

**Regional Transportation District**

1600 Blake Street  
Denver, CO 80202-1399  
303-299-2306



**Board of Directors**

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Doug Tisdale, District H  
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# **AGENDA**

Operations & Customer Service Committee

**Tuesday, July 18, 2017**

**Rooms R, T, & D**

**5:30 PM**

Conference Dial-in # 303-299-2663

Conference ID: 15120

## **Operations and Customer Service Committee**

Chaired by Lorraine Anderson

### **A. Call to Order**

### **B. Recommended Actions**

- **Enter into a Contract with RouteMatch for MDT and On-Board Software for Access-a-Ride**
- **Enter into a Contract with INIT for Automatic Passenger Counters for Light Rail Vehicles**

### **C. Updates**

- **Introduction of Thor, RTD K-9 Officer (No Backup)**
- **16th Street Mall Update (No Backup)**
- **November 2017 Service Change**
- **Lost Service Hours Update 7 18 17**

**D. Other Matters**

**E. Next Meeting Date - August 8, 2017**

**F. Adjourn**

The following communication assistance is available for public meetings:

- Language Interpreters
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Please notify RTD of the communication assistance you require at least 48 business hours in advance of a RTD meeting you wish to attend by calling 303.299.2307

**THE CHAIR REQUESTS THAT ALL PAGERS AND CELL PHONES BE SILENCED DURING THE BOARD OF DIRECTORS MEETING FOR THE REGIONAL TRANSPORTATION DISTRICT.**

# BOARD OF DIRECTORS REPORT

To: David A. Genova, General Manager and CEO

From: Bruce Abel, Assistant General Manager

Date: July 12, 2017

Subject: Enter into a Contract with RouteMatch for MDT and On-Board Software for Access-a-Ride

Date: July 13, 2017

GM

Board Meeting Date: July 25, 2017

## RECOMMENDED ACTION

It is recommended by the Operations and Customer Service Committee that the Board of Directors authorize the General Manager or his designee to execute all documents necessary to award a contract for computerized Mobile Data Terminals (MDTs) and onboard software with RouteMatch Software, Inc. (RouteMatch) (Contract Number 17DH025) for an amount not to exceed \$1,800,000. The price includes MDTs, software, implementation and three years of extended support.

## BACKGROUND

RTD's Access-a-Ride paratransit service provides transportation in the Denver metro area for people whose disabilities prevent them from using lift-equipped fixed-route bus service. Access-a-Ride service uses vehicles equipped with RouteMatch software and iPilot 8000 computerized Mobile Data Terminals (MDTs) and associated onboard equipment that enables dispatching and communications via the RouteMatch paratransit scheduling and central dispatch software ('RouteMatch central software'). The current MDTs entered service in 2009 and reached end of useful life several years ago. The current MDT's have very high failure rates and are hard to procure. Consequently, it is imperative that the MDTs be replaced with modern equipment in order to provide Access-a-Ride drivers with the necessary tools to provide this important service.

## DISCUSSION

RTD currently utilizes paratransit scheduling software produced by "RouteMatch." It is necessary that the on-board software loaded on the MDT's integrate with the backend RouteMatch software in order to allow Access-a-ride drivers to receive accurate information to perform their duties. Onboard software that integrates with the RouteMatch central software is already developed.

RTD conducted an evaluation of the various options to replace the existing Access-a-Ride Mobile Data Terminals. The option with the quickest deployment, least risk and lowest cost is to have RouteMatch deploy new modern versions of the computerized MDTs with onboard software. Requiring RouteMatch to provide the updated hardware and software, perform the integration and thus provide the complete solution to modernize the Access-a-Ride MDT's will speed the process by providing fewer procurements and result in a single point of contact for RTD to have one vendor responsible for all of the functionality associated with the upgrade of the Access-a-Ride MDT's.

## FINANCIAL IMPACT

Funding for this project is included in the adopted RTD budget.

## ALTERNATIVES

1. Authorize the General Manager or his designee to execute a contract with RouteMatch to provide computerized MDTs and onboard software. This is the recommended alternative.

2. Continue to try to provide remedial repairs to extend the system life. This is not a sustainable option and does not provide the upgrades necessary for Access-a-Ride drivers to perform their duties. This is not recommended.
3. Proceed with an entirely new procurement for a new paratransit scheduling software package and integrated MDT's. This would take well over a year to procure and deploy the chosen system and is not budgeted. This is not recommended.

Prepared by: Eric Farrington

Prepared by:  
Eric Farrington, Program Manager, IT

Approved by:



Bruce Aber, Assistant General Manager

7/13/2017

# BOARD OF DIRECTORS REPORT

To: David A. Genova, General Manager and CEO

From: Bruce Abel, Assistant General Manager

Date: July 12, 2017

Subject: Enter into a Contract with INIT for Automatic Passenger Counters for Light Rail Vehicles

Date: July 13, 2017

GM

Board Meeting Date: July 25, 2017

## **RECOMMENDED ACTION**

It is recommended by the Operations and Customer Service Committee that the Board of Directors authorize the General Manager or his designee to execute all documents necessary to award a contract for purchase, installation and maintenance of Automatic Passenger Counters (APCs) with INIT Innovations in Transportation, Inc. (INIT) (Contract Number 17DH026) for an amount not to exceed \$2,400,000 and transfer up to \$950,000 from project 10444 (Mobile Data Terminals) to project 10345 (New Automatic Passenger Counter).

## **BACKGROUND**

RTD uses APC's on light rail vehicles to monitor on-time performance and to gather ridership information. The data collected by the APCs is ingested into the INIT Computer Aided Dispatch/Automatic Vehicle Location (CAD/AVL) system for compilation, presentation, and analysis of ridership numbers and on-time performance calculations. This data is key for required federal reporting, operational considerations and planning. Currently, only 42 of the 201 vehicle LRV fleet (24%) are equipped with APC's making it very difficult to provide statistically valid information.

## **DISCUSSION**

RTD recently purchased hardware for the Access-a-Ride Mobile Data Terminal (MDT) Replacement project. Staff subsequently determined that the equipment could be better utilized on the LRV fleet to expand the number of APC equipped light rail cars to help with passenger count and on-time performance measurement. A less expensive alternative for the Access-a-Ride MDT Replacement Project has been identified and pursued, freeing up some funds that can be transferred to purchase additional APCs for light rail.

RTD currently has an authorized and budgeted project (Project 10345 -New Auto Passenger Counters) to begin to upgrade and expand the number of APC's on the LRV fleet. Utilizing some of the hardware that had already been purchased for the Access-a-Ride MDT project and transferring the remaining funds from the MDT project will allow RTD to expand the scope of the currently budgeted LRV APC project and further increase the number of Light Rail Vehicles that can be equipped with new APC equipment. By using some of this equipment and transferring these additional funds, the APC coverage on the LRV fleet can be increased to over 70%. This will allow for easier and more timely compilation of statistically valid data for monitoring on-time performance and for gathering ridership data for internal and external reporting. This equipment will be upgraded for both reliability and for security of data transmissions over Wi-Fi. This will be a sole source contract to INIT in order to expand the number of APC equipped light rail vehicles with technology similar to and compatible with the technology that is utilized on the existing LRV fleet.

**FINANCIAL IMPACT**

Funding for this project (Project 10345- New Automatic Passenger Counters) is included in the adopted RTD budget. The transfer of up to \$950,000 from project 10444- Mobile Data Terminals, also included in the adopted RTD budget, to project 10345 will fund the requested expansion of this effort.

**ALTERNATIVES**

1. Authorize the General Manager or his designee to execute all documents necessary to award a contract for purchase, installation and maintenance of Automatic Passenger Counters (APCs) with INIT Innovations in Transportation, Inc. (INIT) (Contract Number 17DH026) for an amount not to exceed \$2,400,000 and transfer up to \$950,000 from project 10444 (Mobile Data Terminals) to project 10345 (New Automatic Passenger Counter). This is the recommended alternative.

2. Continue to try to utilize existing resources and provide minimal expansion and upgrade to the existing APC's. This does not leverage the existing hardware purchase and minimizes improvements in data collection and service monitoring and is not the recommended alternative.

Prepared by:

Eric Farrington, Program Manager, IT

Approved by:



Bruce Aber, Assistant General Manager

7/13/2017

# BOARD OF DIRECTORS REPORT

To: David A. Genova, General Manager and CEO  
 From: Bruce Abel, Assistant General Manager  
 Date: July 13, 2017  
 Subject: November 2017 Service Change

Date: July 13, 2017
GM
Board Meeting Date:

## RECOMMENDED ACTION

No action required, for information only. The following service change proposal will be publicized through direct customer information.

## DISCUSSION

We are proposing an additional service change period to introduce the newly renovated Civic Center Station, as a means of clearly communicating with our customers and providing accurate data for our public information systems. The expected completion of the station is in November 2017, which would end the detours Civic Center Stations services have been on since July 2016. This service change will be focused on the routes in the Civic Center Station area only, directly affecting the following route services:

**0L, 3L, 16, 16L, 83D/83L, 87L, 90L, 100L, 116X, 122X, CV/CS/CX, EV/ES/EX, Free Metro Ride, FF4, P, RC/RX.**

## FINANCIAL IMPACT

There are no anticipated cost impacts expected at this time.

Prepared by:  
 Jessie Carter, Manager, Service Planning and Scheduling

Approved by:



Bruce Abel, Assistant General Manager 7/13/2017

# BOARD OF DIRECTORS REPORT

To: David A. Genova, General Manager and CEO  
From: Bruce Abel, Assistant General Manager  
Date: July 13, 2017  
Subject: Lost Service Hours Update 7 18 17

Date: July 13, 2017

GM

Board Meeting Date: July 18, 2017

## ATTACHMENTS:

- Lost Service Hours Update 7 18 17 (XLSX)

Prepared by:  
Bruce Abel, Assistant General Manager

Approved by:



Bruce Abel, Assistant General Manager 7/13/2017



Lost service hours review

weekday hours

	contractor		4504.00 wkday		rtd		5714.00 wkday		rtd & contractor		10218.00 wkday	
	missed runs	pullout delay	subtotal	%	missed runs	pullout delay	subtotal	%	missed runs	pullout delay	total	%
2013												
Jan-13	0.00	1.20	1.20	1.33E-05	0.00	8.26	8.26	7.23E-05	0.00	9.46	9.46	4.63E-05
Feb-13	0.00	1.32	1.32	1.47E-05	2.40	6.09	8.49	7.43E-05	2.40	7.41	9.81	4.8E-05
Mar-13	0.00	1.17	1.17	1.3E-05	0.00	3.24	3.24	2.84E-05	0.00	4.41	4.41	2.16E-05
Apr-13	0.00	0.49	0.49	5.44E-06	0.00	5.51	5.51	4.82E-05	0.00	6.00	6.00	2.94E-05
May-13	0.00	0.49	0.49	5.44E-06	0.28	5.54	5.82	5.09E-05	0.28	6.03	6.31	3.09E-05
Jun-13	0.00	0.46	0.46	5.11E-06	0.00	3.31	3.31	2.9E-05	0.00	3.77	3.77	1.84E-05
Jul-13	0.00	0.46	0.46	5.11E-06	0.00	3.52	3.52	3.08E-05	0.00	3.98	3.98	1.95E-05
Aug-13	0.00	0.00	0.00	0	0.44	3.02	3.46	3.03E-05	0.44	3.02	3.46	1.69E-05
Sep-13	0.00	0.54	0.54	5.99E-06	0.00	7.58	7.58	6.63E-05	0.00	8.12	8.12	3.97E-05
Oct-13	0.00	0.00	0.00	0	0.00	3.00	3.00	2.63E-05	0.00	3.00	3.00	1.47E-05
Nov-13	0.00	0.00	0.00	0	0.00	7.10	7.10	6.21E-05	0.00	7.10	7.10	3.47E-05
Dec-13	0.00	0.00	0.00	0	2.42	5.19	7.61	6.66E-05	2.42	5.19	7.61	3.72E-05
total	0.00	6.13	6.13		5.54	61.36	66.90		5.54	67.49	73.03	
2014												
Jan-14	0.00	0.27	0.27	3E-06	2.10	12.16	14.26	0.000125	2.10	12.43	14.53	7.11E-05
Feb-14	0.00	0.39	0.39	4.33E-06	12.27	12.05	24.32	0.000213	12.27	12.44	24.71	0.000121
Mar-14	0.00	1.06	1.06	1.18E-05	0.00	4.03	4.03	3.53E-05	0.00	5.09	5.09	2.49E-05
Apr-14	0.00	0.17	0.17	1.89E-06	0.00	8.05	8.05	7.04E-05	0.00	8.22	8.22	4.02E-05
May-14	0.00	0.14	0.14	1.55E-06	0.00	3.59	3.59	3.14E-05	0.00	3.73	3.73	1.83E-05
Jun-14	0.00	0.59	0.59	6.55E-06	0.00	4.49	4.49	3.93E-05	0.00	5.08	5.08	2.49E-05
Jul-14	0.00	0.36	0.36	4E-06	0.00	3.42	3.42	2.99E-05	0.00	3.78	3.78	1.85E-05
Aug-14	0.00	2.20	2.20	2.44E-05	0.00	7.19	7.19	6.29E-05	0.00	9.39	9.39	4.59E-05
Sep-14	0.00	0.08	0.08	8.88E-07	2.47	6.59	9.06	7.93E-05	2.47	6.67	9.14	4.47E-05
Oct-14	0.00	0.10	0.10	1.11E-06	0.00	7.27	7.27	6.36E-05	0.00	7.37	7.37	3.61E-05
Nov-14	0.00	1.13	1.13	1.25E-05	0.00	8.11	8.11	7.1E-05	0.00	9.24	9.24	4.52E-05
Dec-14	0.00	1.23	1.23	1.37E-05	0.00	7.40	7.40	6.48E-05	0.00	8.63	8.63	4.22E-05
total	0.00	7.72	7.72		16.84	84.35	101.19		16.84	92.07	108.91	
2015												
Jan-15	0.00	0.37	0.37	4.11E-06	1.49	8.15	9.64	8.44E-05	1.49	8.52	10.01	4.9E-05
Feb-15	0.44	1.22	1.66	1.84E-05	0.00	9.38	9.38	8.21E-05	0.44	10.60	11.04	5.4E-05
Mar-15	0.00	0.27	0.27	3E-06	0.00	7.16	7.16	6.27E-05	0.00	7.43	7.43	3.64E-05
Apr-15	0.00	2.19	2.19	2.43E-05	1.37	7.28	8.65	7.57E-05	1.37	9.47	10.84	5.3E-05
May-15	0.00	1.31	1.31	1.45E-05	5.22	8.41	13.63	0.000119	5.22	9.72	14.94	7.31E-05
Jun-15	0.00	0.51	0.51	5.66E-06	2.20	5.16	7.36	6.44E-05	2.20	5.67	7.87	3.85E-05
Jul-15	9.11	9.11	18.22	0.000202	7.43	16.58	24.01	0.00021	16.54	25.69	42.23	0.000207
Aug-15	23.48	16.56	40.04	0.000444	0.00	9.55	9.55	8.36E-05	23.48	26.11	49.59	0.000243
Sep-15	54.09	19.51	73.60	0.000817	15.14	5.50	20.64	0.000181	69.23	25.01	94.24	0.000461
Oct-15	93.55	38.49	132.04	0.001466	1.24	16.47	17.71	0.000155	94.79	54.96	149.75	0.000733
Nov-15	385.21	91.16	476.37	0.005288	30.23	11.08	41.31	0.000361	415.44	102.24	517.68	0.002533
Dec-15	264.07	100.33	364.40	0.004045	77.25	35.32	112.57	0.000985	341.32	135.65	476.97	0.002334
total	829.95	281.03	1110.98		141.57	140.04	281.61		971.52	421.07	1392.59	
2016												
Jan-16	210.12	61.15	271.27	0.003011	90.12	41.03	131.15	0.001148	300.24	102.18	402.42	0.001969
Feb-16	522.58	56.12	578.70	0.006424	353.01	41.22	394.23	0.00345	875.59	97.34	972.93	0.004761
Mar-16	794.17	22.57	816.74	0.009067	297.34	13.41	310.75	0.002719	1091.51	35.98	1127.49	0.005517
Apr-16	27.30	15.59	42.89	0.000476	126.16	9.11	135.27	0.001184	153.46	24.70	178.16	0.000872
May-16	27.08	12.02	39.10	0.000434	38.56	11.21	49.77	0.000436	65.64	23.23	88.87	0.000435
Jun-16	7.13	9.14	16.27	0.000181	84.22	17.01	101.23	0.000886	91.35	26.15	117.50	0.000575
Jul-16	1.50	6.17	7.67	8.51E-05	89.34	6.28	95.62	0.000837	90.84	12.45	103.29	0.000505
Aug-16	18.26	9.22	27.48	0.000305	45.37	7.35	52.72	0.000461	63.63	16.57	80.20	0.000392
Sep-16	273.44	79.36	352.80	0.003917	36.04	10.34	46.38	0.000406	309.48	89.70	399.18	0.001953
Oct-16	508.47	134.03	642.50	0.007133	99.36	4.54	103.90	0.000909	607.83	138.57	746.40	0.003652
Nov-16	288.29	64.51	352.80	0.003917	20.58	8.14	28.72	0.000251	308.87	72.65	381.52	0.001867
Dec-16	402.13	86.29	488.42	0.005422	83.30	14.49	97.79	0.000856	485.43	100.78	586.21	0.002869
total	3080.47	556.17	3636.64		1363.40	184.13	1547.53		4443.87	740.30	5184.17	
note:	February 2016 hours attributable to Feb-1-3 snowstorm:								#VALUE!	443.00		
	february 2016 lost hours excluding snowstorm								#VALUE!	529.93		
2017												
Jan-17	125.23	46.37	171.60	0.001905	78.00	21.16	99.16	0.000868	203.23	67.53	270.76	0.001325
Feb-17	173.27	44.53	217.80	0.002418	28.58	51.27	79.85	0.000699	201.85	95.80	297.65	0.001456
Mar-17	66.35	31.26	97.61	0.001084	174.42	11.41	185.83	0.001626	240.77	42.67	283.44	0.001387
Apr-17	97.38	9.15	106.53	0.001183	52.53	22.55	75.08	0.000657	149.91	31.70	181.61	0.000889
May-17	100.40	26.04	126.44	0.001404	32.51	26.21	58.72	0.000514	132.91	52.25	185.16	0.000906
Jun-17	58.58	22.09	80.67	0.000896	97.07	25.39	122.46	0.001072	155.65	47.48	203.13	0.000994
Jul-17			0.00	0			0.00	0	0.00	0.00	0.00	0
Aug-17			0.00	0			0.00	0	0.00	0.00	0.00	0
Sep-17			0.00	0			0.00	0	0.00	0.00	0.00	0
Oct-17			0.00	0			0.00	0	0.00	0.00	0.00	0
Nov-17			0.00	0			0.00	0	0.00	0.00	0.00	0
Dec-17			0.00	0			0.00	0	0.00	0.00	0.00	0
total	621.21	179.44	800.65		463.11	157.99	621.10		1084.32	337.43	1421.75	
note:	February 2016 hours attributable to Feb-1-3 snowstorm:								#VALUE!	443.00		
	february 2016 lost hours excluding snowstorm								#VALUE!	529.93		