

# TRANSPORTATION PERFORMANCE MANAGEMENT THE ARKANSAS STORY

TPM Workshop  
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# Where's the Data?

## Enterprise Data Warehousing

Making data available

### Traditional AHTD Data Storage



### The Future of AHTD Data Storage





# Current Activities: Safety and Mobility Data Business Plan

- Kicked off the Safety and Mobility Data Business Plan late in 2016
- Just completed the initial data gathering stage
- The Safety and Mobility Data Business Plan will be the guide moving forward with the rest of the data that the Department collects.

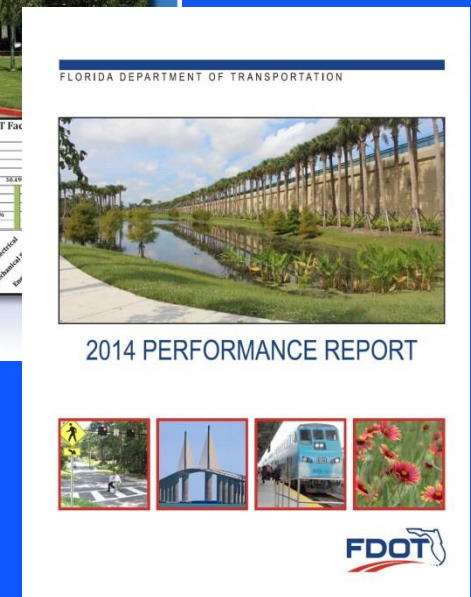
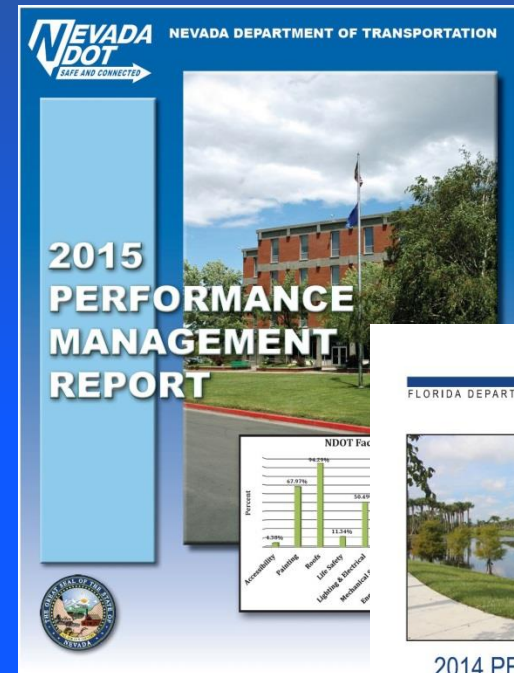
# Current Activities: LRITP

- Developing the states' first performance-based Long Range Intermodal Transportation Plan
- The plan suggest 18 performance measures for the Department
- Expect to go to Public Comment in February



# Current Activities: Performance Measures

- Reviewing other States' Performance Documents for Innovative Measures/Best Practices
- Developing a laundry list of measures in a variety of Performance Areas.
- Reviewing other States' Performance Dashboards



# Current Activities: Safety

- Official targets will be set after a Safety Target Setting Workshop.
- The Safety Section has a couple of years experience of setting targets.
- Strategic Highway Safety Plan has targets in a number of areas.





# Current Activities: Transit



- Established benchmark of 80% of ULB based on Age
- The ULB will be based on Rolling Stock, Facilities, and Light Rail.
- Transit Asset Management Plan must be completed by October 2018.

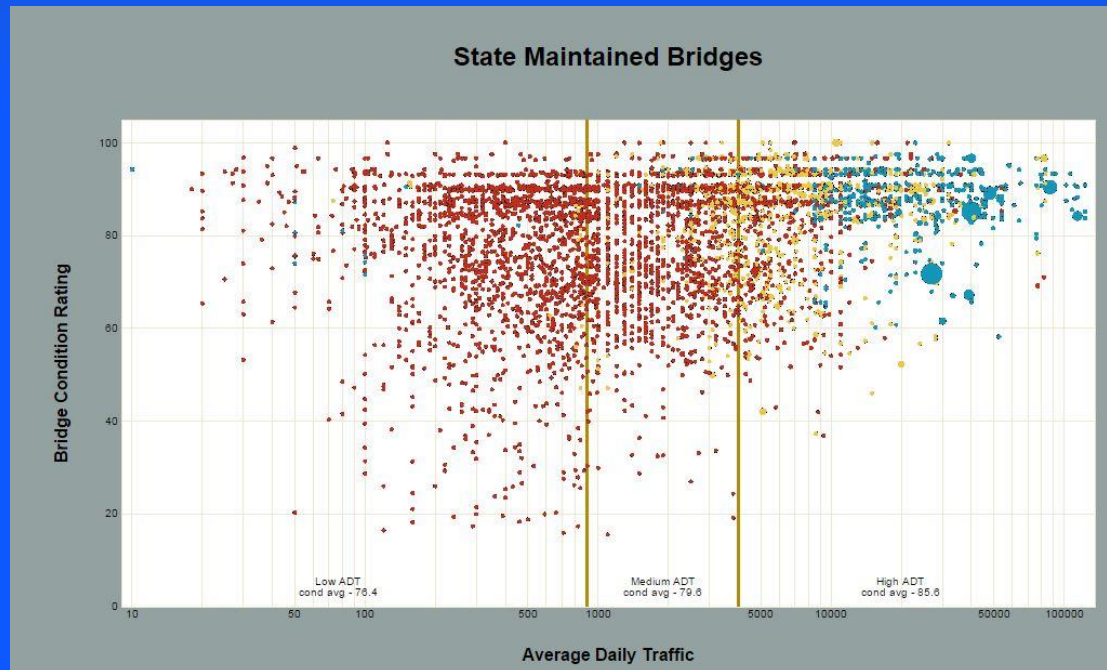
# Current Activities: Infrastructure Condition - Pavements

- Developed in-house Cracking software
- Finish running data 2016 for HPMS Submittal
- Go back and run historical data for curve generation
- Developing IRI and Rutting Curves
- Still need to do a lot of homework for dTIMS



# Current Activities: Infrastructure Condition - Bridge

- Working on a Bridge Preservation Guideline document.
- Have dTIMS up and running but going to tweak.



# Current Activities: Asset Management

- Asset Management Steering Committee has been formed.
- We have had multiple meeting discussing best practices, assets to be covered, and some techniques for data collection.
- The Steering Committee has decided to bring a consultant on board for the TAMP development

# Current Activities: Reliability, Congestion, and Freight

## Old Measures

- Percent of Interstates that provide reliable travel times
- Percent of non-Interstate NHS that provide reliable travel times
- Percent of Interstates that meet peak hour travel time expectations
- Percent of non-Interstate NHS that meet peak hour travel time expectations
- Percent of Interstate mileage providing reliable truck travel times
- Percent of Interstate mileage uncongested
- Annual hours of delay per capita
- Total tons of emissions reduced from CMAQ projects

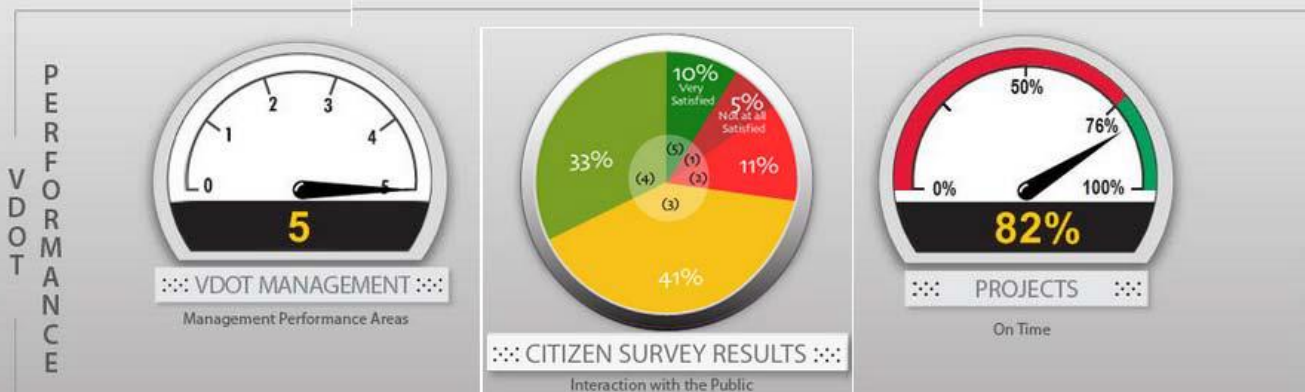
# Current Activities: Reliability, Congestion, and Freight

## New Measures

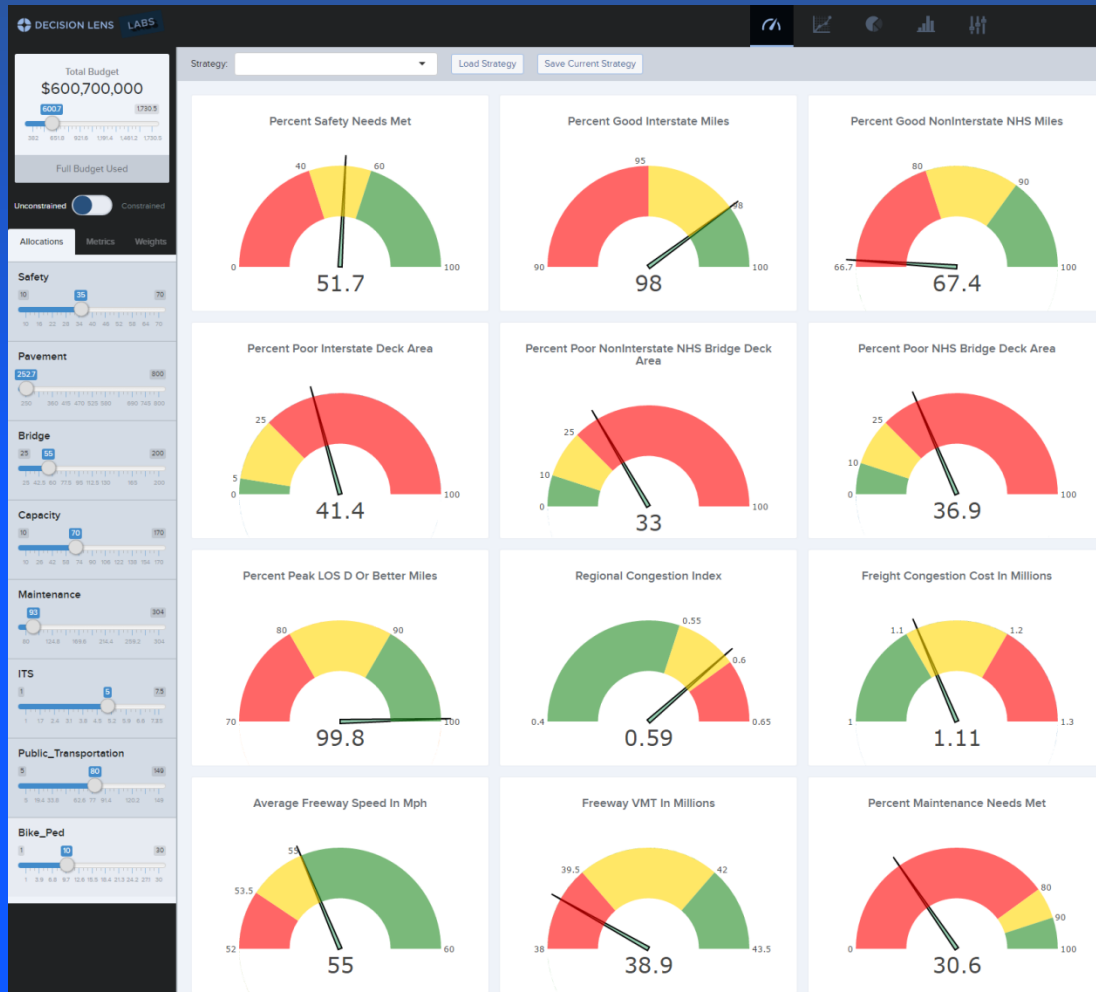
- Percentage of reliable person-miles traveled on the Interstate
- Percentage of reliable person-miles traveled on the non-Interstate NHS
- Percent change in CO<sub>2</sub> emissions from 2017, generated by on-road mobile sources on the NHS
- Truck travel time reliability on the Interstate system
- Total emission reductions for applicable criteria pollutants, for non-attainment and maintenance areas
- Annual hours of peak hour delay per capita
- Mode share; specifically, the percent of non-single occupancy vehicle travel, including travel avoided by telecommuting

# Future Activities : External Dashboard

Commissioner of Highways  
Gregory A. Whirley, CPA



# Future Activities : Internal Dashboard





# Future Activities : Quarterly Performance Publication

- Produce a performance report quarterly
- Shows all employees and the public how we are performing

**RESULT DRIVER:**  
Eileen Rackers  
State Traffic and Highway Safety Engineer

**MEASUREMENT DRIVER:**  
Bill Whitfield  
Highway Safety Director

**PURPOSE OF THE MEASURE:**  
The fatal and serious injury number measures track quarterly, annual and five-year average trends resulting from traffic crashes on all Missouri roadways.

**MEASUREMENT AND DATA COLLECTION:**  
Missouri law enforcement agencies submit a vehicle accident report form to the Missouri State Highway Patrol to be entered into a statewide traffic crash database. The database automatically updates MoDOT's crash database system, which is part of the Transportation Management System. The rate of fatal and serious injury charts display annual and five-year average fatality and injury rates per 100 million vehicle miles traveled for these same crashes. In addition, the fatality rate chart includes the national average.

KEEP CUSTOMERS AND OURSELVES SAFE

*Number and rate of fatalities and serious injuries – 1a*

Traffic crash prevention is one of MoDOT's highest priorities. Between 2005 and 2014 Missouri experienced a 40 percent reduction in fatalities (27 percent of which was accomplished between 2005 and 2010, then began leveling off in 2011 resulting in only a 3 percent decrease through 2014). This fatality database increase has continued into 2015. Missouri fatal crashes also revealed 63 percent of the fatalities were unbuckled when the crash occurred. This unbuckled trend has fluctuated from a high of 71 percent in 2013 to current levels of 63 percent.

A review of crash data from 2010 to 2014 showed the leading contributing circumstances that can be attributed to driver behavior were substance impaired driving, driving too fast for conditions, exceeding the speed limit, distraction/inattention, following too close and fatigue. Crash statistics also showed impaired drivers had an unbuckled fatality rate of 87 percent. This group of drivers makes two deadly decisions to drive impaired and unbuckled.

MoDOT has awarded 454 contracts for federal fiscal year 2016 in the areas of education, enforcement and engineering. The goal of these contracts is to prevent and reduce the number and severity of traffic crashes occurring on Missouri's roadways.

With a long-term insufficient funding challenge, it will be difficult for MoDOT to deliver system-wide safety improvements in the future.

**Rate of Fatalities**

Year	Rate of Fatalities
2011	1.28
2012	1.24
2013	1.18
2014	1.18
5-Year Average	1.18

**Number of Fatalities**

Year	4th Qtr	3rd Qtr	2nd Qtr	1st Qtr	5-year average
2011	87	225	233	195	133
2012	84	197	227	210	132
2013	114	203	249	195	140
2014	281	216	199	205	146
2015	166	225	217	166	146

**Number of Serious Injuries**

Year	4th Qtr	3rd Qtr	2nd Qtr	1st Qtr	5-year average
2012	414	1,228	1,485	1,562	1,231
2013	574	1,231	1,231	1,231	1,231
2014	538	1,147	1,343	1,191	1,191
2015	487	1,147	1,147	1,147	1,147

**Rate of Serious Injuries**

Year	Rate of Serious Injuries
2011	8.83
2012	9.54
2013	8.91
2014	7.12
5-Year Average	7.12

**Number of Fatalities in Work Zones**

Year	4th Qtr	3rd Qtr	2nd Qtr	1st Qtr	5-Year Average
2011	4	4	2	1	2.75
2012	7	4	2	2	2.75
2013	6	4	2	1	2.75
2014	1	4	2	1	2.75
2015	1	4	2	1	2.75

*1a2*

of the Transportation Management System, MoDOT staff query and analyze this data to identify work zone-related crash statistics. MoDOT prioritizes safety of the crash reports by fatality, serious injury and then property damage only.

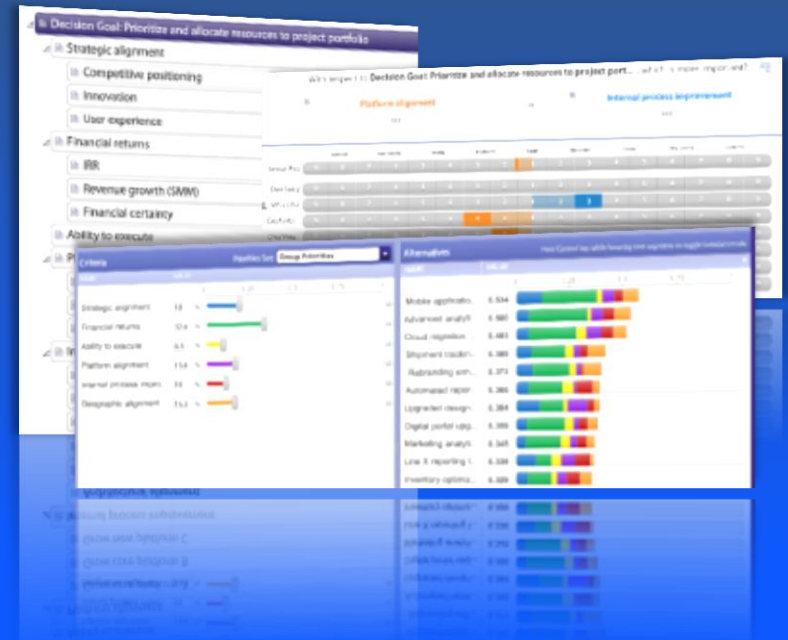
**Number of Fatalities in Work Zones**

YTD 2015 - First, second and third quarter fatalities derived from TMS.

Missouri Department of Transportation 1a2

# The Decision Lens Platform

*A SaaS platform and workflow for quickly synthesizing qualitative and quantitative information from multiple stakeholders to gain buy-in and assess relative value.*



*An engine for identifying the best bang-for-the-buck projects to deliver the greatest value to your organization.*

# Capital Planning with Decision Lens

The Decision Lens Capital Assets solution streamlines, automates, and simplifies the process.

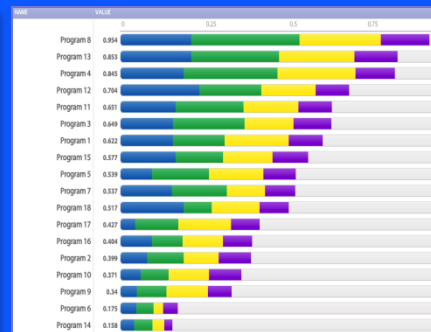
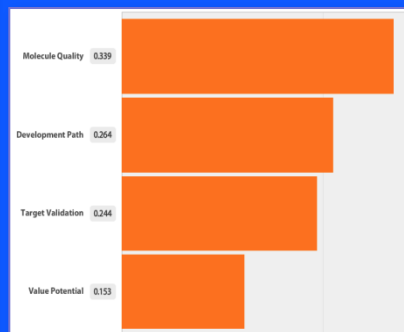
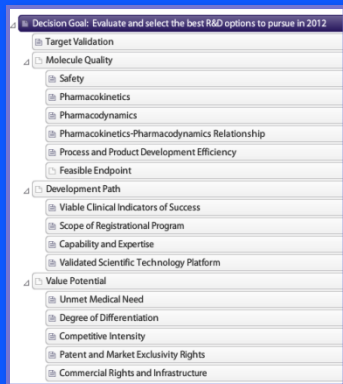
Accelerate with a  
Decision Blueprint®

Customize  
Criteria

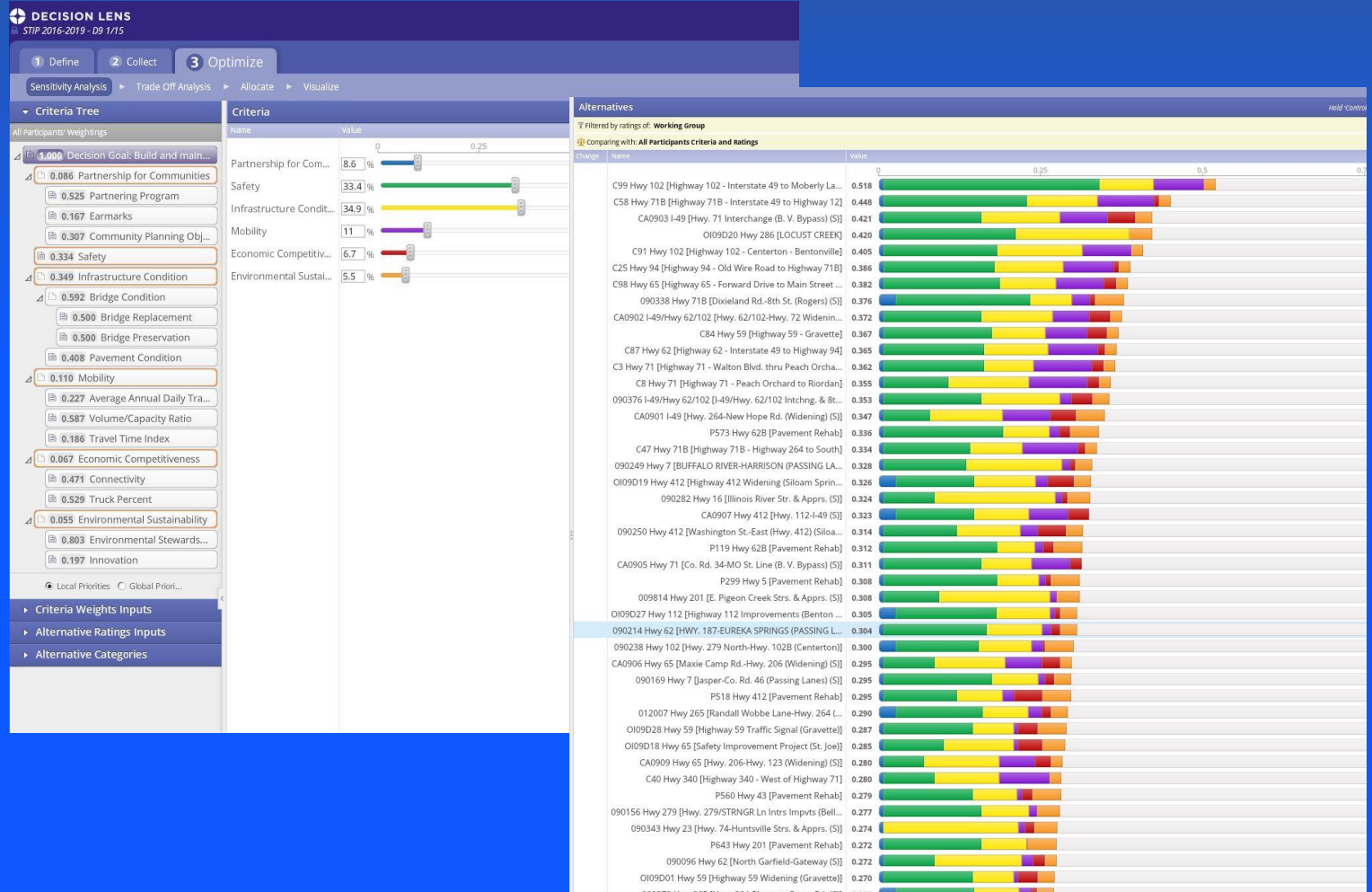
Establish  
Priorities

Evaluate  
Options

Allocate  
Resources



# The Decision Lens Platform



**Questions???**