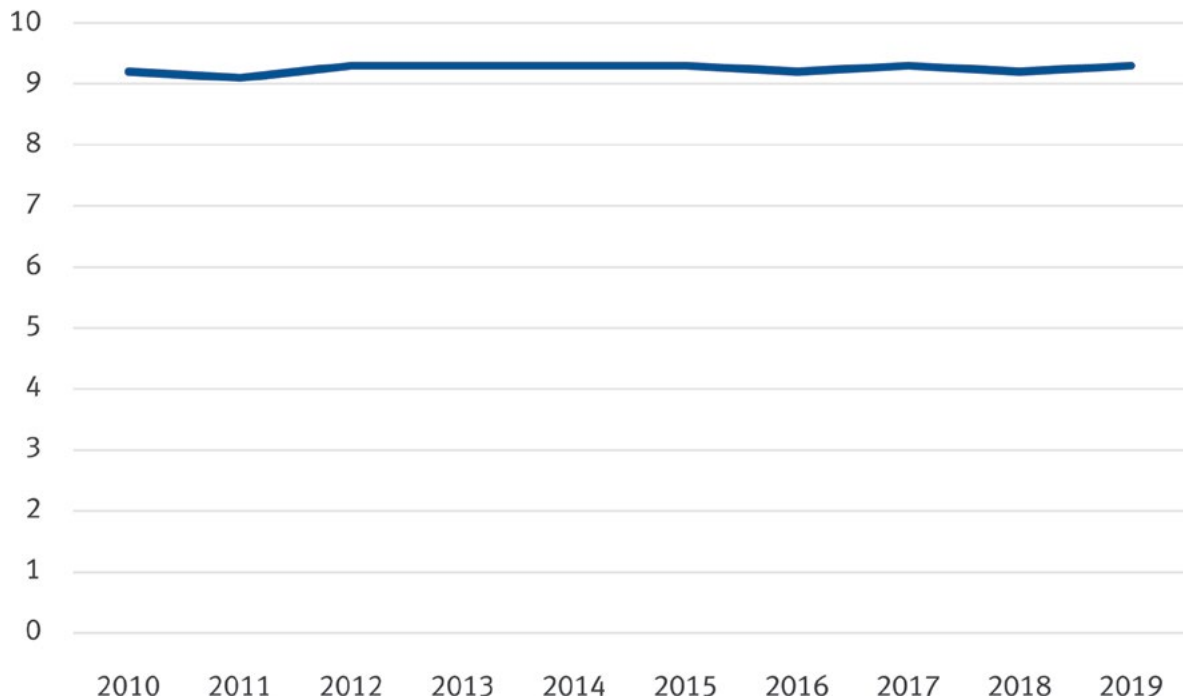


Figure 14 – Average Satisfaction Score for Value for Money

CUSTOMER SATISFACTION OF VALUE FOR MONEY

Respondents to the customer satisfaction survey gave an average score of 9.3 out of 10 in 2019 on their satisfaction of value for money. The share reporting scores of 8 – 10 was 88%. This metric does not distinguish between trips by HandyDART and by Supplemental Taxi.



NUMBER OF REGISTERED CUSTOMERS

Analysis of available data from 2010 to 2018 reveals patterns about registered customers. Over the nine-year period the system averaged 18,600 registered customers, however this number varied over the period peaking in 2011 (19,900). In 2018 there were 18,200. Over the period the largest age bands were 80 – 84 and 85 – 89 (see Figure 15).

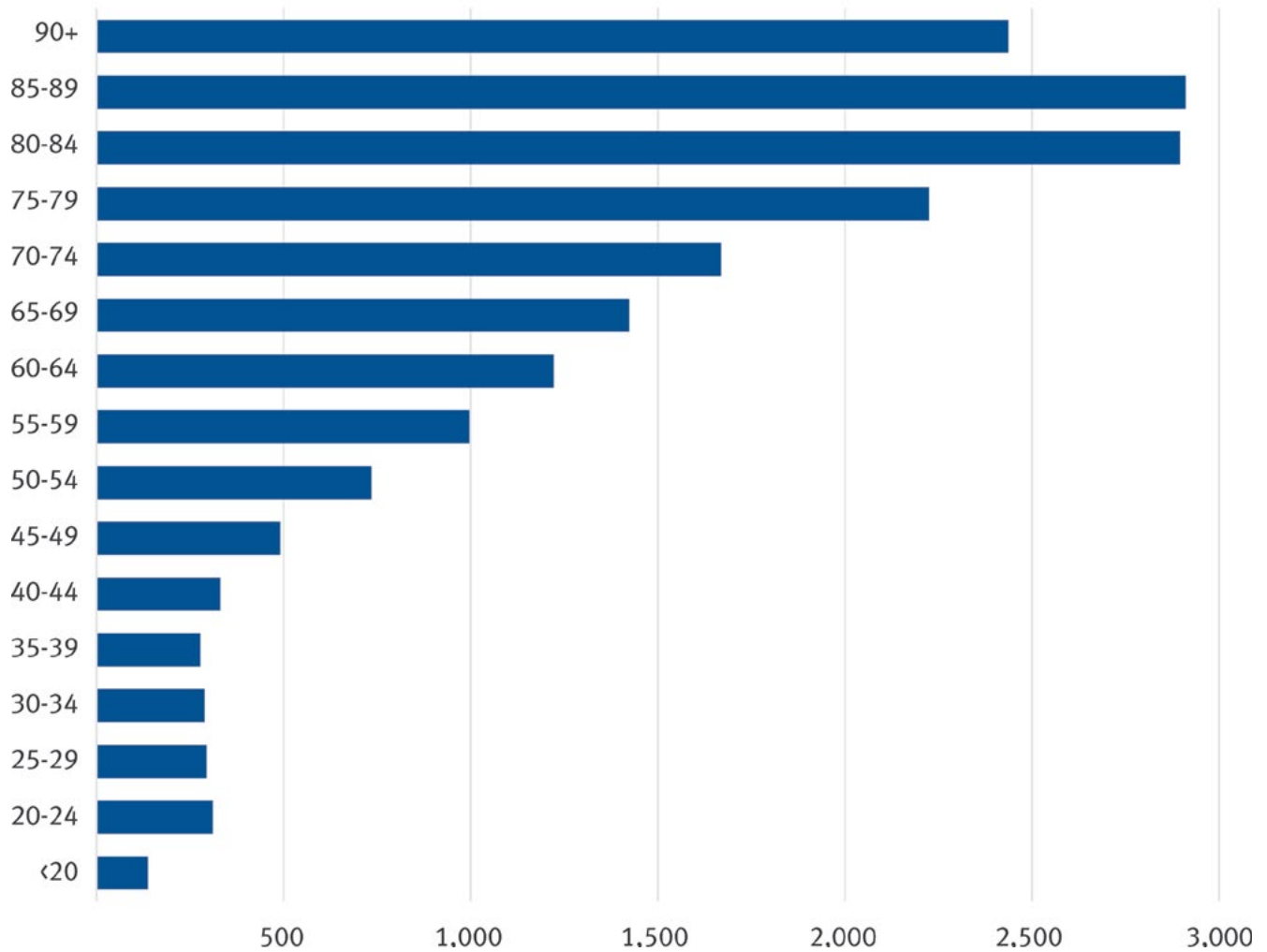


Figure 15 – Average Number of Customers by Age Band, 2010 to 2018



CUSTOMER TRIP RATES

Based on a regional population of 2.5 million (2016), the HandyDART system (HandyDART and Supplemental Taxi) provided 0.55 trips per resident in 2019. Although most regional residents are not eligible to use HandyDART, tracking this measure over time helps to identify the level of service per capita. This metric is helpful in terms of planning for future HandyDART services as the population grows and ages.

With Custom Transit demand expected to grow faster than population growth, developing a richer understanding of system use through further data collection, reporting and analysis by factors such as subregion, demographic groups and trip purpose could highlight opportunities to improve service quality and system efficiency. In other words, service levels can potentially be better matched to demand volumes and travel patterns.

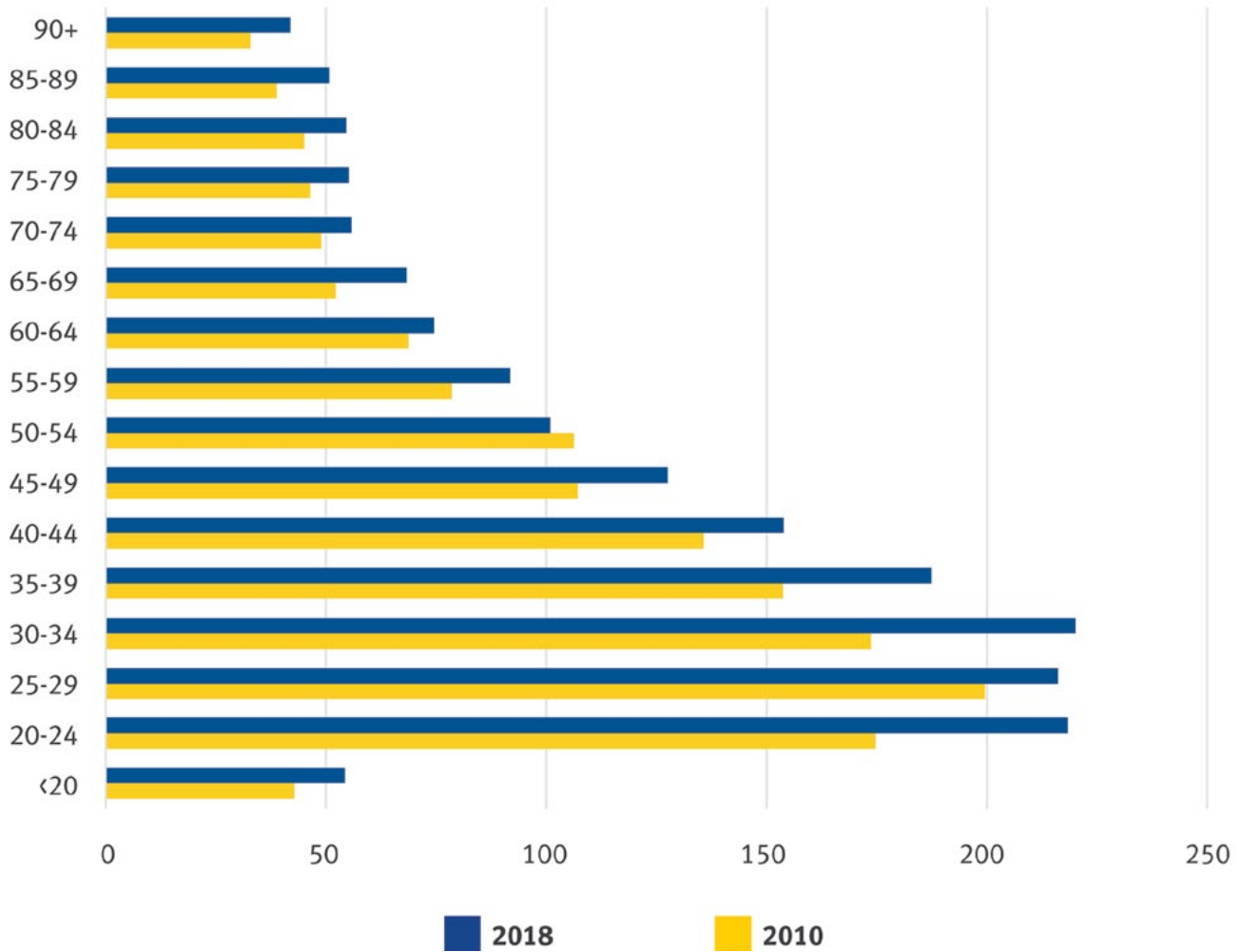


Figure 16 – 2018 Average Annual Trips per Customer, by Age Band, Compared to 2010

TRIP RATES BY CUSTOMER AGE

Analysis of available 2018 data calculated the average number of trips per customer per year. This showed that from 2010 to 2018 customers between 20 and 34 years of age made the most per person annual trips (Figure 16). Average usage per person decreases considerably after age 35 – 39.

During the same time period, all age groups increased their average trips except the 50 – 54 years of age band.



TOTAL TRIPS BY CUSTOMER AGE

When considering the total trips by age band, we multiplied the average trip rate by the number of registered customers for each age band in Figure 17. This shows that the largest share of trips overall is by customers 80 – 84 years of age, primarily because the age bands are large, despite the relatively small number of trips per customer.

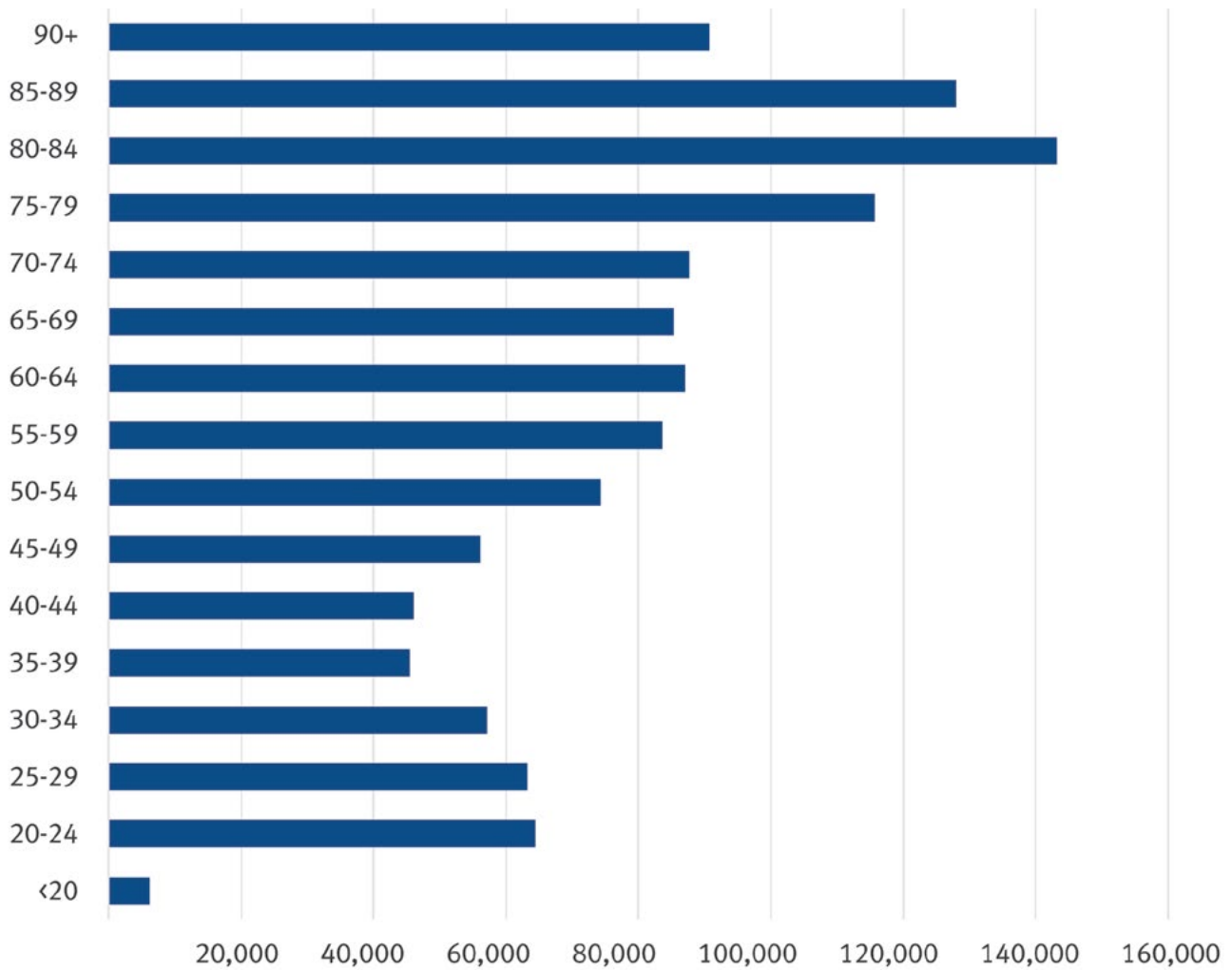


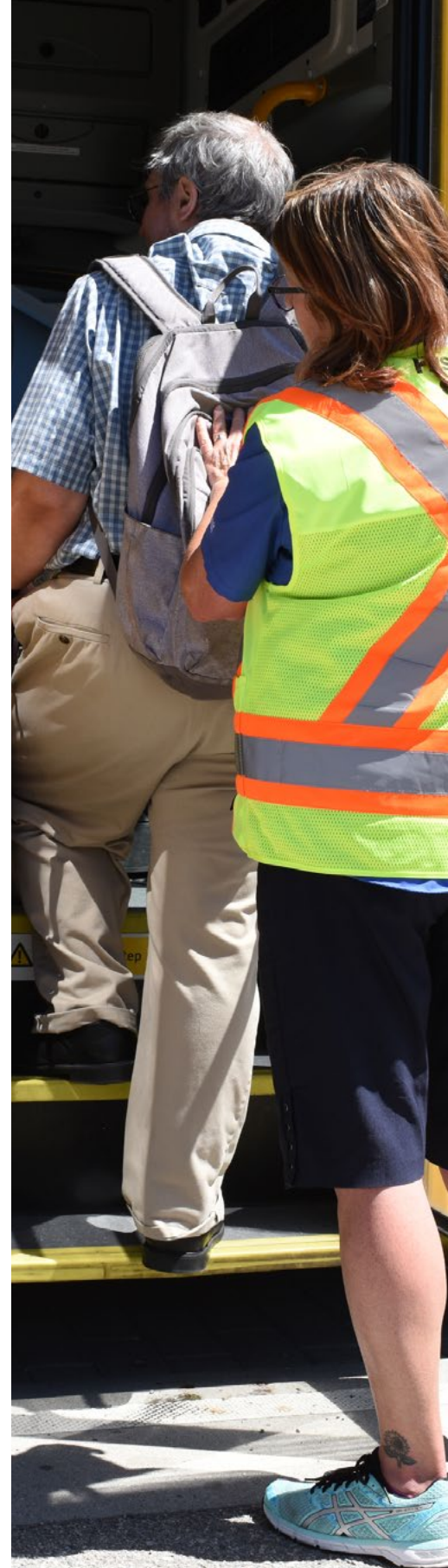
Figure 17 – Average Number of Annual Trips by Customer Age Band, 2010 to 2018

TRIP PURPOSE

Currently there are several trip purpose categories, such as ‘medical’ and ‘educational’, with the majority of trips in 2019 related to medical purposes. However, there is limited understanding of miscellaneous trips. Potential future enhancements to include more detail on trip purpose could improve understanding of the nature of demand. This could help plan services including targeted service offerings, service levels, fleet allocation and more.

INTERMODAL TRIPS

A small share of trips are provided as intermodal trips, where HandyDART connects with conventional transit (such as SkyTrain, SeaBus, bus, or West Coast Express) for part of some customer journeys. Intermodal trips increase the efficiency of HandyDART vehicles freeing them to serve more customer trips in their local area. In addition, intermodal trips can provide customers greater spontaneity of travel and independence and reduced travel times. In 2019, 9,400 trips were identified as intermodal, 0.7% of total trips. This does not include trips where the customer coordinates their own transfer from HandyDART to the conventional system or vice versa.



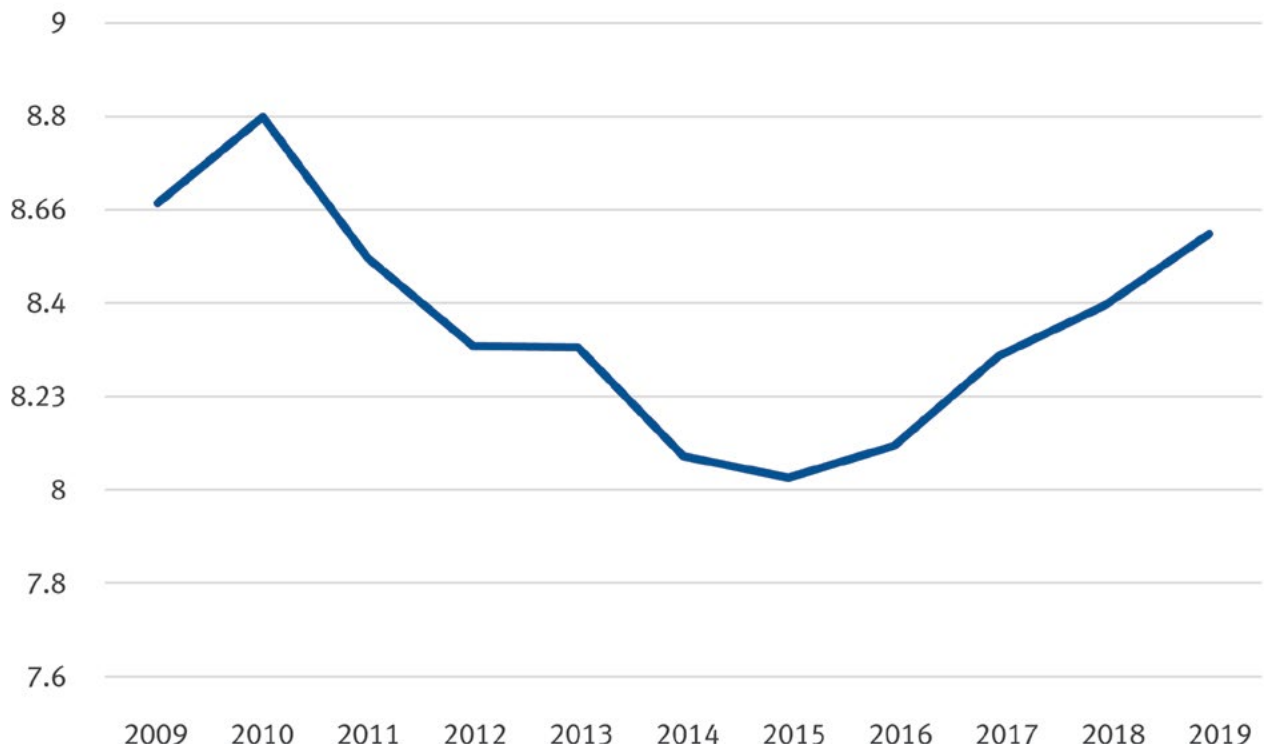


Figure 18 – Kilometres per trip (HandyDART Vehicles Only)

LENGTH OF THE TRIP

The length of customer trips increased in 2019 to an average of 8.5 km, a trend that has continued since 2015 when trips averaged 8.0 km. Prior to that, trip lengths had been decreasing from a high of 8.8 km in 2010, as shown in Figure 18. Many factors could cause such changes including service policy, land use, changes in trip making, program offerings and more. Further analysis is required to understand the reasons for the trend and implications for service quality and customer experience. As trip lengths increase, the demand for vehicle kilometers and hours also increases, presenting additional demand on the system.



CUSTOMER SCORES FOR OVERALL HANDYDART SERVICE

In the Customer Service Performance Report, customers were asked to give an overall rating for HandyDART and Supplemental Taxi service. They gave HandyDART service a high overall rating, with average scores of 8.6 out of 10 in 2019. The trend has been generally improving since 2010. For Supplemental Taxi service, customers gave an overall rating of 7.6 out of 10, continuing a slightly rising trend since reporting began in 2013. The trends are shown in Figure 19.

The share of customers giving ratings of 8 – 10 in 2019 was 80% for HandyDART and 61% for Supplemental Taxi, representing an 8% increase for HandyDART and a 7% increase for Supplemental Taxi since 2013.

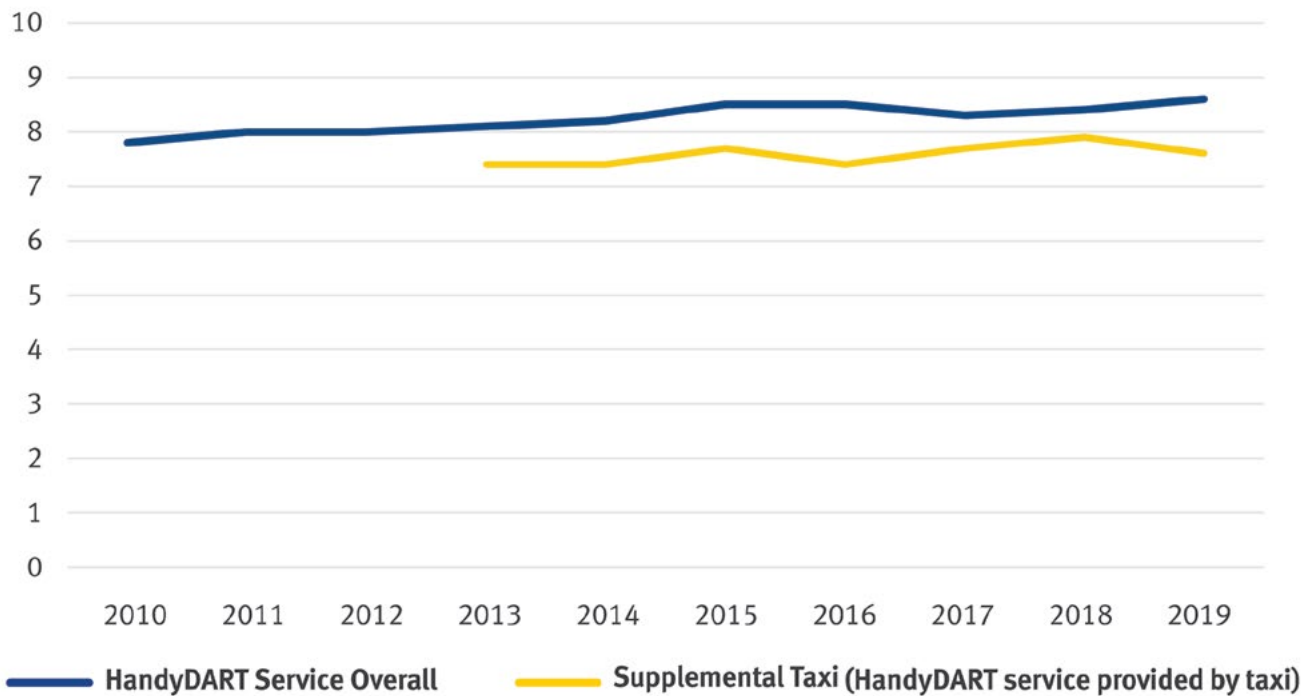


Figure 19 – Average Satisfaction Scores for Impressions of HandyDART Overall and HandyDART Service Provided by Supplemental Taxi Overall



In stakeholder interviews, there were mixed views about Supplemental Taxi service. Some supported the service as a reliable alternative when HandyDART service is delayed or at times when it does not have enough capacity available. Others voiced concerns about the quality of customer service (see “Driver’s Skills to Assist ...”, below), especially for people needing assistance from door to door or for boarding and alighting. The relatively high scores for Supplemental Taxi service suggest customers are generally satisfied with Supplemental Taxi service. Despite this, there is potential for improvement by focusing on the areas of lower ratings, particularly continuing to seek improvements to the experience of taking a Supplemental Taxi.



Operational Insights

This section presents metrics from TransLink's and the operator's perspective. These are the elements which a customer may not be aware of in their day-to-day experience with the service but are nevertheless important metrics when examining the overall performance of the service. This section includes metrics on services delivered and system-wide ridership followed by customer satisfaction scores of safety, drivers and vehicles. Definitions are provided for clarity where required.

DELIVERY OF HANDYDART SERVICE

Because HandyDART trips are provided on request, the total number of customer trips provided are linked to the total number of requests customers make. Customer trips provided may be lower if fewer customers make trip requests or if some requested trips are not delivered. In some cases, trips are cancelled because of breakdowns, traffic congestion or poor weather and the HandyDART dispatcher may send a Supplemental Taxi to provide the trip.



Service delivered is measured in trips, hours and kilometres.

- **Service Delivered** – The amount of service provided, including the number of service hours and number of service kilometres (kms). These measures are important ways that TransLink measures the efficiency of its vehicles and services.
 - » A Service Hour is one hour a vehicle is engaged in providing HandyDART service to customer(s), which excludes operator breaks, training, mechanical breakdowns and similar vehicle uses.
 - » A Service kilometre (km) is one km in service by one vehicle.
- **Trip** – When a vehicle is carrying one or more registered customers.

Overall in 2019, HandyDART vehicles provided 518, 900 service hours (see Table 1) and 10.2 million total service kms which has increased approximately 5% annually since 2017. For comparison, the conventional transit system (bus, SkyTrain, SeaBus and West Coast Express) provided 7 million service hours in 2019. In total HandyDART accounts for 7% of the entire transit system hours.

Table 1 shows the total Trips and Boardings delivered on HandyDART vehicles and on Supplemental Taxi vehicles from 2014 to 2019. Total trips delivered to HandyDART customers in 2019 increased 5.1% over 2018, the second year in a row showing an increase greater than 5%. In both years the growth was higher than budgeted suggesting an increasing trend in demand for HandyDART. The current dataset does not track reasons such as an aging population demographic.

Over the past five years, HandyDART has delivered more than 97% of budgeted trips each year and in 2019 the number of trips delivered was slightly higher than budgeted (+0.6%) representing an increase in the utilization of the system more than in budgeted trips. Since 2014, boardings have increased faster than customer trips demonstrating an increased number of trips by attendants supporting HandyDART customers.

	2014	2015	2016	2017	2018	2019
HandyDART Trips	1,094,500	1,104,900	1,095,000	1,120,400	1,166,100	1,198,300
Supplemental Taxi Trips	74,400	99,900	132,400	129,600	149,300	183,500
Total Trips	1,168,900	1,204,800	1,227,300	1,249,900	1,315,400	1,381,800
<i>Change from previous year</i>	-	3.1%	1.9%	1.8%	5.2%	5.1%
Boardings	1,299,500	1,340,400	1,365,900	1,394,800	1,475,000	1,559,500
<i>Change from previous year</i>	-	3.2%	1.9%	2.1%	5.7%	5.7%
Budgeted Trips	1,254,587	1,212,735	1,202,000	1,287,500	1,335,000	1,373,000
<i>Change from previous year</i>	-	-3.3%	-0.9%	7.1%	3.7%	2.8%
Percent of Budgeted Trips Delivered	93.2%	99.3%	102.1%	97.1%	98.5%	100.6%
Service Hours¹	553,100	557,100	560,500	587,300	548,900	518,900
<i>Change from previous year</i>	-	0.7%	0.6%	4.8%	-6.5%	-5.5%

Table 1 – Annual HandyDART Trips Delivered

¹The definition of service hours changed mid 2018 due to a change in service provider and contract. Therefore, year to year comparisons should be done with caution. Service hours are not recorded for Supplemental Taxi.

HANDYDART RIDERSHIP TRENDS

In 2019, nearly 5,000 HandyDART trips were delivered on an average weekday, the majority by dedicated HandyDART vehicles. Weekends and holidays were less busy with only a quarter of the average weekday trips delivered on those days. Weekend and holiday trips have been growing faster than weekday trips on a percentage basis but are comparable in the actual number of additional trips delivered per day.

Average weekday Supplementary Taxi trips have grown by twice the amount of HandyDART trips when compared to 2018. The opposite is seen for weekend and holiday trips, where the majority of additional trips were delivered by HandyDART vehicles because overall demand is lower than weekdays.

			2016	2017	2018	2019
Monday – Friday	HandyDART	Average Daily Trips	4,050	4,100	4,270	4,330
		Change from previous year	-	1.4%	4.2%	1.4%
	Supplemental Taxi	Average Daily Trips	420	410	470	590
		Change from previous year	-	-2.5%	13.9%	24.4%
Saturday	HandyDART	Average Daily Trips	740	820	860	1020
		Change from previous year	-	10.5%	4.4%	18.6%
	Supplemental Taxi	Average Daily Trips	260	260	300	330
		Change from previous year	-	1.5%	12.4%	12.5%
Sunday/ Holiday	HandyDART	Average Daily Trips	700	770	840	930
		Change from previous year	-	9.7%	9.0%	10.8%
	Supplemental Taxi	Average Daily Trips	200	200	260	310
		Change from previous year	-	-1.2%	30.2%	19.9%

Table 2 – Day of Week Ridership Trends

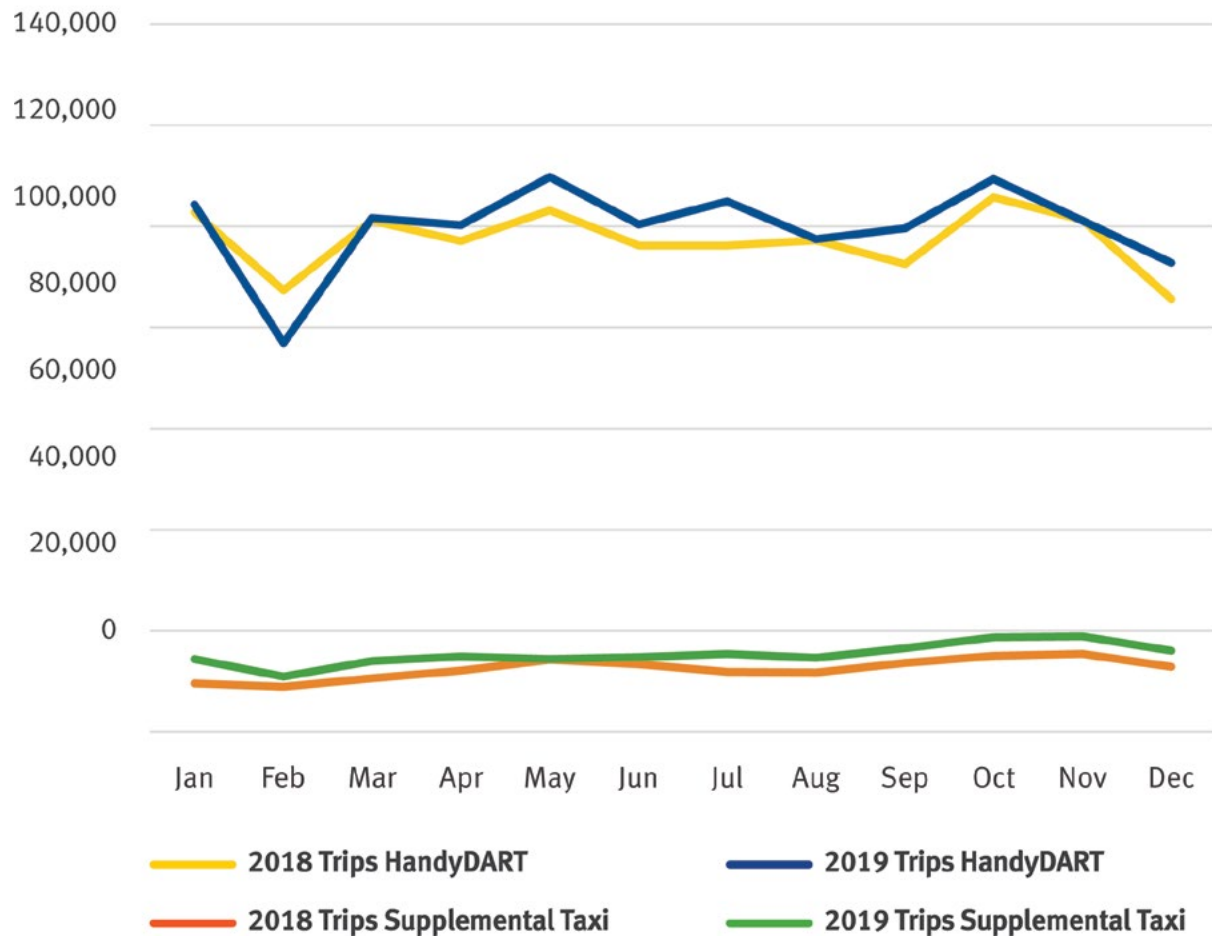


Figure 20 – 2019 Monthly Trips Delivered on HandyDART and Supplemental Taxi

TRIPS BY MONTH

In 2019 more trips were delivered each month compared to 2018, except for February when large snow events led to both lower demand for travel and cancelled service, as shown in Figure 20. The seasonal patterns in demand are similar to previous years with growth in demand throughout the year from January to December. There is also an increasing trend in the proportion of trips by Supplemental Taxi which currently represents about 12 – 14% of total trips.



MONTHLY BOARDED PASSENGERS

The system accommodated 1.6 million (1,560,000) boarded passengers and occupied spaces in 2019 including other people riding on HandyDART vehicles (attendants and companions) and additional space required for mobility devices.

Of these, 89% (1.4 million) were customers and 10% (0.2 million) were attendants. Companions and space for devices (“Other”) made up the remaining 1%. The monthly levels of boarded riders are shown in Figure 21.

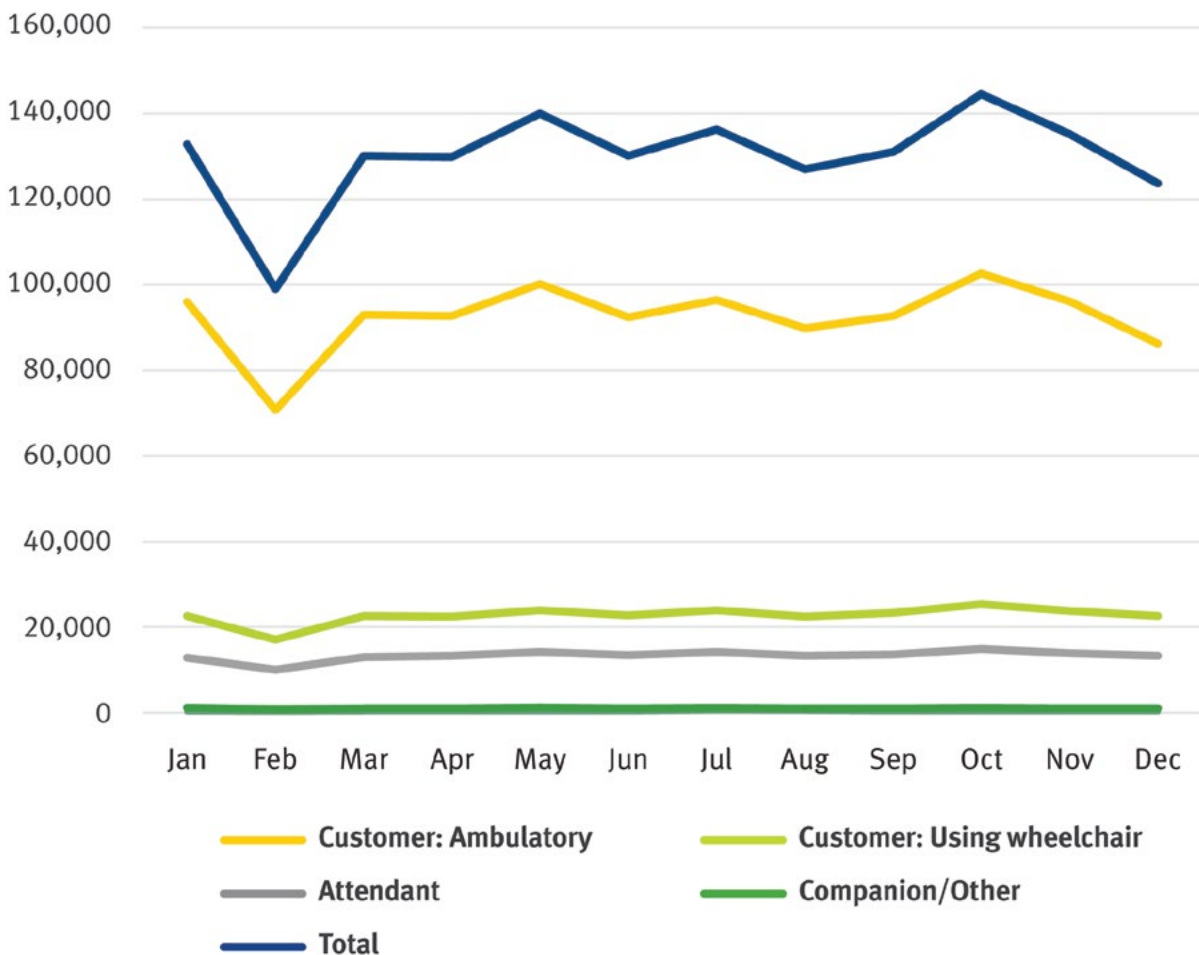


Figure 21 – Monthly Boarded Riders in 2019

COST OF THE SERVICE

The HandyDART program had a total cost of \$54 million in 2019 to deliver 1.38 million trips. Table 3 shows the cost per trip over time. 2019 saw the costs per delivered trip continue to decrease, reaching a new low of \$39.26. This is, in part, due to high levels of system use and delivering more trips per service hour.

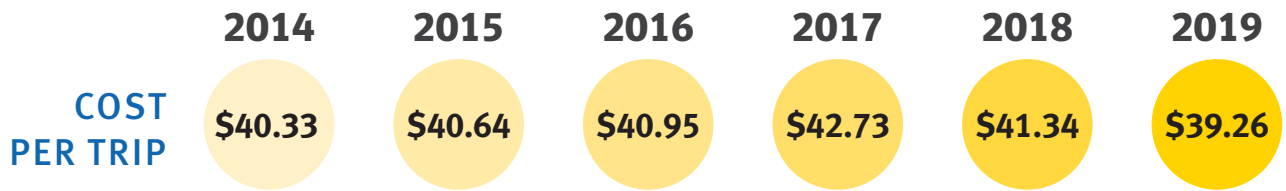
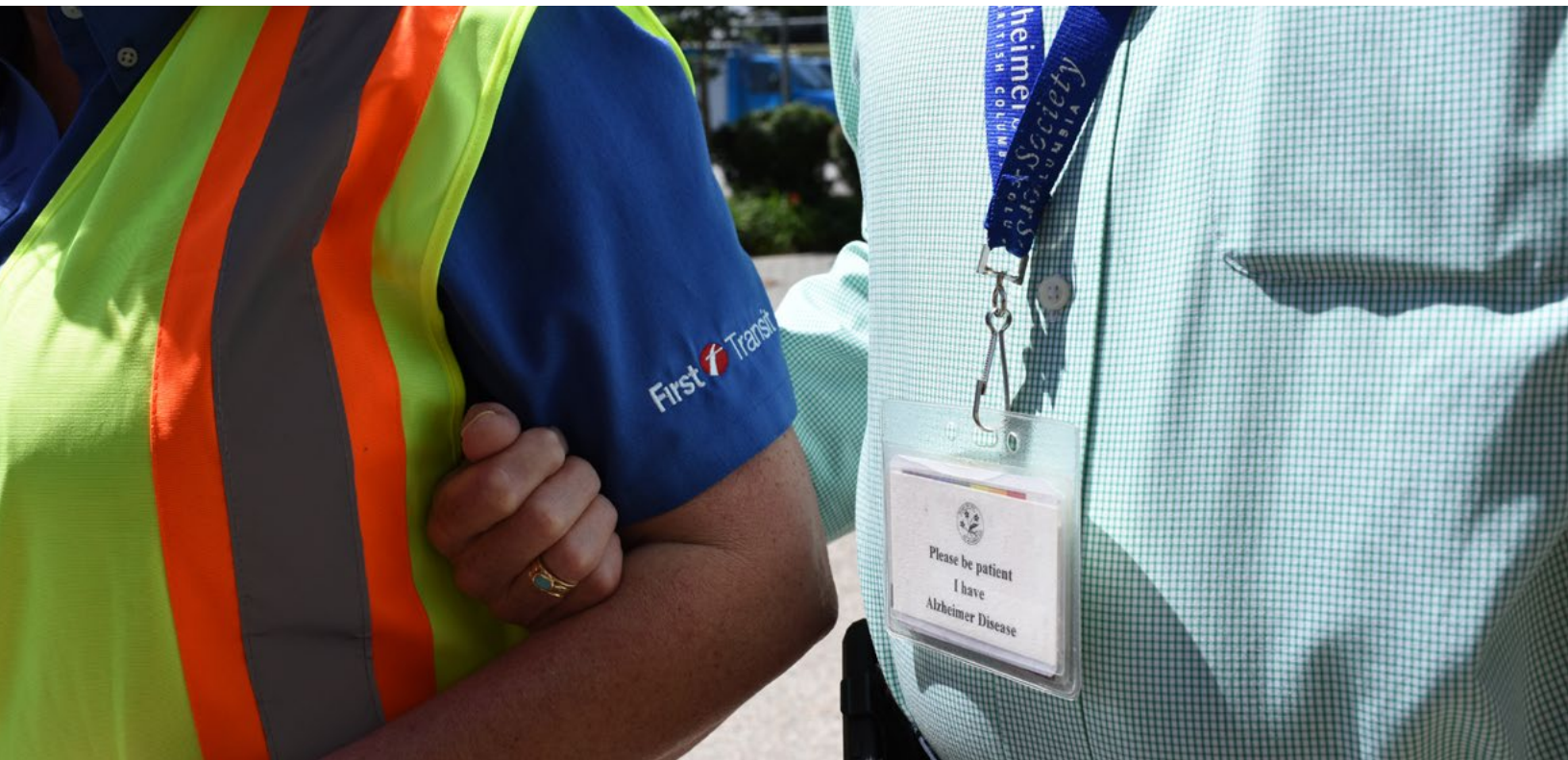


Table 3 – HandyDART Trip Cost Trends



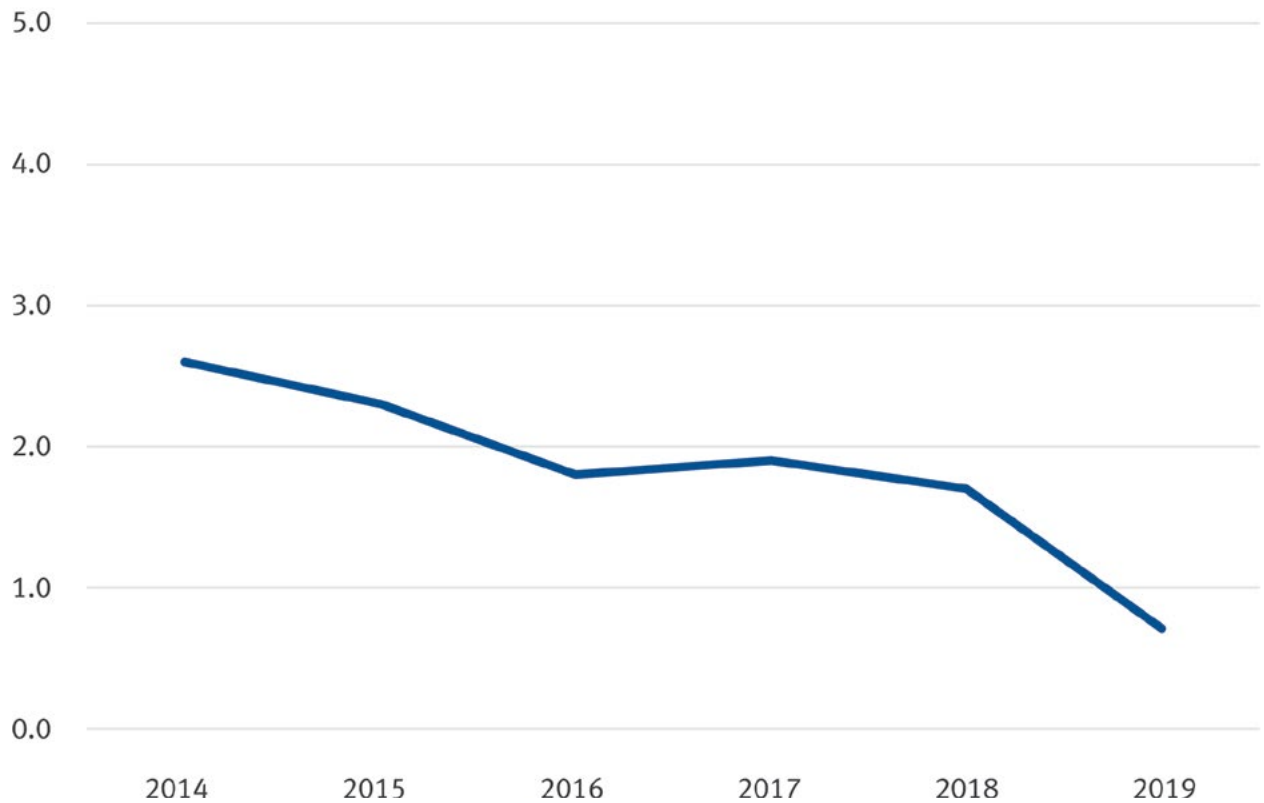


Figure 22 – Customer Injuries per 100,000 Boardings

CUSTOMER SAFETY

The HandyDART customer injury rate represents the number of confirmed injury instances which occur either while a customer is inside a vehicle, boarding or alighting, or any injury that occurs as a result of a collision. This number is shown per 100,000 boarded customers to show a rate of injuries.

2019 saw improvements in the customer injury rate, a continuing trend since 2014. Customer injury rate is now 0.7 per 100,000 boardings, and 27% of the 2014 level (Figure 22). The reasons for this improvement include continued focus on safe driving and in-depth reviews of every incident which lead to remedial training and/or reminders when appropriate.

CUSTOMER SATISFACTION OF SAFETY

People answering the survey gave a score of 9.4 out of 10 in 2019 (Figure 23) with 94% rating this attribute as 8 – 10 out of 10. The rating has changed little in the past 10 years although the share giving ratings of 8 – 10 out of 10 has trended upward. This measure is only available for HandyDART.

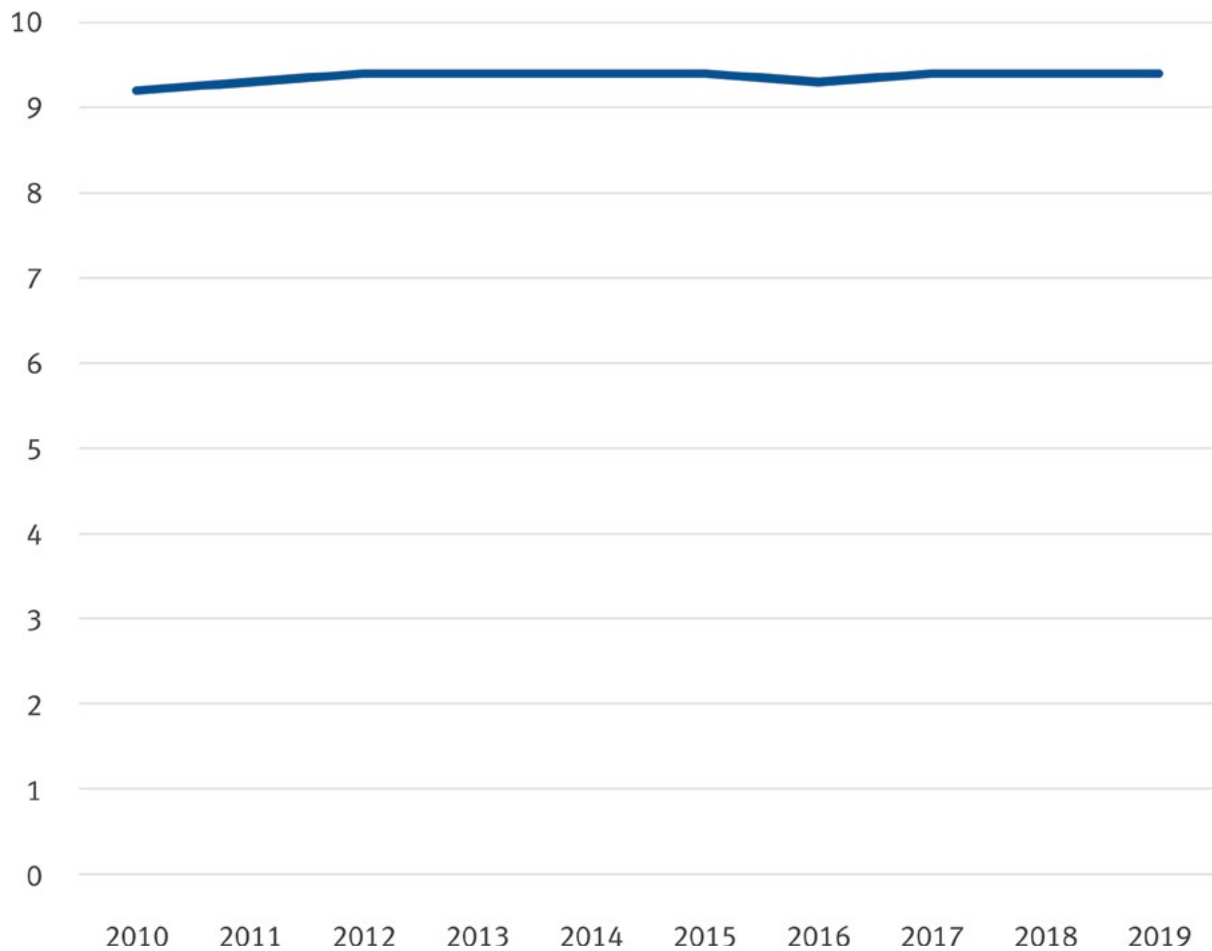


Figure 23 – Average Satisfaction Score for Feeling Safe From Injury When Riding a HandyDART Vehicle

VEHICLES

NUMBER OF VEHICLES

TransLink expanded the fleet by 10 vehicles in 2019 resulting in nearly 340 vehicles in total. This provides additional capacity to serve trips during peak demand periods.

VEHICLES IN SERVICE BY WEEKDAY AND WEEKEND

On weekdays, an average of 282 vehicles were in service. Weekends had fewer vehicles in service, averaging 26 – 27% of weekday levels (Saturdays, 74 vehicles and Sundays, 75 vehicles) as a result of reduced demand. This is consistent with the number of trips delivered on the average weekday when compared to the average weekend.

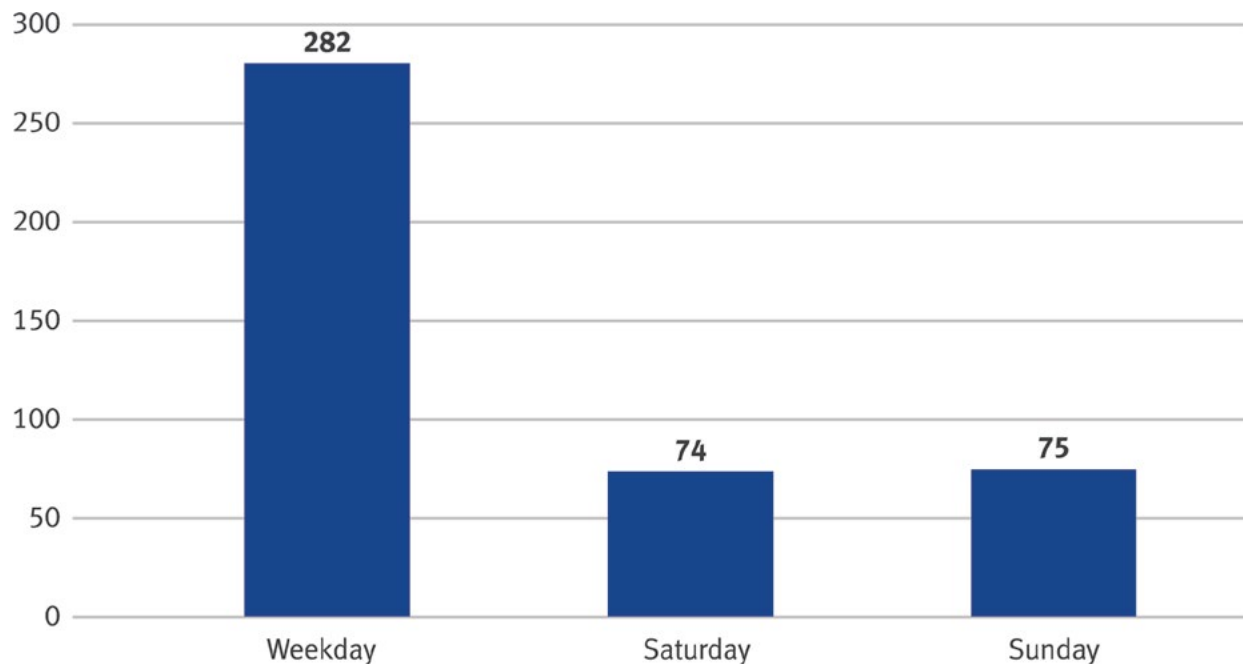


Figure 24 – Average Peak Period Vehicles in Service



VEHICLE RELIABILITY

HandyDART service operated with a total 105 “road calls” – requests for on-street maintenance assistance – or one every 98,000 km. The main reason for a road calls is to assist with a jump start. Further details on road calls and the impact on customers (e.g. length of delay) are not reported.

HANDYDART & TAXI DRIVERS

This section focuses on the customer satisfaction scores of a driver’s performance accommodating their travel needs.

CUSTOMER SATISFACTION OF DRIVER PERFORMANCE

Based on the customer satisfaction survey, respondents gave a score of 9.5 out of 10 in 2019 with 95% rating HandyDART drivers as 8 – 10 out of 10. This measure is only available for HandyDART and provides a score that measures driver’s courtesy, competency and helpfulness.

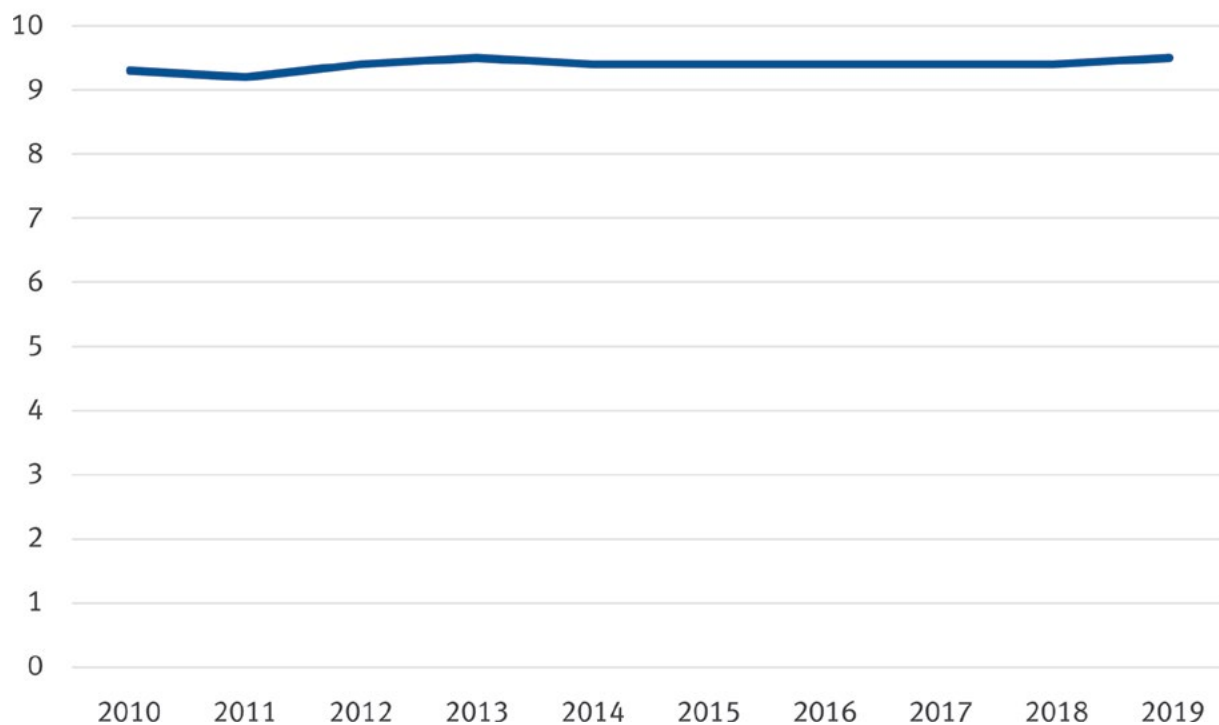


Figure 25 – Average Satisfaction Score for Courteous, Competent and Helpful HandyDART Drivers

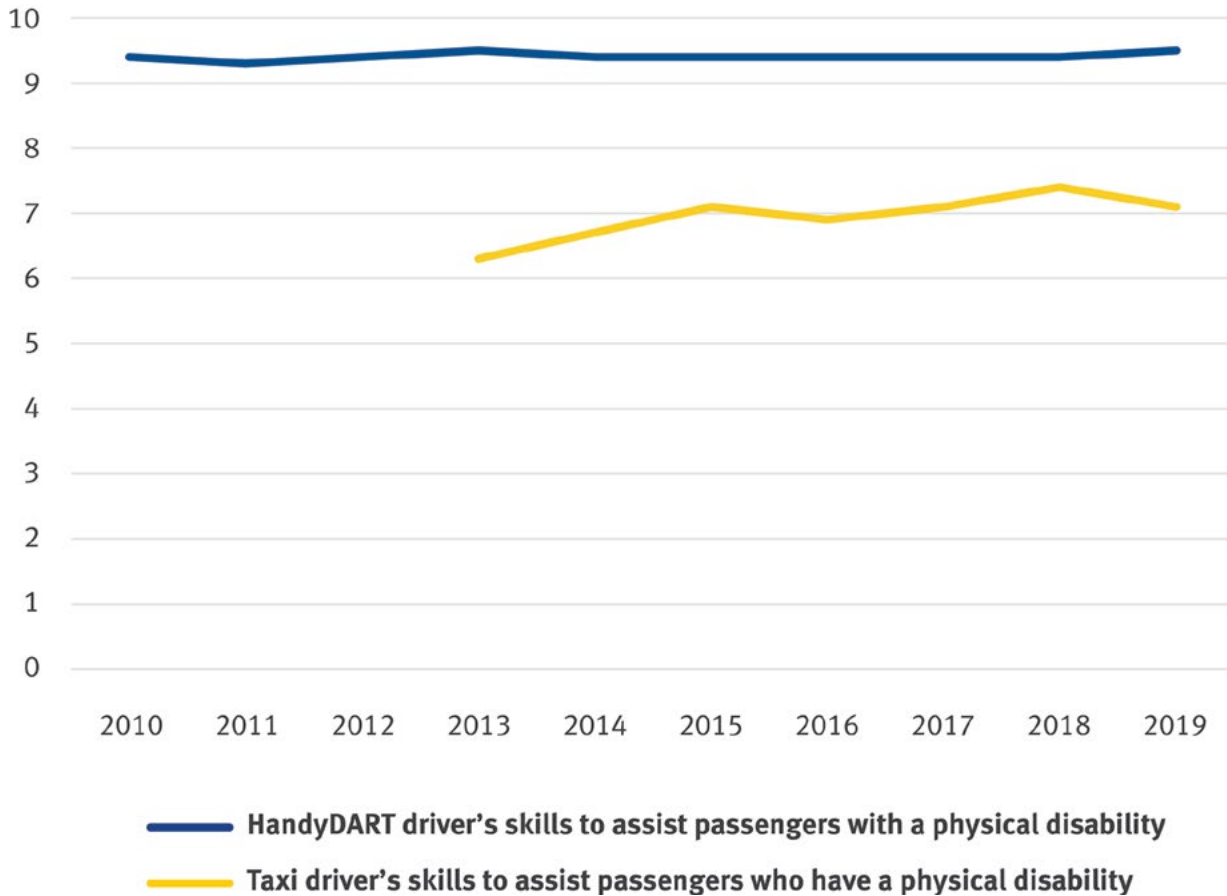


Figure 26 – HandyDART and Supplemental Taxi Driver’s Skills to Assist Passengers Who Have a Physical Disability

HANDYDART DRIVER SKILLS TO HELP CUSTOMERS VS TAXI DRIVERS

Survey respondents gave a score of 9.5 out of 10 in 2019 for HandyDART and 7.1 out of 10 for Supplemental Taxi service. For HandyDART, 94% gave scores of 8 – 10 out of 10 and for Supplemental Taxi, 44% of respondents gave scores of 8 – 10 out of 10. Based on stakeholder interviews this measure may be a significant contributing factor to lower impressions of Supplemental Taxi service, an area for potential attention.

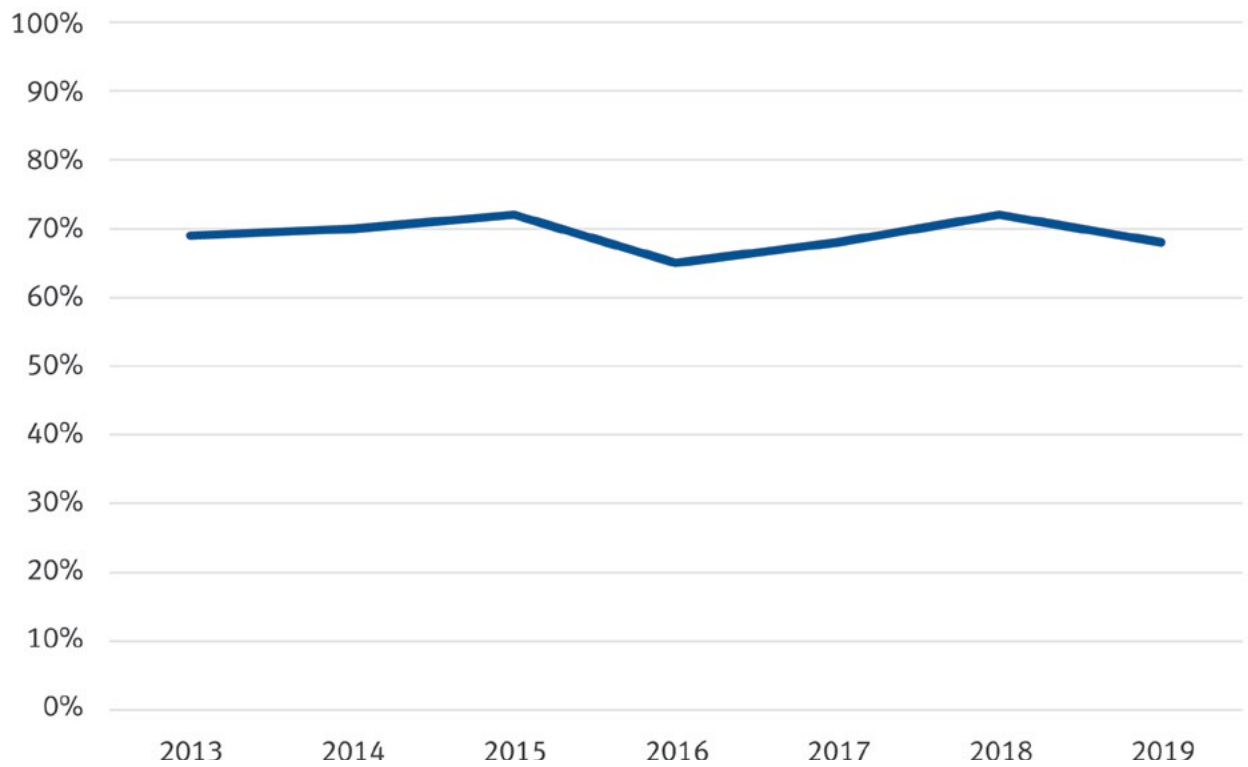


Figure 27 – Percent Responding ‘Yes’ When Asked if they Received Door-to-Door Supplemental Taxi Service

CUSTOMER SATISFACTION OF TAXI DRIVERS

In surveys, 68% of people indicated that they received assistance from the door from Supplemental Taxi service (Figure 27). This measure has been stable since reporting began. The question does not track if customers wished to have door-to-door service so it is not possible to determine the level of satisfaction on this criterion and if this contributes to lower overall ratings for Supplemental Taxi service.



TAXI DRIVER ENSURED SECURE SEATBELT BEFORE DEPARTING

54% of people responding to this question indicated that their Supplemental Taxi driver ensured their seatbelt was secure before departing (Figure 28). This measure has shown a slow, general upward trend since reporting began but the reported compliance rate continues to be low. Lower ratings on this measure may contribute to the lower overall ratings for Supplemental Taxi service.

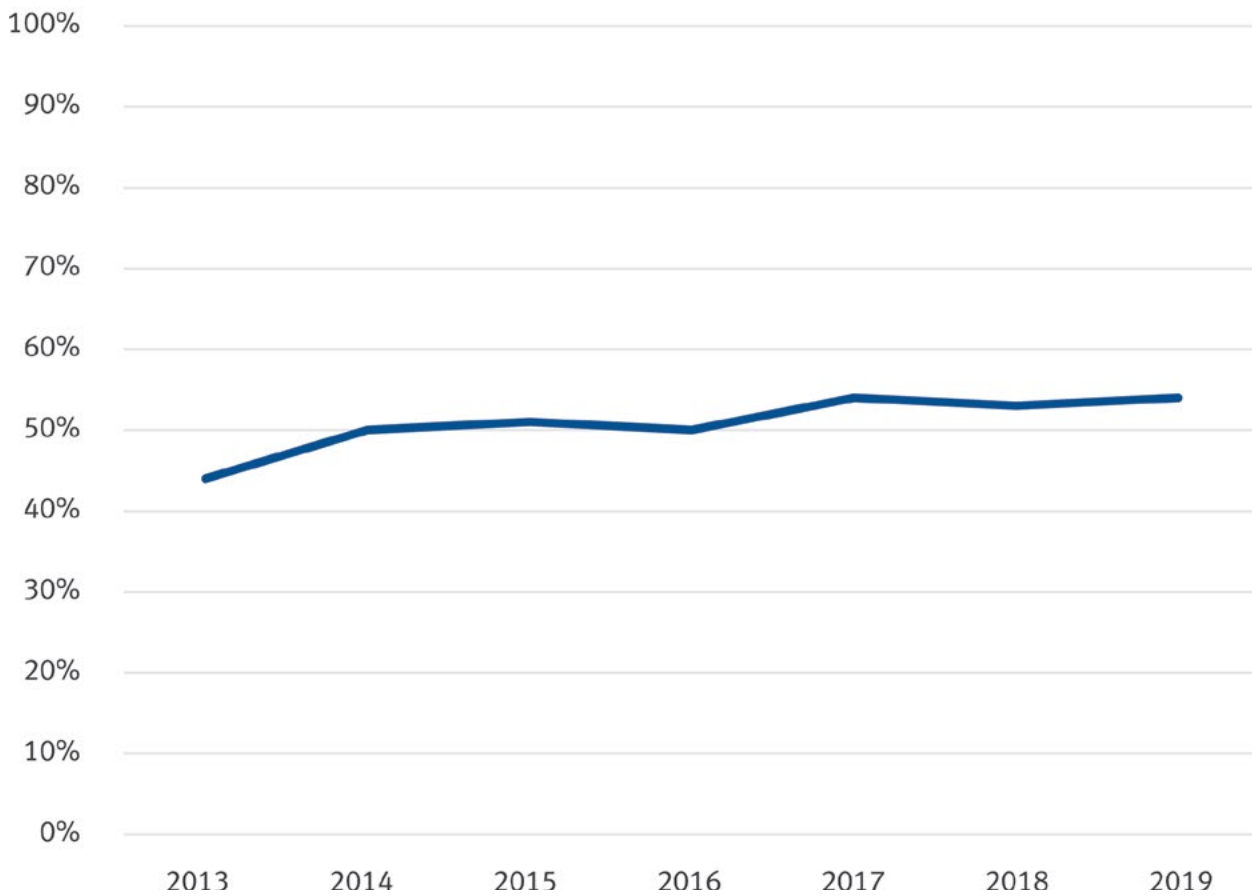


Figure 28 – Percent Responding “Yes” When Asked if the Taxi Driver Ensured Your Seatbelt Was Secure Before Departing

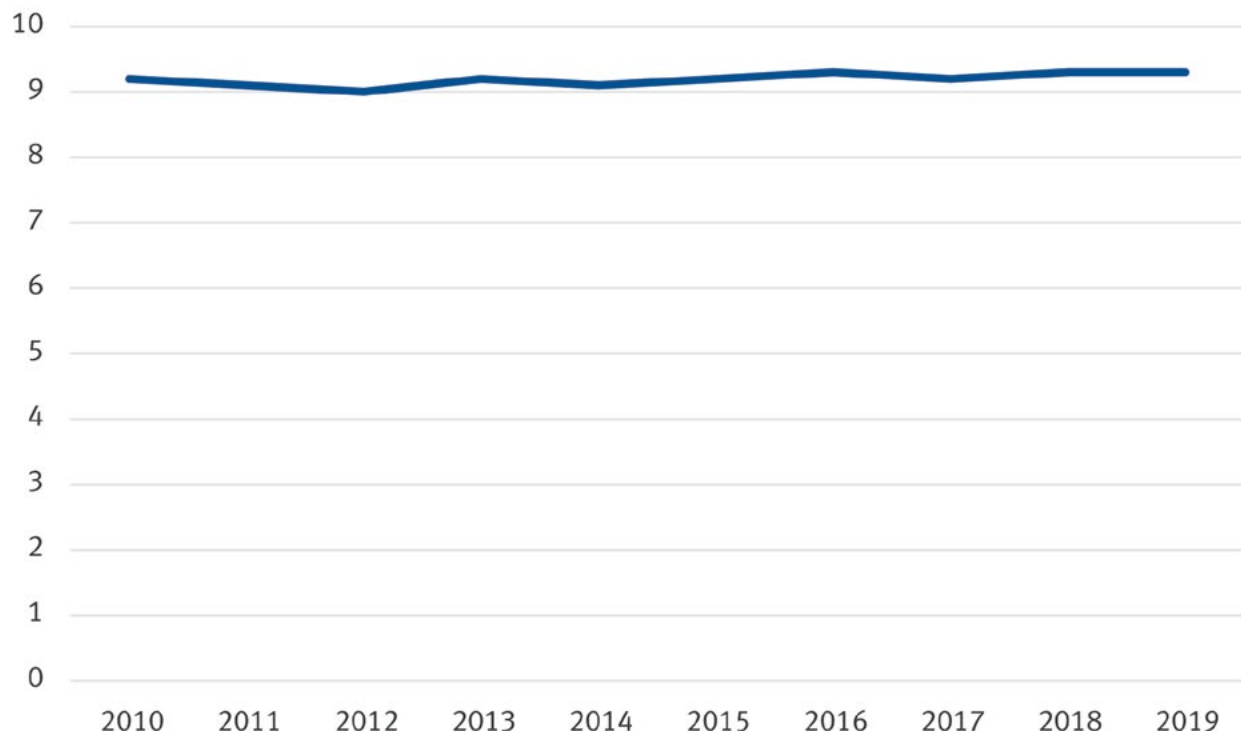


Figure 29 – Average Satisfaction Score for Cleanliness and Good Repair of HandyDART Vehicle

CUSTOMER SATISFACTION ON CLEANLINESS

Survey respondents gave a score of 9.3 out of 10 in 2019 (Figure 29) with 90% rating this attribute as 8 – 10 out of 10. The rating has been consistently high over the past 10 years. This measure is only available for HandyDART.



COMPLAINTS AND COMMENDATIONS

Overall just over 3,100 complaints were received in 2019 with 2,300 (72%) for HandyDART and 900 (28%) for Supplemental Taxi. Based on the share of trips the modes provide, HandyDART received 0.19% complaints per trip and Supplemental Taxi received 0.48% (Figure 30).

In 2019, 660 commendations were received with 540 (82%) for HandyDART and 120 (18%) for Supplemental Taxi. Based on the share of trips by mode, HandyDART received 0.04% commendations per trip and Supplemental Taxi received 0.07%.

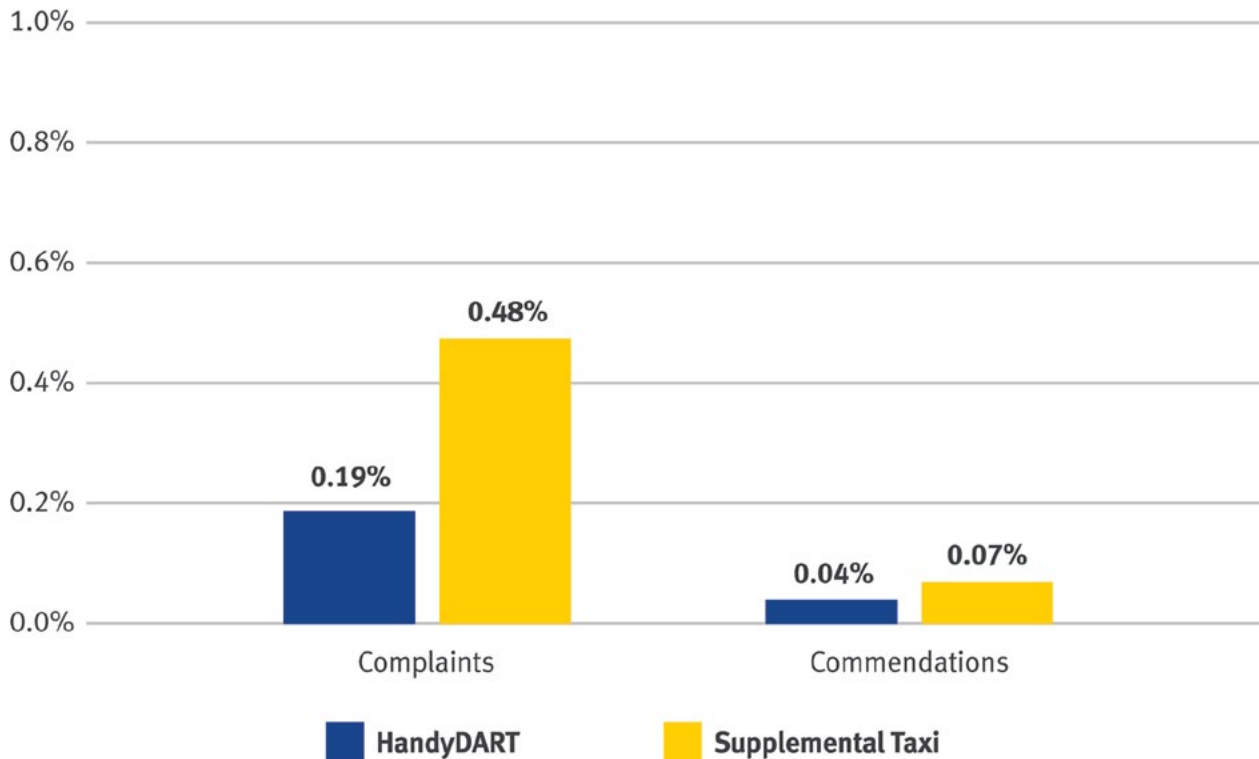


Figure 30 – Complaints and Commendations as Share of Customer Trips by Mode

Conclusion

The HandyDART service continues to provide a means of travel for registered customers who are unable to use the conventional transit system without assistance. This review establishes a comprehensive summary of the HandyDART system, both from a customer’s perspective as well as TransLink’s, drawing on data and information from multiple sources. The review is intended to reveal areas where the system is performing well and areas for potential improvement. Future annual reviews may exclude select metrics which do not change over the period between reviews.

With a growing and aging demographic there is expected to be an increasing demand for HandyDART service across the region and an expectation of high service quality and customer service performance. This review is intended to support transparency as these objectives are pursued.

Appendix 1 – Stakeholder Engagement

As part of developing the approach for analysis, the study team met with 10 members from two groups that represent HandyDART stakeholders: the HandyDART Users’ Advisory Committee (HDUAC) and HandyDART Riders’ Alliance (HRA). The HDUAC was formed as part of a commitment to establish additional ways for HandyDART customers to provide input on the service and is composed of individuals who are HandyDART customers or have direct experience working with them, and who take a collaborative approach to improving the service. The HRA is a group of HandyDART riders and supporters working for improved HandyDART service and accessible transit service in Metro Vancouver. Thanks to both groups for sharing their views and desires on reporting.

From those sessions we heard:

- There is generally low awareness of the existing reports.
- Stakeholders generally trust the data presented was as-collected.
- Because the fixed-route conventional system is vastly different to HandyDART it is difficult to make comparisons.

Stakeholders would prefer:

- Information/reports in a single place.
- Measures and clear definitions that reflect customer experience.
- To be sure that definitions are not manipulated to show good performance.
- Trends to monitor performance over the short and long term.
- To know how well TransLink delivers on its commitments to serving HandyDART customers.

The study team also met with several groups within TransLink, Coast Mountain Bus Company and First Transit, the HandyDART operator, to gain further insights into HandyDART performance and reporting. The data was reviewed and identified a number of considerations including:

- HandyDART data reporting has improved in recent years with the publishing of Transit Service Performance Review data and accountability data. Customer Performance Data has been published for many years.
- Data definitions may not be clear for all terms.
- Customers may not understand or trust the methodology for all measures.
- Most reporting has a system or operational focus, not a customer focus.
- There is no single place to find all HandyDART data.
- Formats are not optimized for range of customer needs, such as data tables in the Transit Service Performance Review, which might be difficult to read for those with low vision.



There are several opportunities to improve data collection and reporting.

- New and enhanced data may be available from planned software updates.
- This review provides an opportunity for a new customer-focused HandyDART review in a single source.
- Future technologies may create new opportunities to provide current or real-time information to customers.
- Engaging with customer groups, including the newly formed HDUAC, may provide feedback opportunities to refine data collection and reporting.



