ORBCAD INCIDENT/ACCIDENT PROCESS REVIEW (20-03)

Terry Follmer, VP of Internal Audit

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EXECUTIVE SUMMARY

As part of our Fiscal Year 2020 Internal Audit Plan approved by the Capital Metro Board, we performed an audit of the incident/accident reporting process to evaluate the efficiency and effectiveness of internal controls to ensure the completeness and accuracy of the records, and compliance with contract and applicable policies/procedures. The audit results, including the objective, scope, and conclusion, are as follows.

Background

As of January 5th, 2020, MV Transportation (MV) is the sole service provider responsible for all bus operations and related maintenance. Prior to this date, MV was responsible for the north garage located at 9315 McNeil Road, and RATP Dev was responsible for the south garage located at 2910 East 5th Street. Capital Metro is responsible for providing all bus and operation systems, and MV is responsible for the personnel that record all incidents and accidents into the OrbCAD system, which then prompts manually completing of template forms and related pictures that are then saved to Sharepoint. OrbCAD is a computer-aided dispatch application used for vehicle dispatching, automatic vehicle location and monitoring, real-time performance and incident management, two-way messaging, route schedule adherence, remote vehicle health monitoring, and analytics.

Capital Metro has three systems in place to record incident and accident data, but there is no automated data flow between them. The sequential flow of data between the systems is three steps as follows:

- OrbCAD – starting point where all incident/accident data originates and is used to record the initial data capture by the MV Dispatcher, usually using the auto-fill function in OrbCAD.
- Sharepoint – Incidents are saved to Sharepoint in an Excel template named Operator Report, and if the incident in OrbCAD is classified as an accident. Sharepoint is used by the MV Supervisors to record the manual Excel template called Supervisor Report for each accident together with any pictures. For FY2019, there were approximately 5,000 Operator Reports were handwritten by Bus Operators and then manually entered by Supervisors into an Excel template; and for accidents, Supervisors manually keyed in the details for 2,673 Supervisor Reports into Excel templates that are saved to Sharepoint.
- RiskMaster – all accident files in Sharepoint are reviewed by Capital Metro, and required accident data is manually keyed by Capital Metro into the RiskMaster system which is used for NTD and Capital Metro management reporting. For FY2019, Capital Metro's Senior Risk Specialist manually entered the details of 866 accidents into the RiskMaster system.

The narrative below, together with the sample documents in Appendix A to E further explains the roles and responsibilities of the parties (i.e., MV Transportation and Capital Metro) and how the data is manually entered into the Sharepoint and RiskMaster systems.

The Venn Diagram in Appendix A and flowchart in Appendix B depict all of the systems and manual reports that are used to capture incident/accident data. When an incident/accident occurs with a bus, the Operator notifies the Dispatcher, who will create a new event in OrbCAD (i.e., Incident Entry Form) that includes 24 data fields of which 12 are autofill as the system knows the information (e.g., Incident Form#, Date/Time, Operator Name, etc.). At the completion of each shift, the Operators are required to handwrite the details into a blank Operator's Accident/Incident Report form (Exhibit C). The Supervisor reviews all Operator reports and keys this information into the Excel template (Appendix C), which is saved

to Sharepoint. If the Dispatcher categorizes the event as an accident, they will notify the Supervisor to visit the site, and the Supervisor is required to collect accident information at the scene to complete the Supervisor's Accident/Incident Report (Exhibit D), including taking pictures. The Supervisor handwrites this form at the scene and then later is entered by the Supervisor into the Excel template form on Sharepoint. Within two business days after the accident occurs, the Supervisor is required to submit all support and documentation to MV's Safety Manager. The Safety Manager saves information to the SharePoint folder and manually completes the Notice of Accident Determination Form (Appendix E). Also, the Safety Manager is responsible for completing the Monthly Incident/Accident Log that captures all accidents that occur during that month, which is due by the 5th business day of the following month to Capital Metro. For buses that are damaged and require repair, the Cost Maintenance Report Form is required to be completed within 30 days of the accident along with a copy of the repair work order or invoice in the SharePoint folder.

The Capital Metro Senior Risk Specialist periodically checks the Sharepoint folder for completed accident files that contain both a Supervisor's Accident/Incident Report (Appendix D) and Preventability Ruling Report (Appendix E). For the completed accident files, she reviews the SharePoint folder and manually enters accident data into the RiskMaster system. RiskMaster is a cloud-based claim processing and risk management system used by the Capital Metro Risk Department to capture all accidents, National Transit Database (NTD) reporting to the Federal Transit Administrator (FTA) and for internal Capital Metro management reporting.

MV provides a Monthly Incident/Accident Log to Capital Metro. Capital Metro's Senior Risk Specialist manually reviews it to ensure all accidents that are required for NTD reporting have been captured in RiskMaster. Similarly, the Customer Experience Specialist from the Contract Oversight Department reviews Incident/Accident Log with Senior Risk Specialist to discuss results and determine if the preliminary preventability ruling is correct. The Customer Experience Specialist will discuss the accident files with MV and resolve any discrepancies.

Audit Objective & Scope

The primary objective of this audit was to determine whether internal controls over the reporting of incident/accident reporting process are sufficient to ensure the completeness and accuracy of the records and compliance with contract and applicable policies/procedures. The scope included completing a flowchart of the process, Venn diagram, perform walkthroughs, testing of several reports including tracing of OrbCAD reports to RiskMaster and Monthly Incident/Accident Log, reviewing Capital Metro's policies, review of contracts, invoices, Quality Assurance Operations/Report forms, interviews and desk procedures. Testing of reports includes reviewing OrbCAD November Data, service provider Monthly Incident/Accident Log, and RiskMaster November's 2018 data.

Opinion

The incident/accident reporting process is predominantly manual and the three systems are not interfaced with each other, therefore all data must be manually keyed into the Sharepoint and RiskMaster systems which are inefficient and creates the possibility for data entry errors. In our opinion, internal controls can be improved by evaluating and improving the data controls in the following areas:

1. Disconnected systems and no comprehensive database.

2. Improve QA oversight, analysis, and monitoring.
3. Automate reporting out of systems.

More details regarding the issues/risks and recommendations can be found below in the detailed audit report.

This audit was conducted in accordance with the U.S. Government Accountability Office's Generally Accepted Government Auditing Standards (GAGAS) and the Institute of Internal Auditor's International Professional Practices Framework (IPPF). These standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. The audit was conducted by the following staff members in the Capital Metro Internal Audit Department:

- Jeannette Lepe, Senior Auditor (Project Lead)
- Terry Follmer, VP of Internal Audit

Recommendations to strengthen internal controls and improve accountability were provided to management in the audit report. Management agrees with the internal audit recommendations and has provided target completion dates, which are included in the detailed audit report below. A follow-up audit is performed semi-annually (i.e., May and November) to ensure management action plans for all issued audit reports are completed timely.

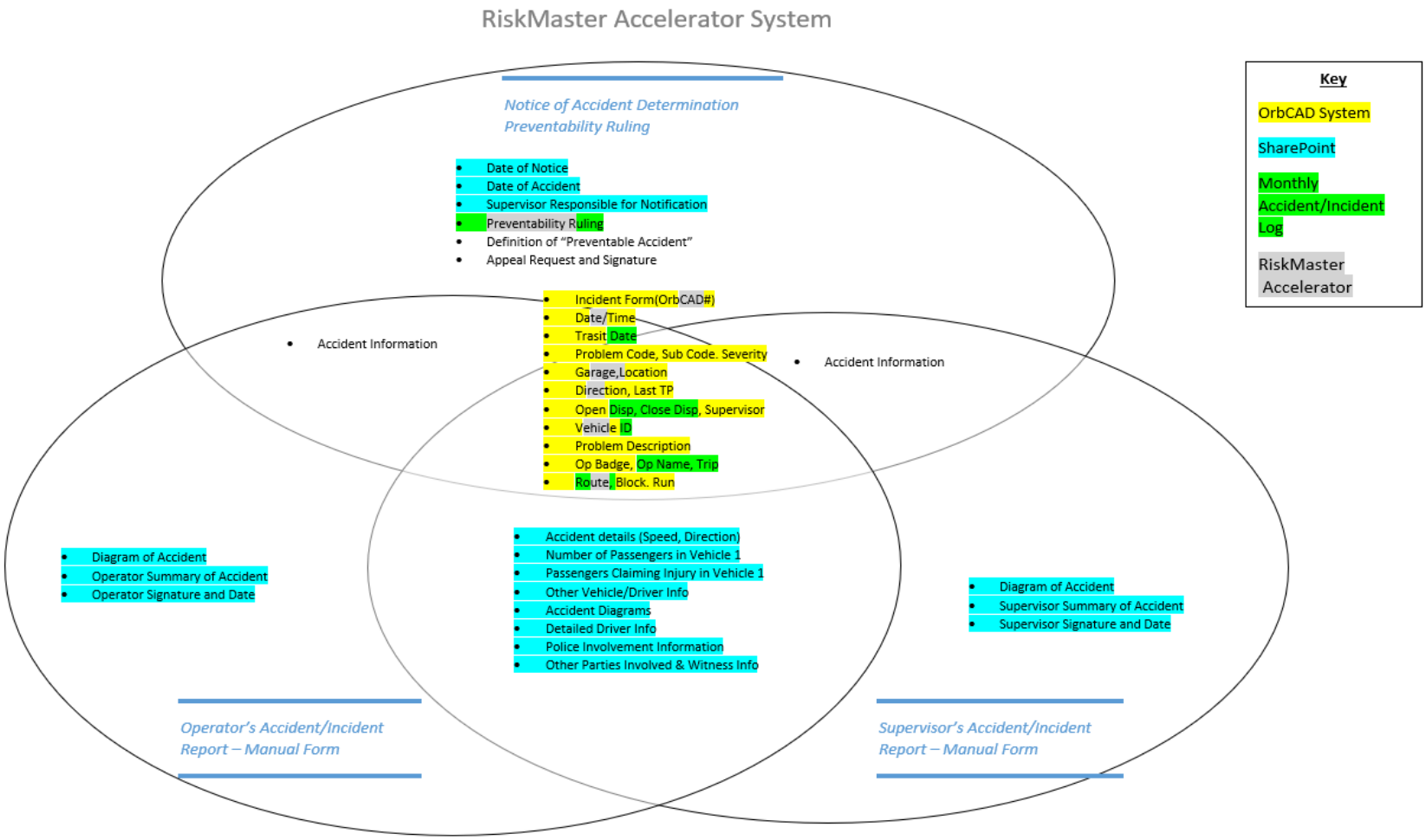
We appreciate the cooperation and assistance provided to us throughout this audit.

Issues & Risk	*Recommendation*	*Management Action Plan*
1. <u>DISCONNECTED SYSTEMS & NO COMPREHENSIVE DATABASE</u> We noted that incident/accident information is captured in three separate systems (i.e., OrbCAD, Sharepoint, and RiskMaster) but these three systems are not interfaced and all data is manually rekeyed into Sharepoint Excel templates as well as into the RiskMaster system. The OrbCAD system is the originating system, and 12 data fields (e.g., Date, Operator #, Bus #, Route #, etc.) are initially captured into OrbCAD by Dispatch using the auto-fill function together with other data. This original data set is then manually rekeyed by the Supervisor into Excel templates (e.g., Operator Report, Supervisor Report, etc.) and saved to Sharepoint. Capital Metro then reviews these Excel templates and then manually rekeys accident-related data into the RiskMaster system. The data entry is redundant and subject to human error as well as there is no single comprehensive database of all information related to the incidents/accidents. We tested the full population of data for November 2018 by comparing accidents in OrbCAD to RiskMaster data and noted the following differences: OrbCAD had 108 accidents versus 122 in RiskMaster; 44 of the 108 OrbCAD accidents had different data (e.g. date, vehicle ID#, Operator Name, route #, etc.). We believe the root cause for the data differences is due to the lack of automated data flow from OrbCAD into Sharepoint and RiskMaster, which results in all data being manually rekeyed and subject to human error.	The Director of Contract Oversight, IT Director of Transit Technology Systems and the Director of Risk Management will consider the following improvements: a) Establishing a single comprehensive database for all incident/accident data. b) Require MV to enter all data into the chosen single comprehensive database. c) Automate the flow of data from OrbCAD into the required Excel templates (e.g., Operator Report, Supervisor Report, etc.) that are saved to Sharepoint, thus requiring the Supervisor to only record new data and not have to rekey all data that is already captured in OrbCAD.	Management agrees with the recommendations. **<u>Target Completion Date</u>**: Due to other IT priority projects, the IT Department will start work on this project in September 2020 and will have a target completion date of September 30, 2021.

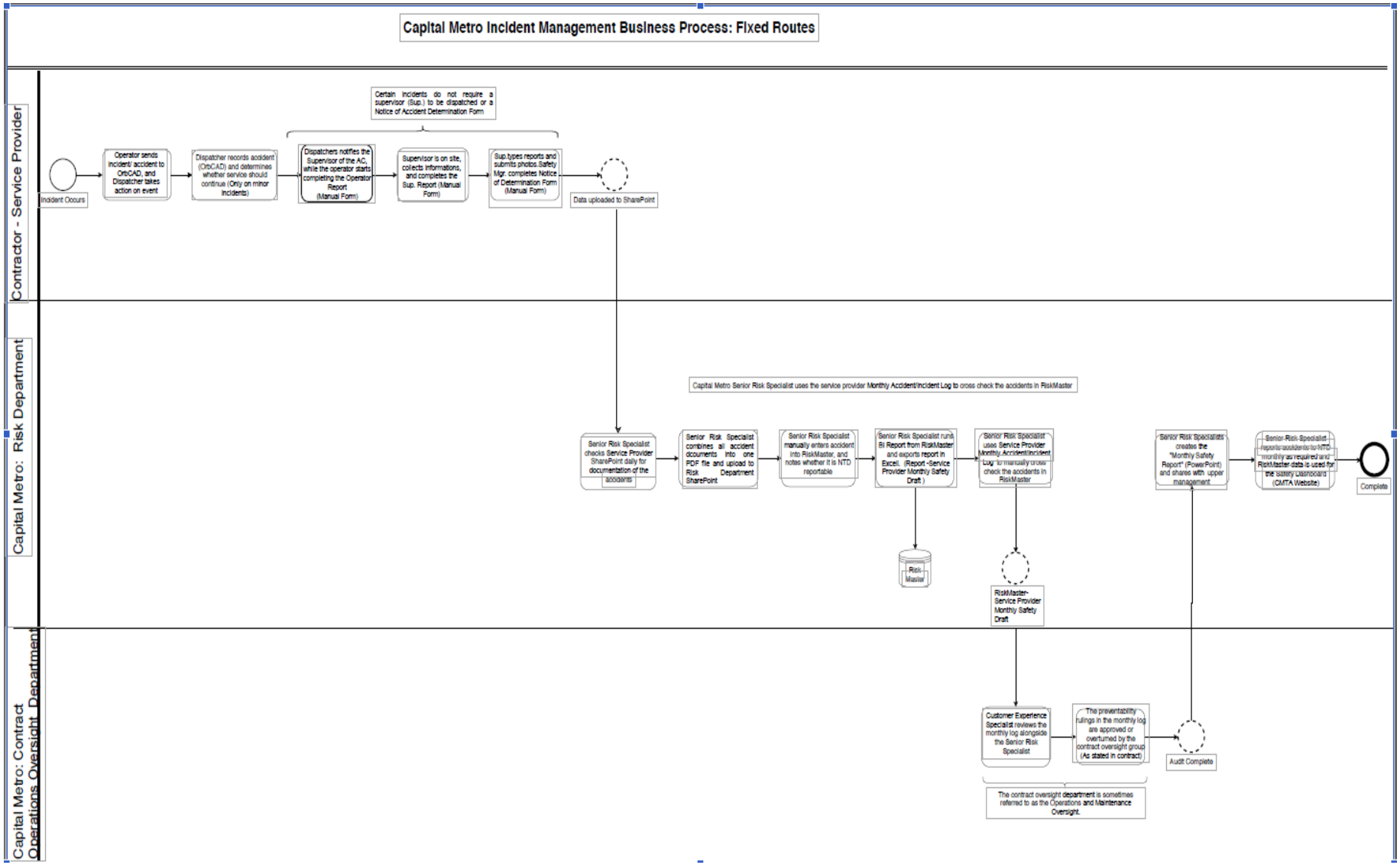
Issues & Risk	*Recommendation*	*Management Action Plan*
2. **IMPROVE QA OVERSIGHT, ANALYSIS AND MONITORING** We noted that there is no process in place to ensure that the data initially captured in OrbCAD matches the data manually entered into Sharepoint and RiskMaster systems. We tested the full population of accident data for November 2018 by comparing accidents in OrbCAD to RiskMaster data and noted the following differences: OrbCAD had 108 accidents versus 122 in RiskMaster; 44 of the 108 OrbCAD accidents had different data (e.g., date, vehicle ID#, Operator Name, route #, etc.). Additionally, critical data fields that should either have audit trail tracking of changes for accountability or locked down to prevent changes need to be identified. We believe the process can be made more efficient, accurate, and complete if the process flow is redesigned.	The Director of Contract Oversight, IT Director of Transit Technology Systems, and the Director of Risk Management should consider and evaluate the following process improvements: a) Review workflow and data needs for each of the parties (e.g., MV Transportation, Bus Operations & QA, Risk Management & Safety, etc.) and redesign process, data flow and systems to meet identified requirements and provide efficiencies. b) Ensure monitoring controls are established related to the accuracy and timeliness of data provided by MV. If possible, implement automated controls related to QA oversight, performance metrics and any PDC's (Performance Deficiency Credits). c) As part of the process redesign, identify critical fields (e.g., Incident #, Date, Operator ID, etc.) and ensure appropriate audit trail is captured as to who/when critical data is changed/updated in the system to ensure accountability. Determine which data fields should be: locked and cannot be updated in which fields are required to be completed in order to proceed, etc. d) Develop controls to ensure that data recorded in OrbCAD matches the data captured in the RiskMaster system. If events are reclassified from incident to accident or vice versa, ensure that both systems are updated with final classification between Incident or Accident.	Management agrees with the recommendations. **Target Completion Date**: July 31, 2020

Issues & Risk	*Recommendation*	*Management Action Plan*
3. **AUTOMATE REPORTING OUT OF SYSTEMS** We noted that MV manually keys all accident-related data into the various Excel templates and saves it to Sharepoint. MV manually creates reports through data entry into the following Excel templates: Operator Report; Supervisor Report; Maintenance Report; Preventability Ruling Report. Note, each of these templates has redundant data from OrbCAD as well as redundant info in each of the templates that must be manually rekeyed multiple times (e.g., date, Bus #, route #, etc.). Additionally, the contractor manually creates and sends to Capital Metro the Monthly Incident/Accident Log which summarizes all activity for the month. Furthermore, the Monthly Incident/Accident Log created by MV/RATP Dev does not contain the original OrbCAD Incident # thus making it difficult to cross-reference to the original record created in OrbCAD. After MV completes creating a separate template for every incident/accident and saves to Sharepoint, then Capital Metro's Senior Risk Specialist reviews and rekeys all required accident data into the RiskMaster system using the individual Supervisor Reports received from MV. We noted that the original Incident # that is automatically assigned by the OrbCAD system is not always being entered into the RiskMaster system which makes cross-referencing the two systems difficult.	The Director of Contract Oversight, IT Director Transit Technology Systems and the Driector of Risk Management, should consider and evaluate the following improvements: a) Request the IT Departments Report Writing Team to develop required pre-printed reports (e.g., monthly reports as well as daily Operator/Supervisor Reports, etc.) out of OrbCAD and/or RiskMaster based upon which system is designated the system of record with all comprehensive data. b) Review for additional monitoring needs (i.e., Capital Metro and MV) and develop additional reports as necessary to improve MV oversight and improve efficiencies. c) Ensure that the original Incident # automatically assigned by the OrbCAD system is properly captured in other reports and systems for appropriate tracking purposes.	Management agrees with the recommendations. **Target Completion Date**: Due to other IT priority projects, the IT Department will start work on this project in September 2020 and will have a target completion date of September 30, 2021.

Appendix A: Venn Diagram – Risk Master Accelerator



Appendix B: Incident Management Business Process



Appendix C: Operator's Accident/Incident Report

Report Must Be Typed And Signed — MV Transportation Bus V. 10/2015

CAPITAL METRO — OPERATOR'S ACCIDENT/ INCIDENT REPORT — CMTA # (Risk Mgmt. Use Only)

ACCIDENT INFORMATION

Accident/Incident Date:		Accident Type (Darken one):	Vehicle ●	Passenger ○	Incident ○		
Time:	○am ○pm	Bus #		Route & Block:		Direction Traveled:	
Name of Operator:				ID #		Radio Contacted:	Yes ☐ No ☐
TX CDL #:		Expiration Date:				Operator Injured:	Yes ☐ No ☐
Supervisor at Scene:				T #		Operator Transported:	Yes ☐ No ☐
Accident Location:		Nearest Cross Street:					
Road Conditions:		Weather Conditions:		Was the bus in motion at the time of Incident:			Yes ☐ No ☐
Approx. Speed Before Impact:		Approx. Speed at Impact:		CMTA Veh. Towed:	Yes ☐ No ☐	Police @ Scene:	Yes ☐ No ☐
Police Report #:		Citation Issued?		Officer's Badge #:			
Description of Damage to CMTA Vehicle:							
Passengers:	# Onboard	# Claiming Injury	# Transported to Hospital	# of Courtesy Cards Collected:			

VEHICLE # 2 INFORMATION:

Driver's Name: (First Name / Last Name)			Age & Gender:		
Driver's Address: (City / State / Zip Code)					
Driver's Phone #:		Vehicle Year, Make, Model:			
Driver's License #: (State & Number)		Vehicle License #: (State & Number)		Veh. #2 Towed:	Yes ☐ No ☐
Owner's Name & Address: (if Different from Driver) (City / State / Zip Code)					
Insurance Co. & Policy #:		Insurance Co. Phone #:			
Description of Damage to Vehicle #2:					

VEHICLE # 3 INFORMATION:

Driver's Name: (First Name / Last Name)			Age & Gender:		
Driver's Address: (City / State / Zip Code)					
Driver's Phone #:		Vehicle Year, Make, Model:			
Driver's License #: (State & Number)		Vehicle License #: (State & Number)		Veh. #2 Towed:	Yes ☐ No ☐
Owner's Name & Address: (if Different from Driver) (City / State / Zip Code)					
Insurance Co. & Policy #:		Insurance Co. Phone #:			
Description of Damage to Vehicle #2:					

WITNESSES AND INJURED PARTIES ☐

1	Name:		Injured ○ Witness ○	EMS Notified? Yes ☐ No ☐	Transported? Yes ☐ No ☐	
Address:				Phone Number:	( )	
Injury Description:		Age & Gender		Hospital:		
2	Name:		Injured ○ Witness ○	EMS Notified? Yes ☐ No ☐	Transported? Yes ☐ No ☐	
Address:				Phone Number:	( )	
Injury Description:		Age & Gender		Hospital:		
3	Name:		Injured ○ Witness ○	EMS Notified? Yes ☐ No ☐	Transported? Yes ☐ No ☐	
Address:				Phone Number:	( )	
Injury Description:		Age & Gender		Hospital:		

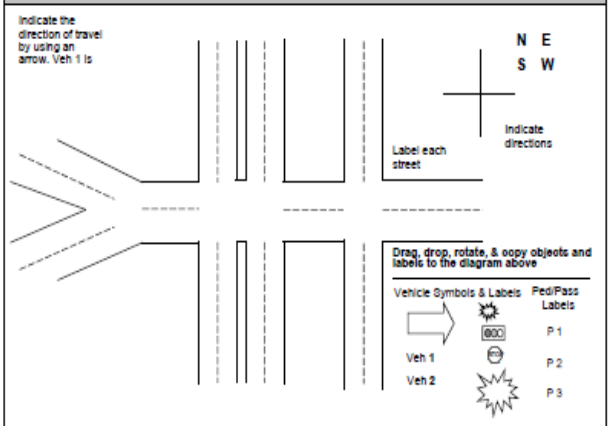
REPORT MUST BE TYPED AND SIGNED

4	Name:		Injured ○ Witness ○	EMS Notified? Yes ☐ No ☐	Transported? Yes ☐ No ☐
Address:				Phone Number:	( )
Injury Description:		Age & Gender		Hospital:	
5	Name:		Injured ○ Witness ○	EMS Notified? Yes ☐ No ☐	Transported? Yes ☐ No ☐
Address:				Phone Number:	( )
Injury Description:		Age & Gender		Hospital:	

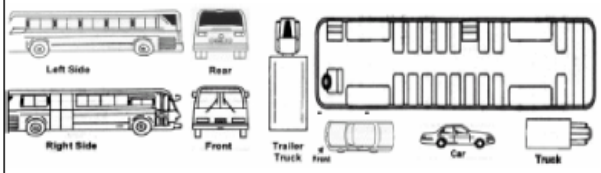
SUMMARY OF ACCIDENT:

Please provide detailed facts of the accident/incident:

DIAGRAM OF ACCIDENT:



Indicate Vehicle Damage on appropriate vehicle. Indicate location of any injured passengers on diagram of bus.



To the best of my knowledge, I certify that all of the information above is complete and accurate.

Operator's Signature _____ Date _____

Apendix D: Supervisor's Accident/Incident Report

Report Must Be Typed And Signed MV Transportation Bus V. 10/2015

CAPITAL METRO

SUPERVISOR'S ACCIDENT/ INCIDENT REPORT

CMTA # *(Risk Mgmt. Use Only)*	

ACCIDENT INFORMATION

Date:		Compass direction:		CMRS #:			
Time:		Bus #		Block:		Accident Type:	
Name of Supervisor:				T#:		Sub Type:	
Name of Operator:				ID #:		Response time:	
TX CDL #:		Exp. Date:		Is operator required to be tested?			
On Street:				At Street:			
Road Conditions:		Weather Conditions:		Was bus in motion at time of incident:			
Approx. speed prior to impact:				Approx. speed at impact:		Operator injured?	
Were photos taken?		CMTA vehicle towed?					
Missed trips:		Service Lost:		Was service delayed?		Q-bus:	
Police on scene?		Case #:		Citation issued:		Officers Badge #:	
Body Damage to CMTA Vehicle:							
# Pass. In Veh.#1:		In #2:		# Pass. Claiming injury in Veh. #1:			

VEHICLE # 2 INFORMATION:

Driver's Name:	First Name / Last Name		Age & Gender:		
Driver's Address:	City	State	Zip Code		
Driver's Phone #:		Vehicle Year, Make, Model:			
Driver's Lioence #:	State & Number	Vehicle Lioence #:	State & Number	Veh 2 Towed:	
Owner's Name & Address: (If Different from Driver)	City	State	Zip Code		
Insurance Co. & Policy #:		Insurance Co. Phone #:			
Description of Damage to Vehicle #2:					

VEHICLE # 3 INFORMATION:

Driver's Name:	First Name / Last Name		Age & Gender:		
Driver's Address:	City	State	Zip Code		
Driver's Phone #:		Vehicle Year, Make, Model:			
Driver's Lioence #:	State & Number	Vehicle Lioence #:	State & Number	Vehicle Towed:	
Owner's Name & Address: (If Different from Driver)	City	State	Zip Code		
Insurance Co. & Policy #:		Insurance Co. Phone #:			
Description of Damage to Vehicle #2:					

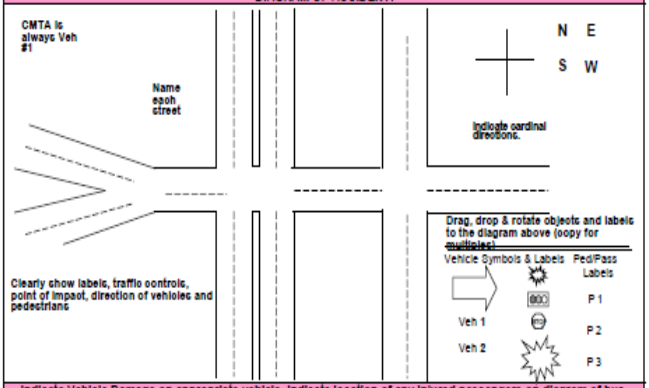
WITNESSES AND INJURED PARTIES

1	Name:			Injured☐ or Witness ☐	
Address:			Phone:		
EMS Notified?		Age and Gender:		Hospital:	
Transported?		Injury Type/Description:			
2	Name:			Injured☐ or Witness☐	
Address:			Phone:		
EMS Notified?		Age and Gender:		Hospital:	
Transported?		Injury Type/Description:			
3	Name:			Injured☐ or Witness☐	
Address:			Phone:		
EMS Notified?		Age and Gender:		Hospital:	
Transported?		Injury Type/Description:			
4	Name:			Injured☐ or Witness☐	
Address:			Phone:		
EMS Notified?		Age and Gender:		Hospital:	
Transported?		Injury Type/Description:			

SUMMARY OF ACCIDENT:

Please provide detailed facts of accident/incident:

DIAGRAM OF ACCIDENT:



Indicate Vehicle Damage on appropriate vehicle. Indicate location of any injured passengers on diagram of bus.

To the best of my knowledge, I certify that all of the information above is complete and accurate.

Supervisor Signature _____ Date _____

Appendix E: Notice of Accident Determination (Preventability Ruling)

MV Transportation Division 269 Austin UT Shuttle

NOTICE OF ACCIDENT DETERMINATION

Date of Notice: 10/1/2018

Employee Name: Michael Urea

Date of Accident: 9/25/2018

A preventable accident is "an occurrence involving a Company vehicle regardless of property damage or personal injury in which the directly involved employee fails to do everything a trained professional could reasonably have been expected to do to prevent the occurrence."

It has been determined that the above mentioned accident was

Preventable (Non-preventable)

By the employee involved.

Factors, which contributed to this determination, are as follows:

V2 Side Swiped V1 and left the scene.

Employee Notified by: Monique Avalos-Safety Manager

Date: 10/1/2018

I understand if I disagree with the chargeable accident, I may submit in writing to the Safety Director a request to come before the Accident Review Board. This request must be made within ten (10) days of notification of preventability determination.

Signature _____ Date _____