



Summary Report  
Transportation Services Related to Day Programs  
State of Delaware, Division of Developmental Disabilities Services  
March 2021

with  
Updates March / April 2022

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## Introduction

The State of Delaware engaged the team at Johnston, Villegas-Grubbs and Associates to study the transportation costs associated with Day programs in the hopes of arriving at a fair and equitable compensation structure with associated standard rates.

In such an analysis, the first step is to establish the specific nature of the activity to be studied and in regard to transportation this presents the initial challenge. Transportation in one set of circumstances can be significantly different in nature than in another, even though the service with which it is associated is a single service. The best way to understand these differences is to conduct conversations with representatives of the state as well as in-depth conversations with the providers who are engaged in the service.

The second step is to establish a body of data that can be used to study the different circumstances in which transportation occurs, in order to see if the data reflects those differences.

All of the subsequent steps proceed sequentially in response to what the information from the providers and what the data seems to be suggesting. As a result, this analysis did not follow a prescribed process associated with an established rate architecture, but rather the leading of the information that was gathered.

This report lays out the individual tasks associated with the objective.

## Completion Letter / Executive Summary

January 2021

Ms. Marissa Catalon, Division Director  
Delaware Division of Developmental Disability Services  
1052 South Governor's Ave.  
Dover, Delaware 19904

Dear Ms. Catalon,

We (JVGA) have completed our study of the transportation costs of “door to door” transportation related to Day Services in the State of Delaware. With the assistance and at the direction of your office we worked closely with three primary provider agencies: Kent Sussex Industries, Easter Seals, and Delaware Autism. The providers were very forthcoming with all the information we requested and the level of cooperation we received has been very sincerely appreciated by our team.

We studied data related to fifty-six (56) individual trip routes typically conducted by the providers, which included the distance traveled, the time each trip consumed, the number of people transported, and peripheral costs born by the providers. JVGA performed additional analysis and calculations in an attempt to better understand the cost profile differences of these fifty-six routes reported by the provider community.

It became evident that the routes seemed to aggregate into three clear groups, based on trip costs, that were more similar than not, and for which a discreet rate would be appropriate. We then conducted further analysis to determine what explains the cost differences.

Attached are two files: “DtD Category Detail” and “DtD Rate Final” which, please see.

We propose the definition and rates for each of the categories as follows and the detail of the work supporting our recommendation is in the attached documentation:

- |    |  |                       |
|----|--|-----------------------|
| A: | A Standard Trip with no particular distinction.  | \$ 6.00 person / trip |
| B: | A Trip for a person with a physical disability such as would require additional time during transfer (eg: ambulation evidenced by vehicle modification, blindness, other physical complications as indicated). | \$15.75 person / trip |
| C: | “Long Chain” Any single route longer than 55 miles.  | \$30.75 person / trip |

Thank you,

JVGA Team: John Villegas-Grubbs, Roger Deshaies, Kevin Patterson

## Focus of the Study

The initial focus of the study covered all transportation related to Day Programs. This includes transportation of the people in Day Services to and from their residence to the day programs as well as transportation associated with Day Service itself.

At the time the study began, transportation associated with the Day Service was embedded in the rate for that service as one of the existing components of the standard rate. But not all providers provided only transportation that is part of the activities of the day (Day Service). At least three agencies also provided transportation needed to get the people using the service to the place where the day service begins. This was the first aspect of complexity.

A further layer of complexity exists in how the kind of transportation that is not part of the activities of the day (referred to as “Door to Door”) is actually being delivered and funded. Some providers maintain their own fleet, some providers access the use of state vehicles, and other providers purchase transportation from the Delaware Area Regional Transportation (D.A.R.T.), a state-subsidized transportation agency.

Four different instances of transportation provision were identified:

Associated with Activities of the Day / Door to Door Provided using the agency’s fleet of vehicles / Door to Door utilizing in part or whole the state fleet of vehicles / Door to door using D.A.R.T. and paid through their existing rate schedule.

It became immediately clear that a single compensation structure would not adequately or appropriately fund all four instances of transportation events.

### First Focus Refinement

The decision was made not to include in the focus of the analysis the transportation that occurs as part of the day program, since that rate has already been established and to split it out would be tantamount to a rebasing process of a much larger rate structure. The focus was restricted to only the three instances of Door to Door transportation.

### Second Focus Refinement

The next question that was taken up was whether or not to include a discreet analysis of transportation associated with the use of the state fleet. In order to resolve the purpose of the study related to the use of state fleet services it became apparent that the adoption of the definition of the billable unit would be needed before the study could go further.

This means that the study shifted to a discussion and analysis of *how* the compensation would be made to the providers as an aside from the over-arching study of *what the value* of the compensation would be.

Please see the brief discussion on matters of simplicity at the end of this report.

There are a variety of ways the state can fund providers for different activities. For example, a service rate is the simplest to see, measure, and understand once the billable unit is determined to be some increment of the service (e.g., an hour / day / month). It is not so easy or straightforward to select the billable unit in instances where the costs born by the agency are not directly tied to an increment of service, such as capital costs which do not tend to vary, the billable unit by which the provider will bill for the service and the state will pay for it.

In the interest of simplicity, if you have three different instances of the way an activity occurs, and two of them can be said to be more similar than not (in their individual cost to the provider), then they can most likely be paid using the same billable unit, even though in one instance the costs may be primarily fixed while in another they are more variable.

Using this reasoning, the billable unit for all Door to Door services in all three forms was determined to be a single trip, one-way per person.

This was for a variety of reasons not the least of which was the fact that the D.A.R.T. transportation service was already being purchased and paid using this billable unit.

### Third Focus Refinement

At this stage of the analysis the question was: “How many different rates will we need for a single trip, knowing that some are provided using the agency’s fleet of vehicles, some using the state’s fleet, and some are purchased from D.A.R.T.?”

We decided that we could adopt the D.A.R.T. rate schedule as it is already established, and in order to make sure the providers are not at financial risk, to pay it exactly as it is billed.

Which meant it was time to request data from the providers and begin to discover what the data had to say.

### Initial Data Request

We narrowed the set of providers we wanted to work with in depth to three: one who relied heavily on their own fleet, one who was involved in more than one way of providing the transportation, and one who focused on transportation without their own fleet.

We asked them to give us anything and everything they had that would help us understand the financial burden that Door to Door transportation was putting on them. They worked very collaboratively with us in the establishment of a set of data elements that was consistent between providers, fully detailed in all the characteristics we would need to understand differences, and as current as possible. The data file itself is attached to this report although

sections are pulled from it and put in the body of this report as examples, for purposes of illustration: DE Door to Door Transportation Data.xls, which, please see.

In addition to the agency identifier and a description of the route, the providers provided the following data specific to each and every trip:

Table 1

Agency Provided Initial Data								
Ambulatory	Wheelchair	Total	Total		Distance	Support	Driver	Total
Riders	Riders	Riders	Hours	minutes	Miles	14.78	Cost (\$18/hr)	Staff Cost

Working with the providers, JVGA performed the following calculations for each trip for each route:

Table 2

JVGA Performed Calculations								Cost Per
Mileage	Total Direct	Overhead	Total	Cost per		Person	Total	Person
Cost (\$.58)	Costs	Cost (18%)	Cost	Rider	Factor	Miles	Costs	Mile

What happened after that is when things started to get complicated. At this point in the analysis we did not know what routes were similar, or for what reason they were similar if they were. So, we began to do a series of sorts on the lines of data to see if we could find similarities. For example, were the routes that were similar distances, similar in cost? If not, why not?

For the complete array of data as it was actually provided, and the calculations that were actually performed as well as all the elements of data that were used in the development of the proposed rates, please see the data summary file: “Final Door to Door Transportation Data.xls”

### First – Run Analysis: Looking for Evidence of Patterns

What follows are two tables that should be presented side-by-side but are too big to do that within this report. They show the lines of data arranged in order of the length of each trip from the shortest number of miles to the longest.

Table 3

Total Riders	Total Hours	minutes	Distance Miles	JVGA V mph	Support 14.78	Driver Cost (\$18/hr)	Total Staff Cost
5.0	0.3	15	8.00	32.0	\$ 0	\$4.50	\$4.50
6.3	1.4	81.7	14.00	10.3	\$20.13	\$24.51	\$44.64
6.0	0.5	31	14.30	27.7	\$ 0	\$9.30	\$9.30
6.0	1.7	101.7	15.00	8.8	\$25.05	\$30.51	\$55.56
4.3	1.4	85.0	15.00	10.6	\$20.94	\$25.50	\$46.44
6.3	1.7	101.7	15.00	8.8	\$25.05	\$30.51	\$55.56
4.3	1.6	98.3	17.00	10.4	\$24.21	\$29.49	\$53.70
7.3	1.7	101.7	18.00	10.6	\$25.05	\$30.51	\$55.56
6.0	0.6	36	18.10	30.2	\$ 0	\$10.80	\$10.80
6.0	1.6	95.0	19.00	12.0	\$23.40	\$28.50	\$51.90
7.3	2.1	123.3	20.00	9.7	\$30.37	\$36.99	\$67.36
6.3	1.7	103.3	20.00	11.6	\$25.45	\$30.99	\$56.44
6.3	1.6	98.3	20.00	12.2	\$24.21	\$29.49	\$53.70
6.0	0.5	32	20.10	37.7	\$ 0	\$9.60	\$9.60
6.3	2.1	126.7	21.00	9.9	\$31.21	\$38.01	\$69.22
6.0	1.9	115.0	21.00	11.0	\$28.33	\$34.50	\$62.83
7.3	2.1	128.3	22.00	10.3	\$31.60	\$38.49	\$70.09
6.0	1.8	108.3	22.00	12.2	\$26.68	\$32.49	\$59.17
7.7	2.2	130.0	25.00	11.5	\$32.02	\$39.00	\$71.02
4.0	0.9	51	25.50	30.0	\$ 0	\$15.30	\$15.30
8.3	2.7	161.7	26.00	9.6	\$39.83	\$48.51	\$88.34
5.0	0.9	52	26.60	30.7	\$ 0	\$15.60	\$15.60
7.0	2.0	120.0	27.00	13.5	\$29.56	\$36.00	\$65.56
4.0	0.7	41	27.20	39.8	\$ 0	\$12.30	\$12.30
5.3	1.8	108.3	28.00	15.5	\$26.68	\$32.49	\$59.17
7.0	2.1	128.3	28.00	13.1	\$31.60	\$38.49	\$70.09
5.7	2.0	120.0	32.00	16.0	\$29.56	\$36.00	\$65.56
7.0	2.3	140.0	33.00	14.1	\$34.49	\$42.00	\$76.49
7.3	2.2	133.3	33.00	14.9	\$32.84	\$39.99	\$72.83
5.7	2.0	118.3	34.00	17.2	\$29.14	\$35.49	\$64.63
5.7	1.8	110.0	37.00	20.2	\$27.10	\$33.00	\$60.10
6.7	2.8	168.3	53.00	18.9	\$41.46	\$50.49	\$91.95
6.7	2.9	171.7	55.00	19.2	\$42.30	\$51.51	\$93.81
3.0	3.0	180	72.00	24.0	\$ 0	\$54.00	\$54.00
5.0	3.8	225	72.00	19.2	\$ 0	\$67.50	\$67.50
8.0	3.3	195	79.00	24.3	\$ 0	\$58.50	\$58.50

7.0	3.3	195	84.00	25.8	\$ 0	\$58.50	\$58.50
8.0	3.5	210	85.00	24.3	\$ 0	\$63.00	\$63.00
9.0	4.0	240	85.00	21.3	\$ 0	\$72.00	\$72.00
9.0	3.8	225	89.00	23.7	\$ 0	\$67.50	\$67.50
7.0	3.5	210	94.00	26.9	\$ 0	\$63.00	\$63.00
8.0	3.8	225	94.00	25.1	\$ 0	\$67.50	\$67.50
8.0	3.5	210	94.00	26.9	\$ 0	\$63.00	\$63.00
8.0	3.3	195	98.00	30.2	\$ 0	\$58.50	\$58.50
4.0	3.5	210	99.00	28.3	\$ 0	\$63.00	\$63.00
5.0	3.5	210	99.00	28.3	\$ 0	\$63.00	\$63.00
4.0	3.5	210	101.00	28.9	\$ 0	\$63.00	\$63.00
7.0	3.8	225	102.00	27.2	\$ 0	\$67.50	\$67.50
6.0	4.0	240	105.00	26.3	\$ 0	\$72.00	\$72.00
3.0	3.8	225	109.00	29.1	\$ 0	\$67.50	\$67.50
3.0	3.8	225	110.00	29.3	\$ 0	\$67.50	\$67.50
5.0	3.5	210	111.00	31.7	\$ 0	\$63.00	\$63.00
8.0	3.5	210	112.00	32.0	\$ 0	\$63.00	\$63.00
6.0	4.3	255	116.00	27.3	\$ 0	\$76.50	\$76.50
9.0	3.5	210	116.00	33.1	\$ 0	\$63.00	\$63.00
8.0	4.0	240	130.00	32.5	\$ 0	\$72.00	\$72.00

Table 4 – the cost calculations related to table 3

Mileage	Total Direct	Overhead	Total	Cost per		Person	Total
Cost (\$.58)	Costs	Cost (18%)	Cost	Rider	Factor	Miles	Costs
\$4.64	\$9.14	\$1.65	\$10.79	\$2.16	60.0	40.0	\$10.8
\$8.12	\$52.76	\$9.50	\$62.25	\$9.88	37.8	88.2	\$62.3
\$8.29	\$17.59	\$3.17	\$20.76	\$3.46	34.2	85.8	\$20.8
\$8.70	\$64.26	\$11.57	\$75.83	\$12.64	30.0	90.0	\$75.8
\$8.70	\$55.14	\$9.92	\$65.06	\$15.13	21.5	64.5	\$65.1
\$8.70	\$64.26	\$11.57	\$75.83	\$12.04	31.5	94.5	\$75.8
\$9.86	\$63.56	\$11.44	\$75.01	\$17.44	12.9	73.1	\$75.0
\$10.44	\$66.00	\$11.88	\$77.88	\$10.67	14.6	131.4	\$77.9
\$10.50	\$21.30	\$3.83	\$25.13	\$4.19	11.4	108.6	\$25.1
\$11.02	\$62.92	\$11.33	\$74.25	\$12.37	6.0	114.0	\$74.2
\$11.60	\$78.96	\$14.21	\$93.18	\$12.76	0.0	146.0	\$93.2
\$11.60	\$68.04	\$12.25	\$80.28	\$12.74	0.0	126.0	\$80.3
\$11.60	\$65.30	\$11.75	\$77.06	\$12.23	0.0	126.0	\$77.1

\$11.66	\$21.26	\$3.83	\$25.08	\$4.18	(0.6)	120.6	\$25.1
\$12.18	\$81.40	\$14.65	\$96.05	\$15.25	214.2	132.3	\$96.1
\$12.18	\$75.01	\$13.50	\$88.51	\$14.75	204.0	126.0	\$88.5
\$12.76	\$82.85	\$14.91	\$97.77	\$13.39	240.9	160.6	\$97.8
\$12.76	\$71.93	\$12.95	\$84.87	\$14.15	198.0	132.0	\$84.9
\$14.50	\$85.52	\$15.39	\$100.92	\$13.11	231.0	192.5	\$100.9
\$14.79	\$30.09	\$5.42	\$35.51	\$8.88	118.0	102.0	\$35.5
\$15.08	\$103.42	\$18.62	\$122.04	\$14.70	240.7	215.8	\$122.0
\$15.43	\$31.03	\$5.59	\$36.61	\$7.32	142.0	133.0	\$36.6
\$15.66	\$81.22	\$14.62	\$95.84	\$13.69	196.0	189.0	\$95.8
\$15.78	\$28.08	\$5.05	\$33.13	\$8.28	111.2	108.8	\$33.1
\$16.24	\$75.41	\$13.57	\$88.98	\$16.79	143.1	148.4	\$89.0
\$16.24	\$86.33	\$15.54	\$101.87	\$14.55	189.0	196.0	\$101.9
\$18.56	\$84.12	\$15.14	\$99.26	\$17.41	131.1	182.4	\$99.3
\$19.14	\$95.63	\$17.21	\$112.84	\$16.12	154.0	231.0	\$112.8
\$19.14	\$91.97	\$16.55	\$108.52	\$14.87	160.6	240.9	\$108.5
\$19.72	\$84.35	\$15.18	\$99.53	\$17.46	119.7	193.8	\$99.5
\$21.46	\$81.56	\$14.68	\$96.24	\$16.88	102.6	210.9	\$96.2
\$30.74	\$122.69	\$22.08	\$144.77	\$21.61	13.4	355.1	\$144.8
\$31.90	\$125.71	\$22.63	\$148.33	\$22.14	0.0	368.5	\$148.3
\$41.76	\$95.76	\$17.24	\$113.00	\$37.67	174.0	216.0	\$113.0
\$41.76	\$109.26	\$19.67	\$128.93	\$25.79	290.0	360.0	\$128.9
\$45.82	\$104.32	\$18.78	\$123.10	\$15.39	408.0	632.0	\$123.1
\$48.72	\$107.22	\$19.30	\$126.52	\$18.07	322.0	588.0	\$126.5
\$49.30	\$112.30	\$20.21	\$132.51	\$16.56	360.0	680.0	\$132.5
\$49.30	\$121.30	\$21.83	\$143.13	\$15.90	405.0	765.0	\$143.1
\$51.62	\$119.12	\$21.44	\$140.56	\$15.62	369.0	801.0	\$140.6
\$54.52	\$117.52	\$21.15	\$138.67	\$19.81	252.0	658.0	\$138.7
\$54.52	\$122.02	\$21.96	\$143.98	\$18.00	288.0	752.0	\$144.0
\$54.52	\$117.52	\$21.15	\$138.67	\$17.33	288.0	752.0	\$138.7
\$56.84	\$115.34	\$20.76	\$136.10	\$17.01	256.0	784.0	\$136.1
\$57.42	\$120.42	\$21.68	\$142.10	\$35.52	124.0	396.0	\$142.1
\$57.42	\$120.42	\$21.68	\$142.10	\$28.42	155.0	495.0	\$142.1
\$58.58	\$121.58	\$21.88	\$143.46	\$35.87	116.0	404.0	\$143.5
\$59.16	\$126.66	\$22.80	\$149.46	\$21.35	196.0	714.0	\$149.5
\$60.90	\$132.90	\$23.92	\$156.82	\$26.14	150.0	630.0	\$156.8
\$63.22	\$130.72	\$23.53	\$154.25	\$51.42	63.0	327.0	\$154.2
\$63.80	\$131.30	\$23.63	\$154.93	\$51.64	60.0	330.0	\$154.9
\$64.38	\$127.38	\$22.93	\$150.31	\$30.06	95.0	555.0	\$150.3
\$64.96	\$127.96	\$23.03	\$150.99	\$18.87	144.0	896.0	\$151.0
\$67.28	\$143.78	\$25.88	\$169.66	\$28.28	84.0	696.0	\$169.7

\$67.28	\$130.28	\$23.45	\$153.73	\$17.08	126.0	1,044.0	\$153.7
\$75.40	\$147.40	\$26.53	\$173.93	\$21.74	0.0	1,040.0	\$173.9

Table 5 – the per person trip cost calculations related to table 3

<b>Cost Per</b>	<b>\$0.625</b>	\$0.600	<b>TEST !</b>
<b>Person</b>	<b>\$0.280</b>	\$0.356	Per Rider
<b>Mile</b>	<b>\$0.196</b>	\$0.204	Δ
\$0.3	\$11.20	\$0.41	3.84
\$0.7	\$24.70	<b>\$37.56</b>	<b>3.88</b>
\$0.2	\$24.02	\$3.26	2.54
\$0.8	\$25.20	<b>\$50.63</b>	<b>6.64</b>
\$1.0	\$18.06	<b>\$47.00</b>	<b>9.13</b>
\$0.8	\$26.46	<b>\$49.37</b>	<b>6.04</b>
\$1.0	\$20.47	<b>\$54.54</b>	<b>11.44</b>
\$0.6	\$82.13	\$4.24	\$5.08
\$0.2	\$67.88	\$42.74	\$11.56
\$0.7	\$71.25	<b>\$3.00</b>	\$3.38
\$0.6	\$91.25	<b>\$1.93</b>	\$2.99
\$0.6	\$78.75	<b>\$1.53</b>	\$3.01
\$0.6	\$78.75	\$1.69	\$3.52
\$0.2	\$75.38	\$50.29	\$11.57
\$0.7	\$82.69	<b>\$13.37</b>	\$0.50
\$0.7	\$78.75	<b>\$9.76</b>	\$1.00
\$0.6	\$100.38	\$2.61	\$2.36
\$0.6	\$82.50	<b>\$2.37</b>	\$1.60
\$0.5	\$120.31	\$19.39	\$2.64
\$0.3	\$63.75	\$28.24	\$6.87
\$0.6	\$134.88	\$12.84	\$1.05
\$0.3	\$83.13	\$46.51	\$8.43
\$0.5	\$118.13	\$22.29	\$2.06
\$0.3	\$68.00	\$34.87	\$7.47
\$0.6	\$92.75	\$3.77	<b>\$1.04</b>
\$0.5	\$122.50	\$20.63	\$1.20
\$0.5	\$114.00	\$14.74	<b>\$1.66</b>
\$0.5	\$144.38	\$31.54	<b>\$0.37</b>
\$0.5	\$150.56	\$42.04	\$0.88
\$0.5	\$121.13	\$21.59	<b>\$1.71</b>
\$0.5	\$131.81	\$35.58	<b>\$1.13</b>
\$0.4	\$99.43	<b>\$45.34</b>	<b>15.61</b>

\$0.4	\$103.18	\$45.15	16.14
\$0.5	\$135.00	\$22.00	\$21.92
\$0.4	\$225.00	\$96.07	\$10.04
\$0.2	\$395.00	\$271.90	\$0.36
\$0.2	\$164.64	\$38.12	12.07
\$0.2	\$190.40	\$57.89	10.56
\$0.2	\$214.20	\$71.07	9.90
\$0.2	\$157.00	\$16.43	15.13
\$0.2	\$128.97	\$9.71	10.94
\$0.2	\$147.39	\$3.41	12.75
\$0.2	\$147.39	\$8.72	13.42
\$0.2	\$153.66	\$17.56	13.74
\$0.4	\$77.62	\$64.48	4.77
\$0.3	\$97.02	\$45.08	2.33
\$0.4	\$79.18	\$64.28	5.12
\$0.2	\$139.94	\$9.51	9.40
\$0.2	\$123.48	\$33.34	4.61
\$0.5	\$64.09	\$90.16	20.67
\$0.5	\$64.68	\$90.25	20.89
\$0.3	\$108.78	\$41.53	0.69
\$0.2	\$175.62	\$24.62	11.88
\$0.2	\$136.42	\$33.24	2.47
\$0.1	\$204.62	\$50.89	13.67
\$0.2	\$203.84	\$29.91	9.01

Each row represents a single trip sorted from the shortest to the longest. It is easy to see that just because a trip is getting longer, it does not necessarily follow that the trip becomes more expensive in a linear manner. Something else must be influencing it.

In Table 3 there is a column called “minutes”, with information provided by the agencies about how long each trip takes. In the instance of this service the two primary areas of expense are the cost of the vehicle (we used the Federal compensation of fifty-eight cents per mile to compensate for this) and the cost of the staff in the car. There are two possible kinds of staff in each car; the driver, and the support staff. As it happens, the greater portion of expenditures needed to compensate for transportation is the staff time because wages per hour tend to be greater than fifty-eight cents per mile below twenty-four (24) miles per hour as the speed of the vehicle. Above this speed, the mileage reimbursement per mile for the vehicle and associated costs exceeds the hourly wage of the driver.

So JVGA added a calculation that revealed the average speed each vehicle was traveling in order to study it as a possible explanation for why the cost levels were different.

## Challenge to Interpretation

The data taken as a whole presented the dilemma that the cost per trip was heavily influenced by both the distance and the average vehicle speed. There was an obvious difference in the average speed of each trip but no apparent explanation for it visible in the data alone.

The team took the information to the providers for an anecdotal discussion about why some trips took longer even though they traveled shorter distances. The answer came from two different considerations: the settings of the route (urban vs rural) and the duration of each stop. Discussion with the providers revealed that the circumstances related to the people in the vehicle clearly influenced the duration of the stops, and any fee development that ignored this would be unacceptably inaccurate.

## Resolution

The resolution before any final calculations could be performed was an effort to group the trips in groups that were similar *enough* to share the same dollar value, given that they would all be using the same billable unit.

In discussions with state staff, providers, and relying on JVGA experience three categories were established:

A Standard Trip: This is a trip of up to a standard distance without any further characteristics that would cause stops to be longer and consequently the time of the trip to be longer.

A Differentiated Trip: This is a trip where the needs of the individuals in the vehicle present a need for more time at each stop.

A “Long Chain” Trip: Trips primarily in rural areas where the length of the route, itself requires the trip to take longer and consequently cost more.

## Initial Valuation

The next step of the process involved performing the cost per person per trip, using the cost per mile as well as the distance and the number of people in the vehicle to see if the trips were correctly identified to each of the three categories, and would result in similar values in at least one of the cost indicators: per person per mile value. Those actual calculations can be seen and followed in the “Final Door to Door Transportation Data.xls” file, which, please see.

The valuation performed at this stage indicated that although there were three *broad* categories in the provision of this service, there was still significant variability within each category. There simply was no single kind of trip.

At this point a decision was needed: add more categories until the per trip costs were closer together? This could result in potentially dozens of categories and rates, which would be hugely complex. Or finish the analysis using a different kind of step...

## A Review of Impact as a Means of Refinement

When standard fees are developed for a single service, and that service is very standardized in its definition and homogeneously provided by agencies, there is still a final step before the rates are released: the budget impact analysis. It is not enough to know what the rates should be, it has to be known what the implementation of the rates would cost.

But in situations where the ‘ground up’ calculations still result in multiple categories, essentially different definitions of the same service, once the different categories have been accurately identified and grouped and calculations performed, a budget impact-*like* step can be used to answer the question: If the group rates were each as good as they could be, and if “good” is defined as being as close to actual costs as they can be, what would the proposed rates be? This step can only be used as a final step for a variety of reasons, and still does not answer the question whether or not the available budget completely funds the proposed rates.

The weakness of the use of this step is that while it depends on accurately capturing the data elements of each trip, and it heavily depends on the correct grouping into the carefully identified groups, it proceeds more like a ‘hunt’ than a calculation.

The trips were sorted to identify the groups they belonged in, and then put back into their agency groups and the general rate for each group was tested to see the impact it had per provider knowing that some providers perform trips in different groups. This back and forth process was performed in the cell called “Test !” present in the data file.

Using this process JVGA found the combination of three group rates that approximates the actual cost of the trips per route reported by the provider community, per provider, to within twenty-two hundredths of a percent (.22%) without underfunding the transportation services.

## The Problem of Accuracy and Complexity

The main challenge in creating standardized rates is the challenge between accuracy, which is often more complex, and simplicity, which tends to be less accurate. In other words, a perfect standard fee system that replaces many different individually set rates, or matches

individual spending patterns that can vary significantly, usually has to be very complex. Because standard rates are not negotiable and can't be changed to match a specific set of circumstances. But often in the effort to create perfectly accurate standard fee systems, the design ends up being so complex that it is difficult to operate.

However, the easier a system design is to operate, the less accurate it tends to be, because simplification usually involves averaging and tends to exclude the extremes.

To further complicate the matter, standard fee development is comprised of two very basic sets of information and the connection of the two: the reality of the dollars being spent, and the best billable unit (out of many possible units) to use so that you can calculate the price for that unit and deliver the appropriate funding for the service.

Sometimes the nature of the spending patterns may be very different but when they are expressed using a carefully chosen unit, the unit price for a selected unit may be the same (or very close). A single billable unit, if carefully chosen, can appropriately be used to deliver funding for sometimes very different spending patterns and this becomes an opportunity for simplification while still maintaining accuracy.

## Updates Performed in March / April 2022

In March 2022 the Office of the Division Director requested that the JVGA team update the rates to respond to inflationary changes and update the rates to more current values. JVGA researched the appropriate "Consumer Price Index Basket" published by the Center for Medicare and Medicaid Services appropriate for this group of services and performed the adjustments. What follows is the letter prepared in response to this request, with associated references.

The supporting schedule: "AA CPI Summary Web Table 3-17-22" includes the specific data used in the calculations ranging from year 2005 forward to 2023, and includes JVGA calculations to indicate the averages for the indices, which, please see (attached).

Date: March 17, 2022

TO: Ms. Marissa Catalon, Director  
State of Delaware DHSS / DDDS

From: John Villegas-Grubbs, Principal  
J V G A

Re: Door to Door Transportation Rates, with Insurance Add – On  
Accelerated to FY 2023 Using the CMS Market Basket CPI for  
Home Health Agencies

Dear Ms. Catalon,

The above referenced rates for transportation referred to as “Door to Door” for Residential and for Day Services has been updated in order to accommodate the effects of inflation are as follows:

Final Rates Recommended				
CMS Market Basket Index Levels *				
Applied:		Time		Rural
Year	CPI	Intense	Standard	Long Chain
2020	2.38%	\$16.12	\$6.14	\$31.48
2021	2.93%	\$16.60	\$6.32	\$32.40
2022	3.53%	\$17.18	\$6.55	\$33.55
2023	2.73%	<b>\$17.65</b>	<b>\$6.72</b>	<b>\$34.46</b>

We have verified that the capital cost of the vehicles is included through the use of a mileage cost reimbursement accelerated in the total using the CMS price index.

The new insurance premium (per day) cost equivalent is:  
Two dollars and seventy-six cents (\$2.76) per day for Residential transportation, and Three dollars and ninety-nine cents (\$3.99) per day for Day Program Transportation; also accelerated to Fiscal Year 2023.

Please see:

<http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MedicareProgramRatesStats/MarketBasketData>

DDDS HCBS Day Service Transportation Rates: pending CMS approval of Lifespan Wavier Amendment

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<b>DRAFT Rates – Authorized as a Round Trip</b>					
Door-to-Door Standard*	Door-to-Door Complex*	Door-to-Door Long-Chain*	DART ADA**	DART Non-ADA**	DART County Connector
\$17.43	\$39.29	\$72.91	\$8.96	\$12.96	\$8.00
<p>* Door-to-Door rates include a \$3.99 enhancement for additional vehicle insurance requirements implemented in fiscal year 2023</p> <p>**The DART rate includes a 12% Administrative Fee; DART County Connector rate is added to DART rates if rider is crossing over county lines and is charged a County Connector fare.</p>					