

# Accident Prevention

## ▣ **Accident Reduction Programs:**

- From 1/25,000 Miles To 1/94,000 Miles
- Programs, Procedures and Documentation

## ▣ **Sharing Best Practices to Avoid Accidents:**

- Segment One: Loading and Securing Passengers in Mobility Devices
- Segment Two: Assisting Passengers
- Segment Three: Avoiding Crashes

# Accident Prevention

## ▣ Part One

### ▣ Accident Reduction Programs:

# Accident Prevention

## ▣ Accident Reduction:

- A Cultural Change Over Several Years
- Safe Environment for Drivers to Share
- Focus is on Learning and Avoiding not Punishment

## ▣ Reduction by Year (mileage between accidents):

- 2014: 25,800  
2015: 29,500  
2016: 44,800  
2017: 47,300  
2018: 42,800  
2019: 65,800  
2020: 38,700  
2021: 94,700

# Accident Prevention

- ▣ **Definition of “what” is an accident was broadened to include:**
  - A tear in the wrapping of the vehicle.
  - Any injury to any person, whether or not there was a crash or collision.



# Accident Reporting Procedure Manual



Town of Oro Valley

Transit Service Division

## **Accident Procedures Manual**

March 4, 2013

Revision Date: 2/21/2022

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Transit Service Office

12941 Pusch Mountain View Lane

Oro Valley, AZ 85755

(520) 229-4990



# Accident Reporting Procedure Manual

## Defining What is an Accident



Town of Oro Valley

Transit Services

Division ACCIDENT

PROCEDURES

	CELL	OFFICE	PTT
Dispatcher On-Duty	309-7510	229-4987	A01
Transit Crew Leader			
Mike Alexander	471-2228	229-4980	
Mike Hennings	833-0134/520-575-1278	229-5041	
Jon Hawbaker	471-2192/520-664-7685	229-5041	
Town Address	11000 N LaCanada Dr,	Oro Valley, AZ	85737

### ACCIDENT DEFINITION

An accident is any event that causes the following damage to the transit vehicle, another vehicle, personal property or injury to include:

- The wrapping to be torn.
- A dent, puncture or more severe damage.
- Any damage of personal property.
- Injury to any person.

If any of these events occur the driver shall report the accident immediately to dispatch and while at the scene of the accident.

# Accident Reporting Procedure Manual

## On-line Reporting

- ▣ The accident report is completed on-line at location
  - Drivers use the (manifest) tablet
  - Tablet accident form dictates required details
  - Pictures uploaded directly as part of report
  - Submitted report goes to Supervisor
  - Supervisor action/submit goes to:
    - ▣ Assistant Director
    - ▣ Town Safety Manager

# Accident Review Committee Program

- **Accident Review Board - All Accidents**
  - Transit Supervisors
  - Driver Representative
  - Town Police Accident Investigation Officer
  - Town Attorney
  - Town Safety Manager

# Accident Review Committee Program

- **Objective of Committee:**
  - **Review of contributing systemic factors including:**
    - Policies, procedures, training, equipment, environment and roadway factors
  - **Board Report to includes recommend:**
    - Changes to policies and/or procedures
    - Accident prevention training
    - Equipment modifications
    - Coordination with other agencies
- **Committee Meeting Frequency has decreased:**
  - Once each quarter in 2014
  - Once each year in 2021

# Accident Log Spreadsheet

- **Captures Details of Each Accident:**
  - **Able to identify trends and common factors**
  - **Details Tracked:**
    - **Was accident preventable?**
    - **Vehicle type/size**
    - **Driver experience**
    - **Description**
    - **Injuries**
    - **Damages**
    - **Repair costs**

# Accident Log Spreadsheet

Accident Date	Preventable by Transit Driver	Bus #	Vehicle Size	Driver Experience	Accident Description	Issue	Injuries	Damages	Driver	Notes	Collision with vehicle, object or other issue.	Cost Association
January through March 2021												
3.22.21	YES	1503	Large/Wide	2.5yrs	backed into stop sign	blind curve at stop sign. Pulled out and saw a car coming so he backed up to allow other car to pass	NO	none to the stop sign. Small scratch on bus right rear	XXXX	discipline note given	YES, stop sign	\$0.00
April through June 2021												
4.10.21	YES	1602	Medium/Wide	1.5 yrs	got too close to construction sign	traveling south on Oracle in construction zone moved right too far and hit construction sign	NO	ripped battery box door off and a couple scrapes on side of bus	XXXX	disciplinary note issue. Ron was able to repair	YES, construction sign	\$0.00
5.27.21	YES	1504	large/wide	4.5yrs	backed into wall	making a Y turn, backed into wall	NO	scratches on back bumper	XXXX	disciplinary note issue. Rubbed out most of the scratches	yes, wall	\$0.00
6.2.21	YES	1607	large/wide	5 yrs	hit fence on driver side of bus	tight location to pull into for passenger pick up	NO	scratches on driver side wheel well	XXXX	disciplinary note issue. Rubbed out most of the scratches	yes, fence	\$0.00
6.14.21	NO	1603	Medium/Wide	9 yrs	other car moved into our lane	car moved into our lane hitting out driver side mirror	NO	small scratches to our mirror. Other car crease on top, rear passenger side	XXXX	none	other vehicle hit us.	\$0.00
July through September 2021												
7.26.21	YES	1803	large/wide	1.75 yrs	backed into a dumpster	new construction parking lot. Thought he had to back up to get out	NO	damaged fiberglass right rear side of bus. Nothing to the dumpster	XXXX	discipline letter issued	yes, dumpster	
8.9.21	NO	1801	large/wide	3.5yrs	we were side swiped	Other driver came into our lane	NO	Passenger side mirror bent	XXXX	none	other vehicle hit us	
8.17.21	NO	1904	large/wide	NA	Top of vehicle A/C unit crashed into overhead doorway	BrakeMax mechanic backed vehicle into stall that was too short and crashed top of	No	Surface housing dented, unknown if	XXXX	documented for future repair if needed	object	not yet known
9.2.21	NO	1603	Medium/wide	2 mon	car pulled out of side street in front of our vehicle	Driving west on Tanque Verde a car pulled out right in front of our vehicle	NO	crack in fiberglass just in front of passenger door	XXXX	Will have vehicle inspected for underlying damage.	Other vehicle hit us	\$778.03
October through December 2021												
10.6.21	YES	1504	Large/Wide	2 months	hit carport cover	in parking lot a car was coming towards driver. Driver moved over to give other car room and rubbed car port	NO	Scratch and brown paint above passenger door	XXXX	disciplinary note issued	Yes, car port	\$0.00

# Rider Evaluation Form

Page 1



Town of Oro Valley  
Transit Services Division  
Ride Check & Operator Review

Route Training ☐

Route Refresher ☐

Supervisor Evaluation ☐

Administrative Request ☐

Operator: \_\_\_\_\_

Date: \_\_\_\_\_

Reviewer: \_\_\_\_\_

Run: \_\_\_\_\_

Bus #: \_\_\_\_\_

Pre-Trip (mark if deficient)

Outside ☐

Inside ☐

Vehicle Inspection Form ☐

## Driving

### 1. Smoothness

- a. Accelerates Gradually
- b. Decelerates Gradually
- c. Smooth break application (soft pedal contact)
- d. Feathering brakes (brake finish)
- e. Sudden brake applications
- f. "Little sway" through curves & maneuvers

Always

Usually

Occasionally

Never

NA

### 2. Observation Skills

- a. Scans regularly
- b. 15 second scanning - looks ahead
- c. Effective mirror scanning and use
- d. Checks for/awareness of "blind spots"

Always

Usually

Occasionally

Never

NA

### 3. Space Margin

- a. Too close when passing hazards? (R / L)
- b. Following distance (too close?)
- c. Enough space cushion at stop
- d. Too fast through tight maneuver(s)?
- e. Cyclists (good clearance/following distance)

Always

Usually

Occasionally

Never

NA

### 4. At Locations

- a. Approaching speed is good
- b. Good positioning & avoids hazards
- c. Proximity to curb
- d. Keeps lift/passenger doors closed as much as possible
- e. Uses lift appropriately
- f. Checks mirrors and doors prior to leaving
- g. Recognizes hazards when entering / exiting

Always

Usually

Occasionally

Never

NA

### 5. Intersections

- a. Looking ahead to light
- b. Approaching speed is good
- c. Looks left/right/left (scans)
- d. Anticipates light changes at stale Green lights
- e. Clears intersection when performing a left turn
- f. Safely clears all intersections
- g. Runs amber \_\_\_\_\_ runs red \_\_\_\_\_

Always

Usually

Occasionally

Never

NA



# Rider Evaluation Form

Page 2

6. Turns	Always	Usually	Occasionally	Never	NA
a. Correct use of speed through turns	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Effective use of mirrors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Uses correct lanes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Correct turning radius	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Contact with the curb?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. General	Always	Usually	Occasionally	Never	NA
a. Courtesy on the road	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Provides or positioned to provide passenger assistance to/from seat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Waits for customers to be seated as needed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Insures seat-belts are used	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Customer Service

1. Customer Service	Always	Usually	Occasionally	Never	NA
a. Acknowledges customers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Respectful interaction and assistance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Aware of passenger comfort	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Checks interior mirrors for passengers conduct	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Avoids/mitigates potential confrontations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. General	Yes	No	Not Applicable
a. Driver distracted (if "Yes" see comments)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Wheelchair / scooter securement procedure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Walker securement procedure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Bike transport procedure (if applicable)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Reviewer's Comments

Coaching Points - Suggested Improvements

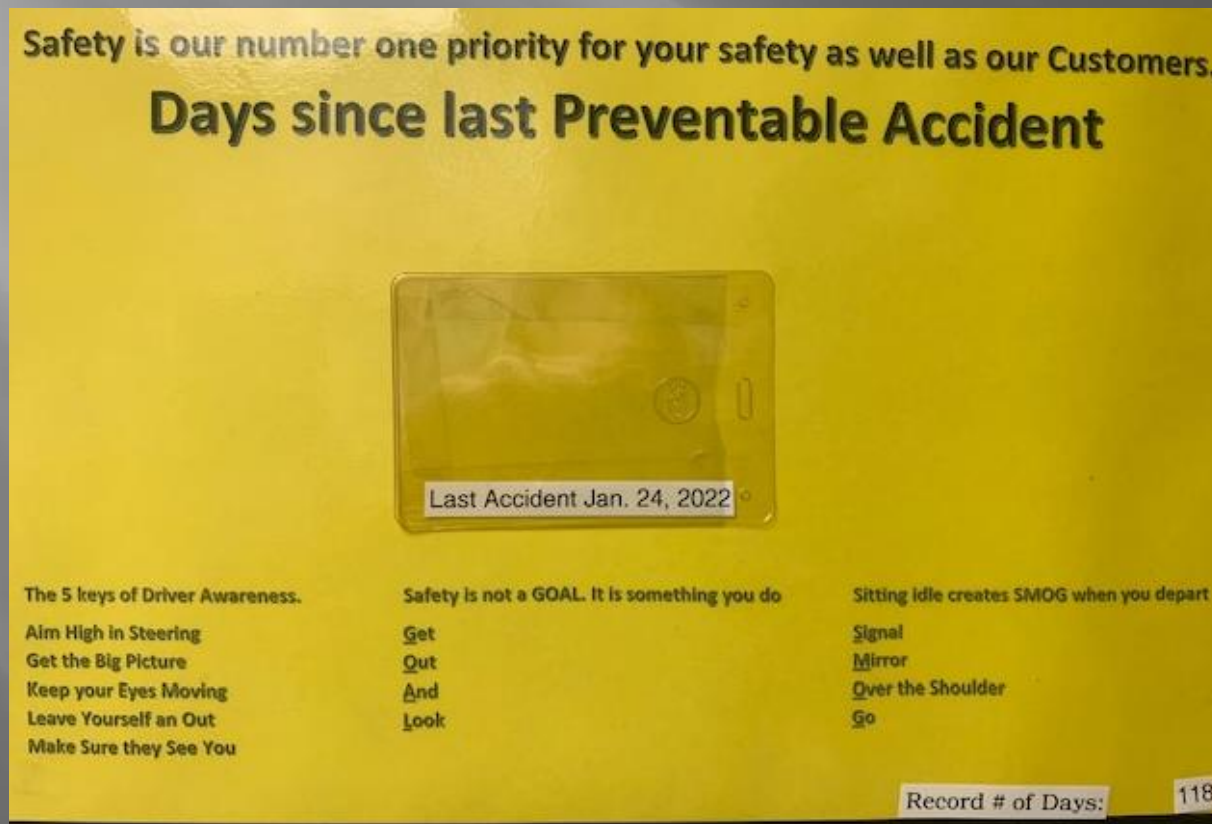
	Satisfactory	Needs Improvement	Unsatisfactory
a. Driving	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Customer Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. General Overall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Operator's Signature

Reviewer's Signature

# Accident Free Incentive

- Directive Establishes Program
- 80 days without an accident:
  - Three Driver's receive \$25 gift card
  - All other drivers receive \$5 gift card



# Safe Driver Awards

- **Formal Presentation**
  - Issued for Accident-Free driving at:
  - One, Three, Five, Ten and 15 Years of Safe Driving
  - Presented Pin and Certificate



# Accountability - SOPs

- **Pre and Post Trip Inspections – Unreported Damage**
- **Trip Scheduling**
  - **Efficient but not Too Tight Causing Drivers to Feel Rushed**
- **Separation of Scheduling and Dispatching Duties**
  - **Allows Dispatcher to Focus on Assisting Drivers and Passengers**

# Accident Prevention Training

- **Mobility Device Loading and Securing Evaluation**
- **Customized Driver Rodeo**
- **What's Important Now (WIN) Poster**
- **Review of Specific Accidents**
  - **Drivers Engaged in Sharing and Learning**
  - **Learn to Avoid Accidents when in Similar Situations**

# Accident Prevention Training

## Loading and Securing Evaluation

Correct	Incorrect	
<input type="checkbox"/>	<input type="checkbox"/>	1. Greet passenger by name. Verify you have the right person.
<input type="checkbox"/>	<input type="checkbox"/>	2. Load manual wheelchair backward.
<input type="checkbox"/>	<input type="checkbox"/>	3. Secure safety belt on lift if available.
<input type="checkbox"/>	<input type="checkbox"/>	4. Ask passenger to hold on handrails if able, driver keeps one hand on wheelchair while raising lift.
<input type="checkbox"/>	<input type="checkbox"/>	5. Set brakes/turn power off, raise lift a couple of inches and check that outer barrier is up and locked.
<input type="checkbox"/>	<input type="checkbox"/>	6. Push passenger partway into vehicle, set brakes, go inside, position wheelchair away from lift, set brakes/power off.
<input type="checkbox"/>	<input type="checkbox"/>	7. Go outside and secure lift.
<input type="checkbox"/>	<input type="checkbox"/>	8. Position wheelchair so it is centered between tie down points, set brakes/power off. Wheelchairs must always face forward, never sideways or backward.
<input type="checkbox"/>	<input type="checkbox"/>	9. Attach Q-strains, front on outside of wheels, rear on inside of wheels, to solid/welded frame.
<input type="checkbox"/>	<input type="checkbox"/>	10. Secure rider using seat/shoulder belt.
<input type="checkbox"/>	<input type="checkbox"/>	11. Detach bels from Q-strains and feed through wheelchair frame if necessary, so that belts are around passenger hips, not wheelchair frame.
<input type="checkbox"/>	<input type="checkbox"/>	12. Red buckle shall be next to passenger hip and on correct side so shoulder belt is across chest, and so red buckle is not over stomach.
<input type="checkbox"/>	<input type="checkbox"/>	13. Seat/shoulder belt should be snug but not uncomfortably tight.
<input type="checkbox"/>	<input type="checkbox"/>	14. Adjust shoulder belt so it is across outer edge of should and not rubbing on neck.
<input type="checkbox"/>	<input type="checkbox"/>	15. Release brakes, move chair to tighten Q-strains, no more than 2" of movement in any direction, set brakes/power off.
<input type="checkbox"/>	<input type="checkbox"/>	16. Last check before leaving passenger cabin, look at, count and verify that all four Q-strains are properly attached.



# Accident Prevention Training Rodeo



Course Layouts  
Available on  
CTAA and RTAP  
Websites

# WIN

What's Iimportant Now

## What's Important Now (WIN) Poster

### Short Cuts

There are **no short cuts** when securing a rider and their wheelchair.

1. Correctly position the wheelchair to a side of the bus not in the middle.
2. Must use all four (4) restraints for the wheelchair.
3. Tighten the restraints by moving their chair.
4. Seatbelts are required.
5. Seatbelt buckle must be to the inside of the bus.
6. Adjust the shoulder belt so it works properly.

These people have been "secured" ...**not** 😞





# References and Documents Available on AzTA Website

- **Accident Reporting Procedures Manual**
- **Accident Review Committee Program**
- **Accident Log Spreadsheet**
- **Ride-Along Driver Evaluation Form**
- **Accident-Free Incentive SOP**
- **Dispatching and Scheduling SOPs**
- **Pre and Post Trip Inspection SOPs**
- **Session Presentation Powerpoint**
- **Available at:**

# Accident Prevention

## ▣ Part Two

- ▣ **Sharing Best Practices to Avoid Accidents:**
  - Segment One: Loading and Securing Passengers in Mobility Devices
  - Segment Two: Assisting Passengers
  - Segment Three: Avoiding Crashes

# Segment One

## Loading and Securing Passengers in Mobility Devices

- ▣ **What Best Practices**
- ▣ **Do You Recommend to  
Avoid Passenger Injurys?**

# Review of procedures when securing a passenger in a mobility device.

1. Position the mobility device, **center between tie down points**, set brakes.
2. Secure the mobility device using **four Q-staints**.
3. Secure the passenger using **lap and shoulder belts**.
4. Ensure the lap belt makes a direct path and goes **around the passengers hips, not around the wheelchair frame**.
5. Lap **(red)** belt buckle should be placed at side of hip.
6. **Adjust shoulder belt** so that it goes across the collarbone and **diagonally across the occupant's chest**.
7. Release brakes, wiggle device to tighten tiedowns, ensure **no more than 2 inches of movement** in any direction, reset brakes.
8. **Look at and count** that all four (4) tiedowns are in place.



Identify discrepancies of recommended procedures in this video.



# Consequences of not following procedures.





Always Complete a Final Check  
Before Leaving Passenger Cabin:  
Look at and count that all four Q-  
straints are attached.





Identify discrepancies of recommended procedures in this video.





# Segment Two

## Assisting Passengers

- ▣ **What Best Practices**
- ▣ **Do You Recommend to Avoid Passenger Injurys?**

Are there opportunities to improve assistance to this passenger?



# Are there opportunities to improve assistance - using cane and lift?





# Are there opportunities to improve assistance - using walker and lift?





# Inappropriate Passenger Behavior

## Are there opportunities to improve assistance?



# Segment Three

## Avoiding Vehicle Crashes

- ▣ **What Best Practices**
- ▣ **Do You Recommend to  
Avoid Accidents?**

Post vehicle clearance limits on bold, easy to see placard.



# Consequences of Loss of Situational Awareness





# Consequences of Loss of Situational Awareness

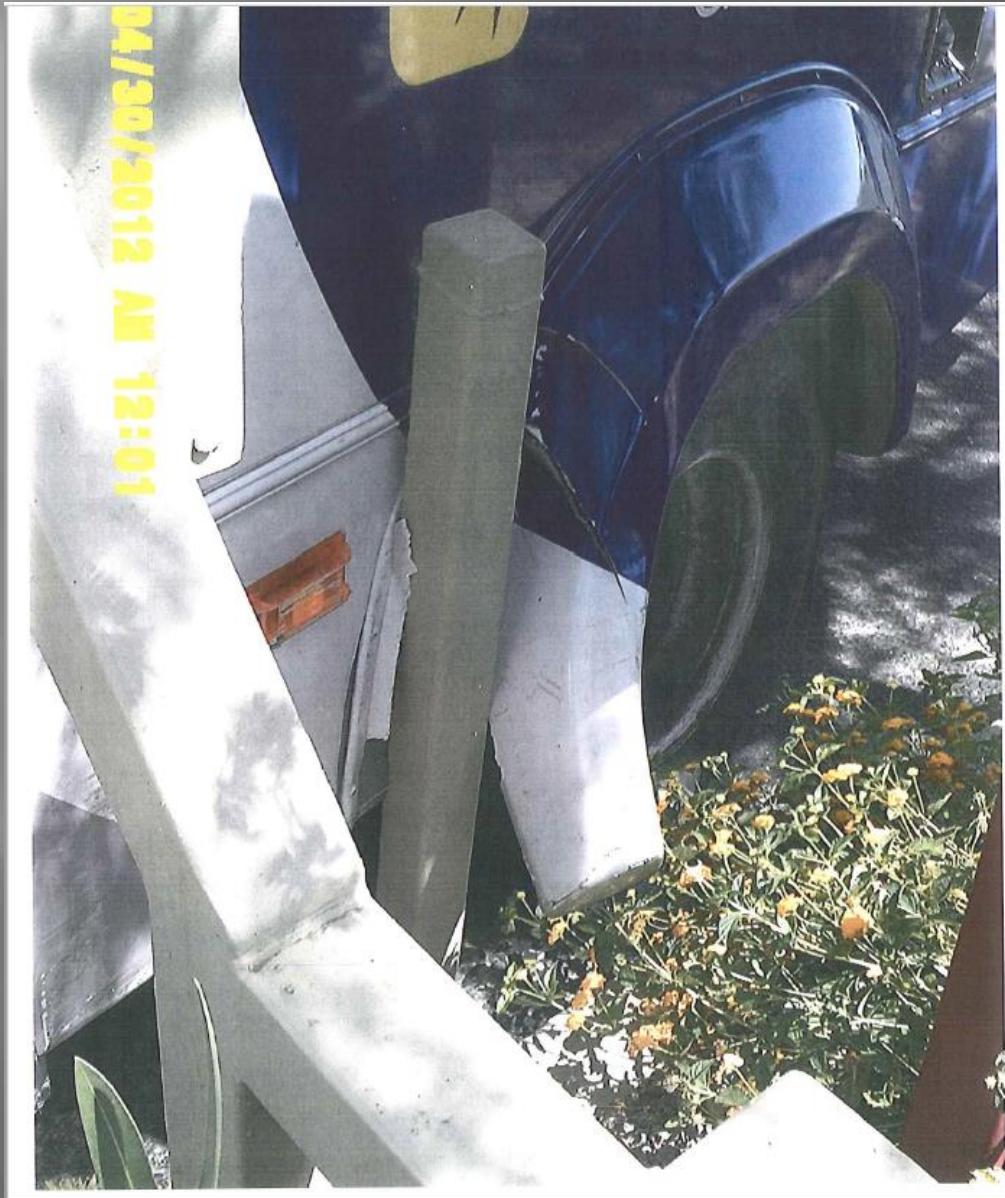


## Step Out of Vehicle to Enter Gate Code





# Consequences of Entering Code from Driver Seat



# Maintaining Awareness of Other Drivers

## Last Second Lane Change





# Maintaining Awareness of Other Drivers Running Red Light



# Transit Vehicles are Tall and Wide

## Maintain Situational Awareness





# Transit Vehicle Windshield Frame Blind Spot

## Remember to Rock then Roll



# Maintain Awareness when Driving

## Scan for Hazards that will Move into Blind Spots





# Scan for Hazards that will Move into Blind Spots

## Avoid Backing Up - Video 1



# Scan for Hazards that will Move into Blind Spots

## Avoid Backing Up - Video 2





# The Great Chocolate Milk Caper

