The background image shows the exterior of a modern building, likely a transit station, with large glass windows and a blue facade. A prominent blue sign on the building reads "LEE COUNTY TRANSIT" with a stylized "lee" logo to the right. Several palm trees are visible on the left side of the frame. The sky is clear and blue.

# Establishing the Framework of SMS for Lee County Transit

Presented by Paul Goyette  
Deputy Director



# Establishing the Framework of SMS for Lee County Transit

SMS Planning and Implementation

January 7, 2018



# ABOUT LEE COUNTY TRANSIT

Lee County Transit, known as Lee Tran, is operated by Lee County and is responsible to the Lee County Board of County Commissioners. Lee Tran headquarters is located in Ft. Myers

The service area covered by Lee Tran is limited to the boundaries of Lee County, FL.

Lee Tran operates four transfer centers with the newest one just opened in December connecting Ft. Myers Beach to the rest of Lee County.

Lee Tran currently operates 25 fixed routes operating 7 days a week. Some routes have limited service on Sunday.

Lee Tran's ADA Paratransit service is called *Passport* and provides door-to-door service.

Lee Tran maintains a fleet of 60 full-size buses, 42 Paratransit vehicles, and 11 vanpools.



# SMS Subcommittee Team

**“The Perfect is the Enemy of the Good” – Voltaire**

When the SMS Subcommittee Team began it’s work to modify the FTA SMS framework for Lee County Transit we understood that at this time it wasn’t a cut and paste approach to safety.

By using the framework though we are actually having to put on our thinking caps and dissect what we are doing now in regard to safety and what we would like to happen in workplace safety.

# SMS Subcommittee Team

We are just beginning stages of SMS formation for Lee Tran, but we have actually tried it out on an Operator's concern and I must say it promises to be an improvement over the way "We have always been doing it".

So the SMS Subcommittee is not letting "The Perfect is the enemy of the good". We are a JUST DO IT subcommittee that realizes that we will be adjust how SMS works for us, continue tweaking this safety system, but having a working SMS System framework to tweak.

**JUST DO IT!**

# SMS Subcommittee Team

SMS subcommittee formed in October of 2017. The subcommittee is an extension of Lee Tran's Safety Committee. There are four members on the subcommittee:

- Two from our Fixed Route Operations
- Two persons from our Paratransit Operations



All SMS subcommittee team members are presently on our Safety Committee. This subcommittee is the initial SMS developing group for the framework and a cross section of the agency departments will be brought in incrementally.

# SMS Subcommittee Team

Lee Tran's first SMS subcommittee meeting was organizational in nature. Topics discussed were:

- Meeting times and duration;
- Who had access to our shared drive on our servers where our working papers on SMS are stored;
- Discuss Lee Tran's System Safety Program Plan (SSPP) 2017;
- Discuss Lee Tran's FTA SMS Gap Analysis 2016;
- Decide on a format for our SMS framework;
- Lee Tran Organization chart (handout);
- FTA Safety Management System Framework (handout booklet);
- Goals and assignments from our 'Phase One' list (handout);

# SMS Subcommittee Team

Assignments given to team members at first meeting:

- Safety Management Policy Statement – Draft was completed by first meeting; ✓
- Person and/or assemble team responsible for the development of the implementation plan appointed; ✓
- Implementation gap analysis by reference to the components and subcomponents of the FTA SAM Framework conducted; ✓
- List Accountable Executive and the safety management accountabilities of managers identified. ✓



# Real World Example of a Safety Issue Using The Safety Risk Management/Safety Assurance Process at Lee Tran

# The SRM/Safety Assurance Process

A bus operator approached a SMS subcommittee member with his concern of finding a syringe on his bus and didn't know the right way to dispose of it safely.

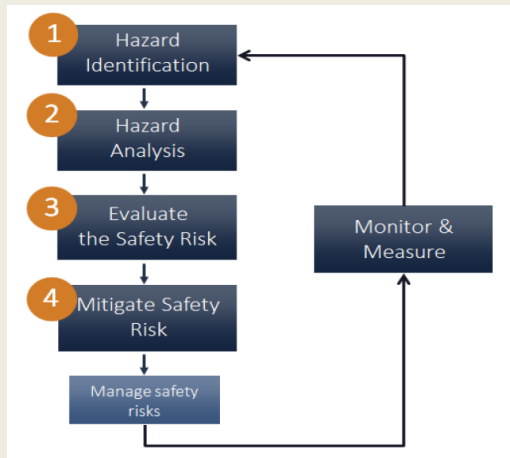


Safety Risk Management

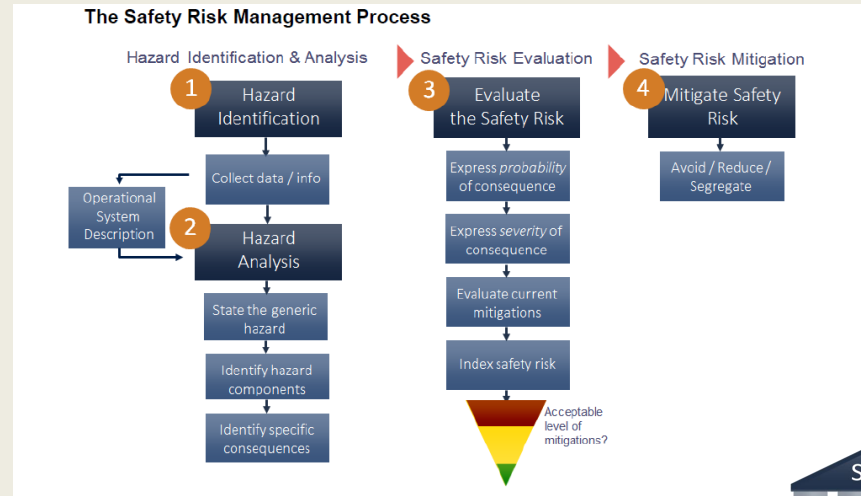


# The SRM/Safety Assurance Process

So the SMS subcommittee asked our Safety man Tom W. if we could use the SMS Safety Risk Management/Safety Assurance (SRM/SA) process to reduce the risk of this hazard to our operations/maintenance staff and the traveling public.



=

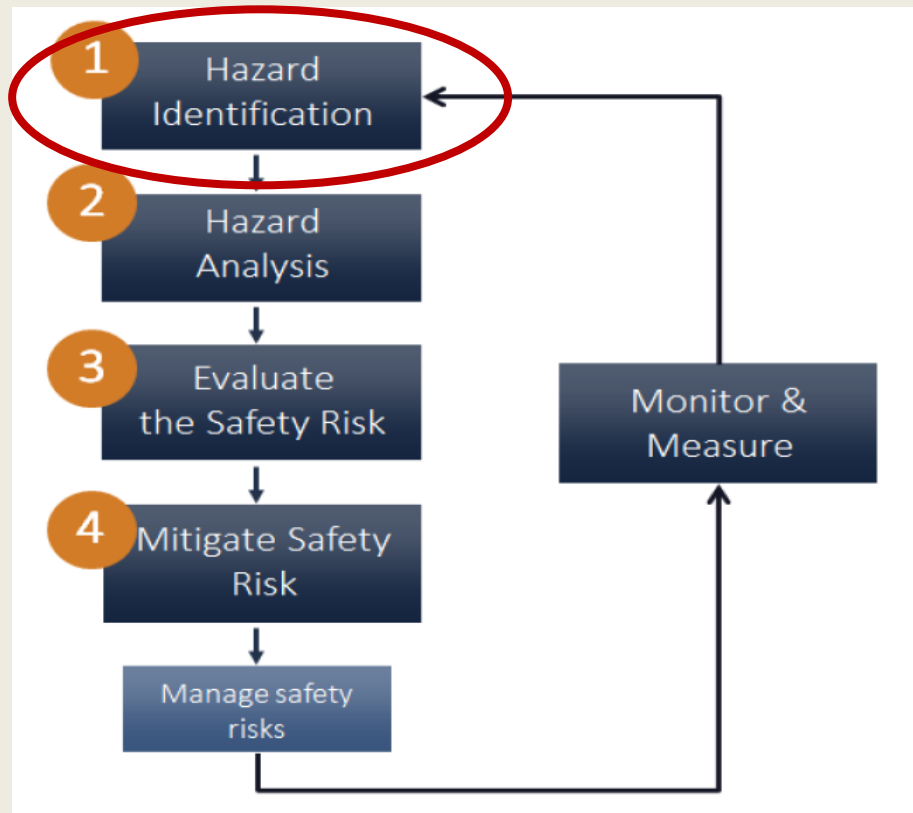


# The SRM/Safety Assurance Process

And he said,  
“Go for it?”

**BLAST OFF!**





# Hazard Identification



# Hazard Identification

Employee Reporting – An employee reported finding a syringe on his bus and did not know how to handle the disposal of it.

**A hazard is any real or potential condition that can cause injury, illness, or death; damage to or loss of the facilities, equipment rolling stock, or infrastructure of a public transportation system; damage to the environment; or reduction of ability to perform a prescribed function.**

# Hazard Identification

## Practical Drift

Lee Tran doesn't have a policy on how to handle syringes (sharps) when found.

Bus operators and bus stop maintenance disposed of syringes by placing them in a coke can or bottle and throwing them into their trash.

Our Practical Drift is way down because we didn't have a policy or guidelines established for handling sharps.

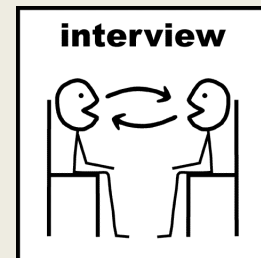


# Hazard Identification

## Collect data/info

Our SMS subcommittee began interviewing a sampling of bus operators, maintenance staff, and operations supervisors to determine the scope of finding syringes/sharps on the bus, at bus stops, or at transfer centers

Our subcommittee also conducted thorough records search on the subject of syringes/sharps. There were no reports found citing the finding of or disposal of syringes/sharps.





# Hazard Identification

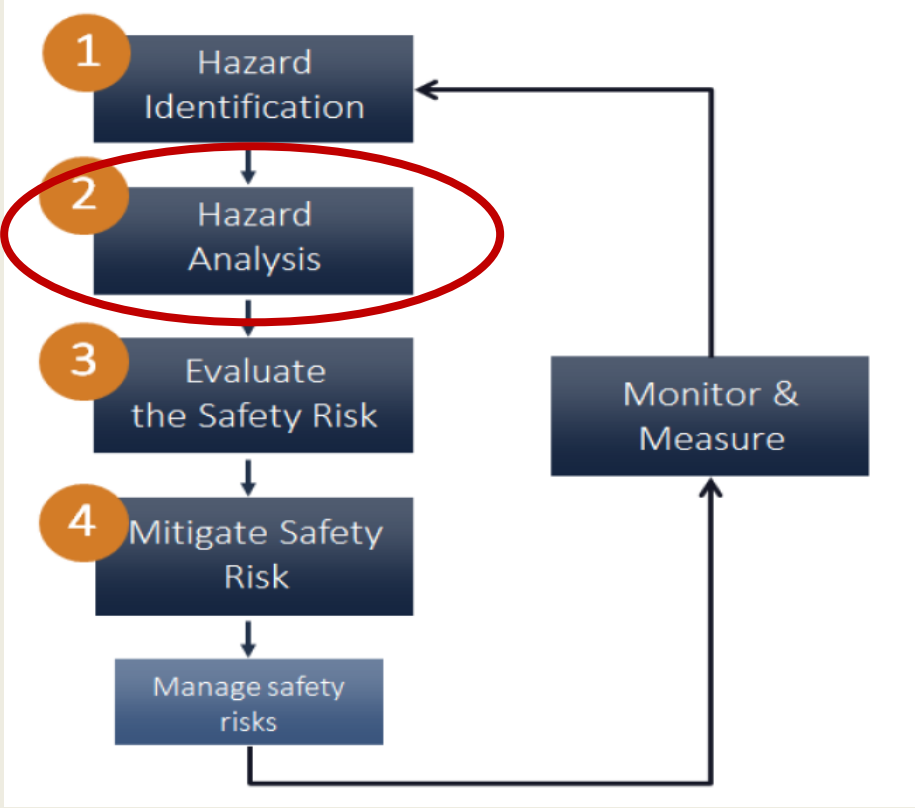
## Collect data/info

The SMS subcommittee determined that up to 15 syringes a week were being found by our bus operators and our bus stop maintenance crew. The biggest portion being found by our maintenance crew.

Presently, when found, syringes are being placed in a metal soda can or an empty water bottle and disposed of in our dumpsters.



# Hazard Analysis



# Hazard Analysis

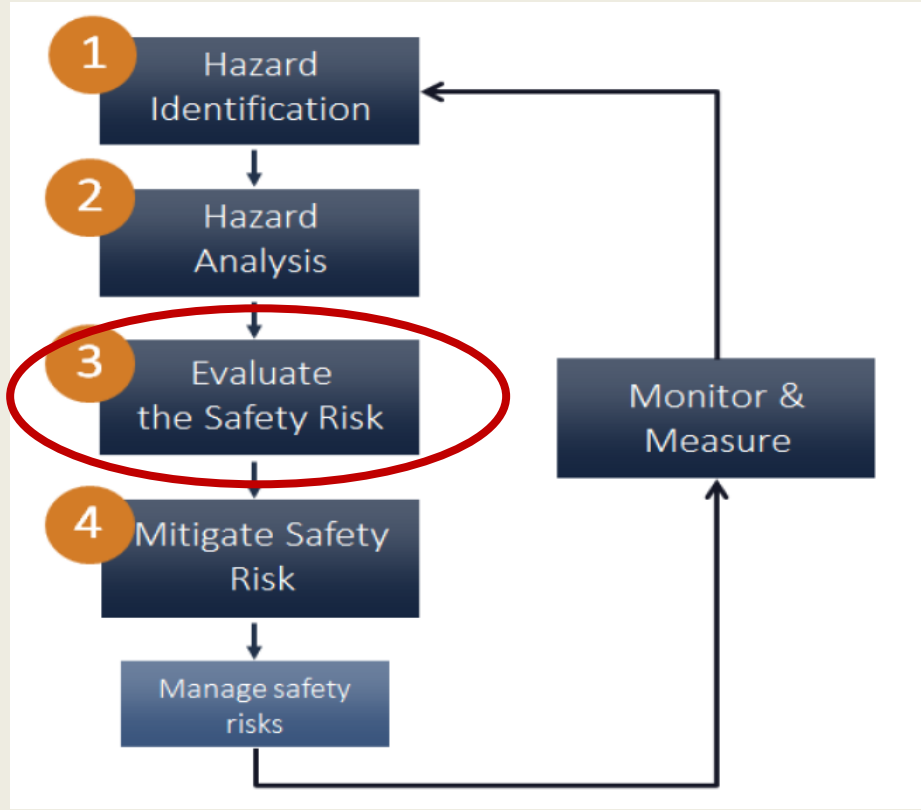
## Hazard Statement

The consequences of improperly disposing of an used syringe are:

- Worry about being infected with a disease while awaiting lab results;
- Blood borne diseases which may be passed include HIV, hepatitis B, and hepatitis C.



# Evaluate the Safety Risk



# Evaluate the Safety Risk

What is the difference between a hazard and a safety risk?

A Hazard is a condition that has the potential to cause harm, like how high speed traffic adjacent to our bus stop has the potential to cause a collision an injuries.

Safety risk refers to the chance that people, equipment or the environment could be harmed by the consequences of a hazard. We typically measure this in terms of how likely is it to happen (probability or frequency), and how bad it could be (severity).

# Evaluate the Safety Risk

## Express Probability of Consequence

Our probability of consequence was placed at a 3.

Meaning: Likely to occur sometime

Probability of Occurrence of the Consequence		
Qualitative Definition	Meaning	Value
Frequent	Likely to occur frequently ( $> 10^{-1}$ )	1
Probable	Likely to occur several times ( $< 10^{-1}$ but $> 10^{-3}$ )	2
Occasional	Likely to occur sometime ( $< 10^{-3}$ but $> 10^{-6}$ )	3
Remote	Very unlikely to occur ( $< 10^{-6}$ but $> 10^{-8}$ )	4
Improbable	Almost inconceivable that the event will occur ( $< 10^{-8}$ )	5



# Evaluate the Safety Risk

## Express Severity of Consequence

Our severity of consequence we placed at a **B**.

Which is defined as Critical:  
Serious injury

Severity of the Consequence		
Definition Category	Meaning	Value
Catastrophic	<ul style="list-style-type: none"><li>• Equipment destroyed</li><li>• Multiple deaths</li></ul>	A
Critical	<ul style="list-style-type: none"><li>• A large reduction in safety margins, physical distress or a workload such that the operators cannot be relied upon to perform their tasks accurately or completely</li><li>• Serious injury</li><li>• Major equipment damage</li></ul>	B
Marginal	<ul style="list-style-type: none"><li>• A significant reduction in safety margins, a reduction in the ability of the operators to cope with adverse operating conditions as a result of increase in workload, or as a result of conditions impairing their efficiency</li><li>• Serious incident</li><li>• Injury to persons</li></ul>	C
	<ul style="list-style-type: none"><li>• Nuisance</li><li>• Operating limitations</li><li>• Use of emergency procedures</li><li>• Minor incident</li><li>• Little consequences</li></ul>	D



# Evaluate the Safety Risk

## Measurement of Probability and Severity

Our measurement of probability and severity is **3B**.

Risk Probability		Risk Severity			
		Catastrophic A	Critical B	Marginal C	Negligible D
Frequent	1	1A	1B	1C	1D
Probable	2	2A	2B	2C	2D
Occasional	3	3A	3B	3C	3D
Remote	4	4A	4B	4C	4D
Improbable	5	5A	5B	5C	5D



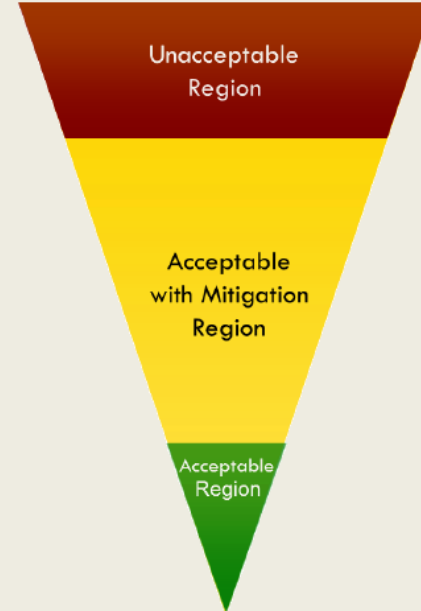
# Evaluate the Safety Risk

## Express Safety Risk Tolerance

Our Safety Risk Evaluation put it in the Acceptable with Mitigation Region.

The safety risk of the consequence is acceptable based on an existing or new mitigation.

### Safety Risk Evaluation



# Evaluate the Safety Risk

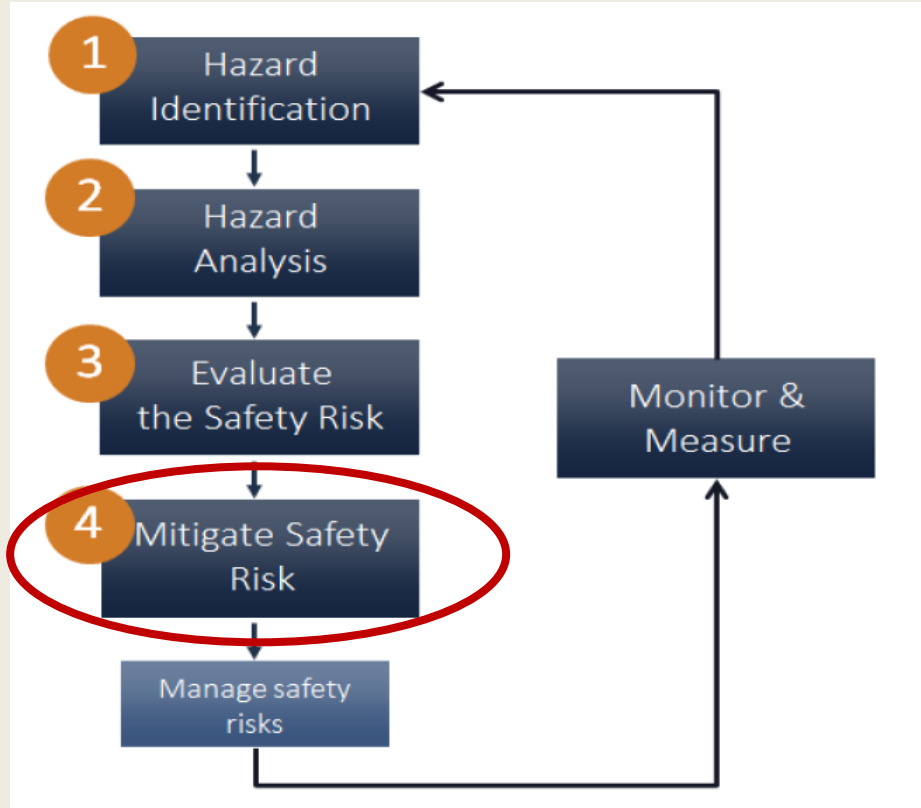
It was determined by our Safety Risk Evaluation that the Safety Risk measure for our syringe disposal issue was a 3B. Meaning:

That it had a Probability of “Likely to occur sometime” It’s value is 3

That the Severity of the Consequence was a “Critical” meaning “serious injury” It’s value is a B

3B was our Index Safety Risk.

# Mitigate the Safety Risk



# Mitigate Safety Risk

## Mitigation Strategies

Safety risk mitigation enables a transit agency to effectively “manage” safety risk. Mitigation means reducing the probability and/or severity of the potential consequence of a hazard.

Another important issue was how to document these activities. We use a simple Hazard Tracking Log for this.

**Risk register**

LEE COUNTY TRANSIT		Risk register				Log number			
Hazard reference number	The risk • What can happen? • How can this happen?	Date entered in register	Existing controls		Additional mitigation required	Residual risk		Action and dates	Monitoring and review requirements
			Severity	Likelihood		Severity	Likelihood		

# Mitigate Safety Risk

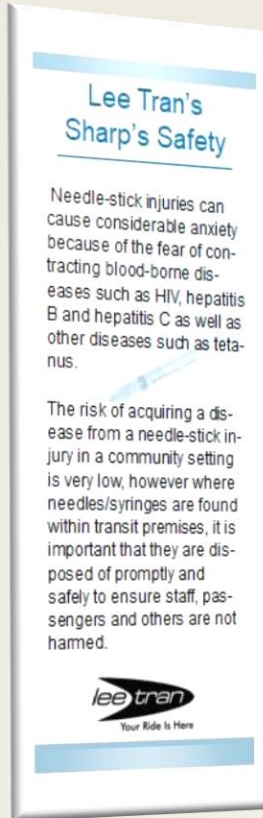
## Mitigation Strategies

At Lee County Transit we mitigated the risk of syringe sticks by:

# Mitigate Safety Risk

## Mitigation Strategies

Creating and distributing to all operators and maintenance staff this sharps guidelines pamphlet



# Mitigate Safety Risk

## Mitigation Strategies

### Information Table

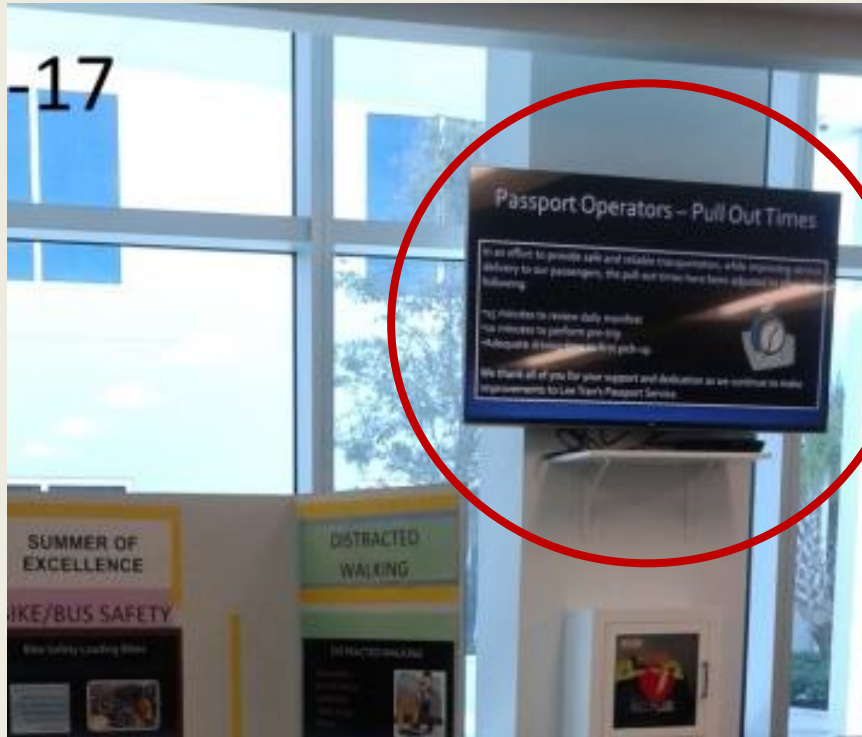
This table located by our dispatch window is manned by a Safety Committee member and personally shares with our operators important safety information that needs to get out Now.

A drawing for Lee Tran marketing stuff and a restaurant coupons attracts most all shifts' operators to table.



# Mitigate Safety Risk

## Mitigation Strategies



Our Safety and Information Message Board plays mitigation video that is entertaining as well as informative. Located in our operators break and dispatch room.





# Mitigate Safety Risk

## Mitigation Strategies

Include in our new hire orientation classes and instruction module on sharps.

And we will include an instruction module in our annual Operator Refresher class.



# Mitigate Safety Risk

## Mitigation Strategies



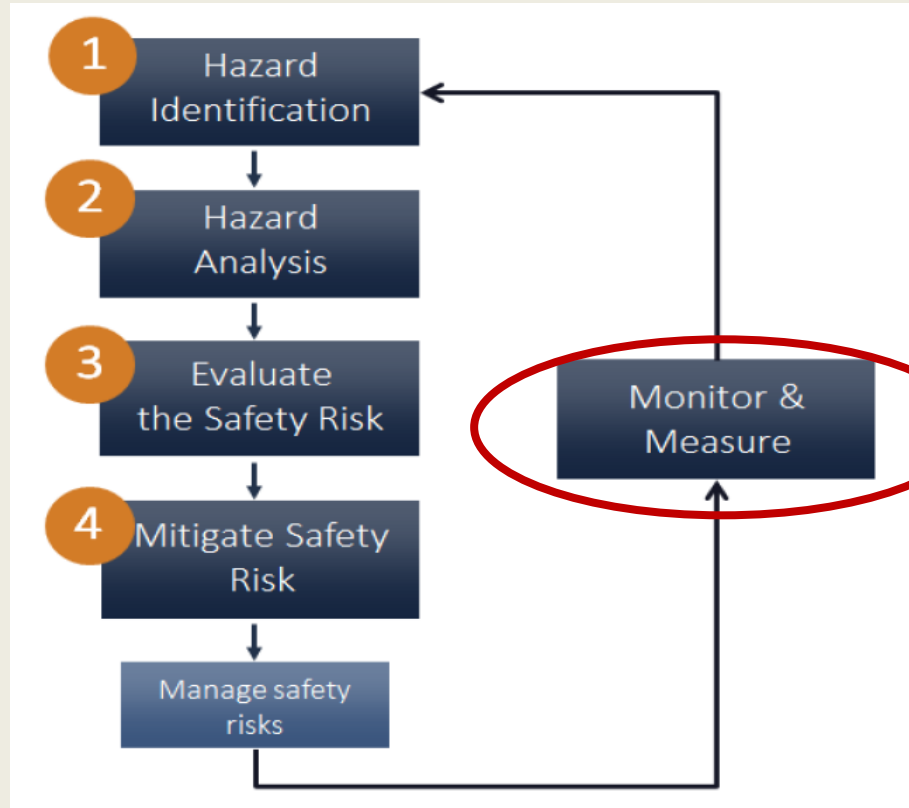
Placing sharps containers and PPE in all supervisor vehicle.

and

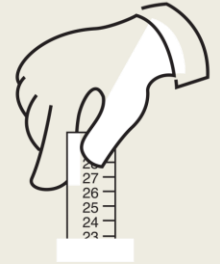


Providing sharps containers/PPE (gloves) at all transfer stations.

# Monitor and Measure



# Monitor and Measure



Safety risks mitigated into acceptable status (green) must undergo regular and consistent monitoring to ensure the mitigation strategy is effective.

Our SMS subcommittee reviewed our mitigation 30 days later and discovered practical drift.

## Safety Risk Evaluation

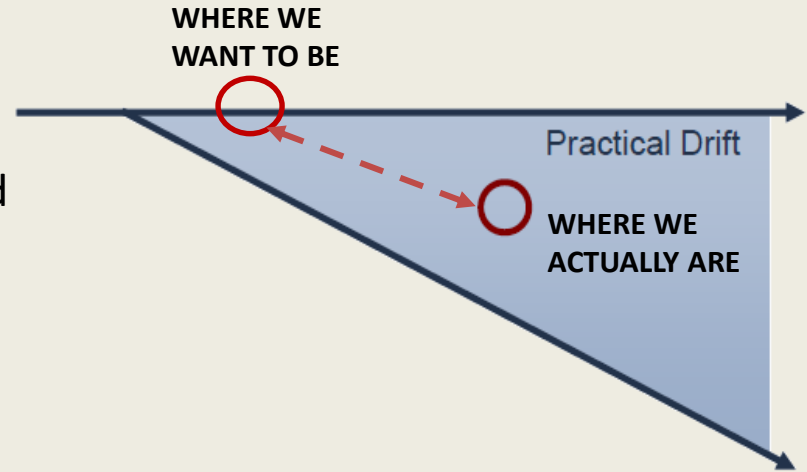


# Hazard Analysis

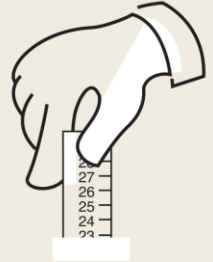
## Practical Drift

Initially we received from the local county firehouses sharps containers. A supervisor would trade them out, only problem is that you put one syringe into the sharps box and shut the lid it would lock closed.

So we have Bus Stop Maintenance employees going back to the old way of disposing of syringes and that is to place them in a coke can or bottle and throwing them into their trash.

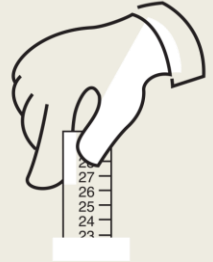


# Monitor and Measure



A different design of sharps container was purchased for them that is a 'better fit' than the originally purchased model. The SMS subcommittee team will evaluate this newer model in four weeks.

# Monitor and Measure

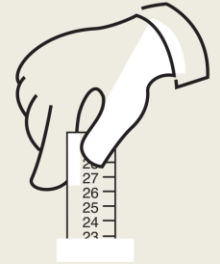


## UPDATE:

Four weeks later our maintenance crew was interviewed and prefer using the newer model sharps container.



# Monitor and Measure

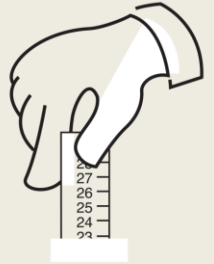


The SMS subcommittee team will also use surveys and personal interviews to evaluate if the design of the new container is working for them.





# Monitor and Measure



From the initial operator request for guidance on disposing of syringes/sharps found on the bus, it took the SMS subcommittee seven (7) days to reach the Monitoring and Measuring Process



# Must Have Online Courses For Your Team

Transportation Safety Institute (TSI)

<https://tsi-dot.csod.com>

SMS Awareness – online class

SMS Safety Assurance – (VLT) Virtual Live Training online class



# In Closing...

**“The Perfect is the Enemy of the Good” – Voltaire**

If you are planning on building the SMS Framework at your agency don't be put off by what seems like a complicated task. Don't wait for that perfect time or that perfect framework team...



## **JUST DO IT!**

**Paul Goyette – Deputy Director Lee County Transportation**