



# Creating Relevant Information for Decision-Making

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# Agenda

- Upfront Consideration Questions
  - Missed Trip Information Hierarchy
- Relevant Information Design Consideration
- Take Away

# Upfront Consideration Questions

- What decision does it support or what is the business question?
- Who needs this information?
- Does it tell me where I should focus?
- Does it allow me to understand the root causes?

# Missed Trip Example Definition

A missed trip is a trip with one or more stop missed from the pre-scheduled alignment of the time.

## **Controllable**

- Mechanical failure
- Operator off route
- Operator missout
- Operator availablilty

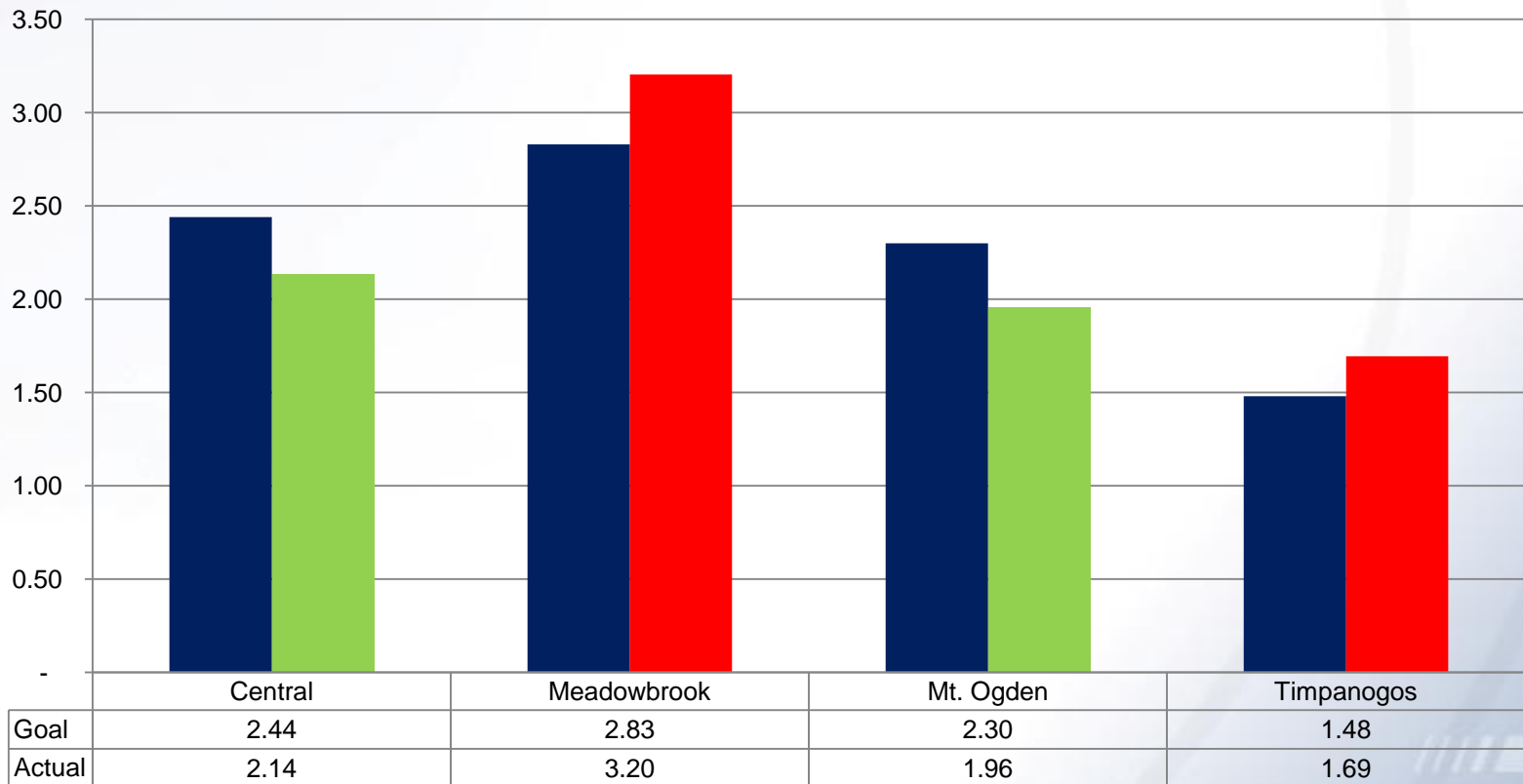
## **Uncontrollable**

- Traffic disruption
- UTA bus involved in accident
- Operator sick
- Medical
- Late
- Onboard security
- Other

# Chief Operating Officer View

- Is there any issue worth my attention?

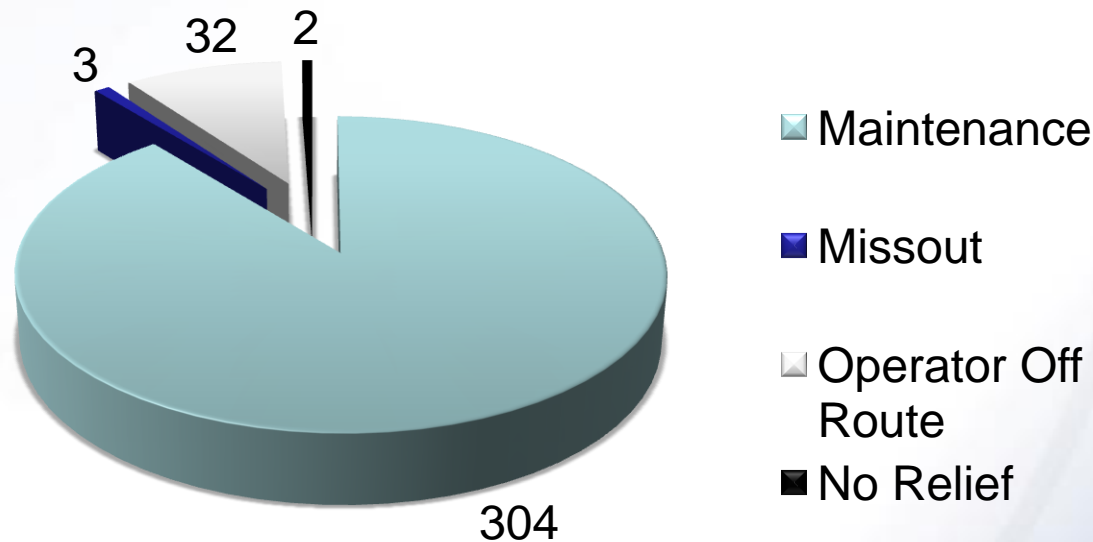
**Goal vs. Actual Fixed-Route YTD Controllable Missed Trip per 10K trips**



# Regional General Managers View

- Business Unit Controllable Missed Trip
  - Operator Related or Maintenance Related?

**Fixed Route System 2011 YTD  
Controllable Missed Trip by Category**



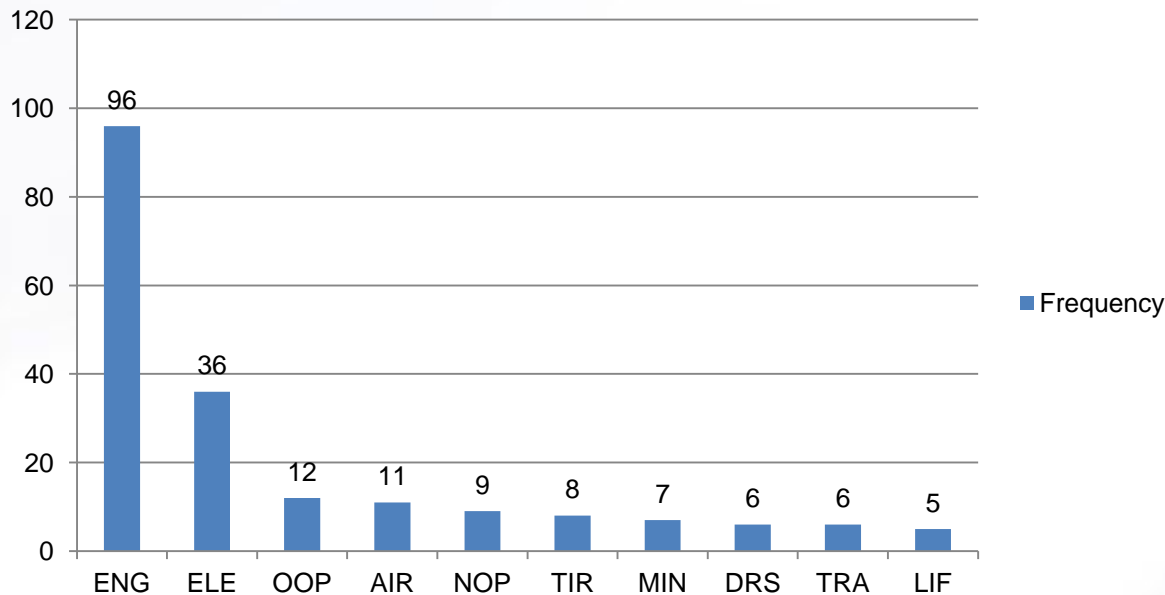
# Operations Manager View

- Missed Trip caused by Operator Off-route
  - Which operator does this involve?
- Missed Trip caused by Operator not Available
  - What is the root cause and how to prevent happening again?

# Maintenance Manager View

- Missed Trip caused by Mechanical Breakdown
  - What mechanical components are failing (e.g. transmission, A/C, engine)?

**Mechanical Failure by Road Call Code**

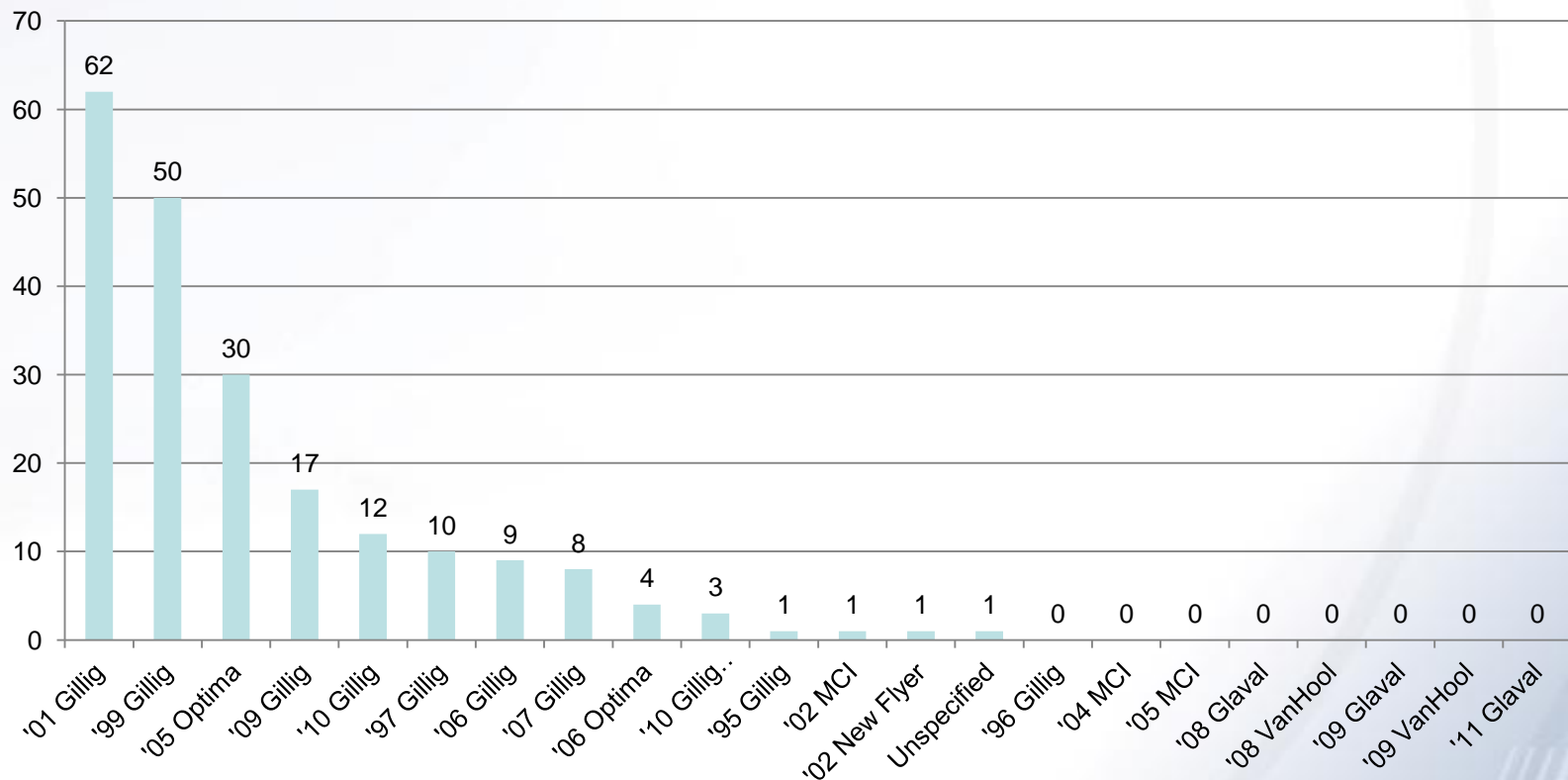


Description	Code	Frequency
Engine	ENG	96
Electrical	ELE	36
Operator Error	OOP	12
Air System	AIR	11
No Problem	NOP	9
Tires	TIR	8
Misc. Incident	MIN	7
Doors	DRS	6
Transmission	TRA	6
Lifts	LIF	5

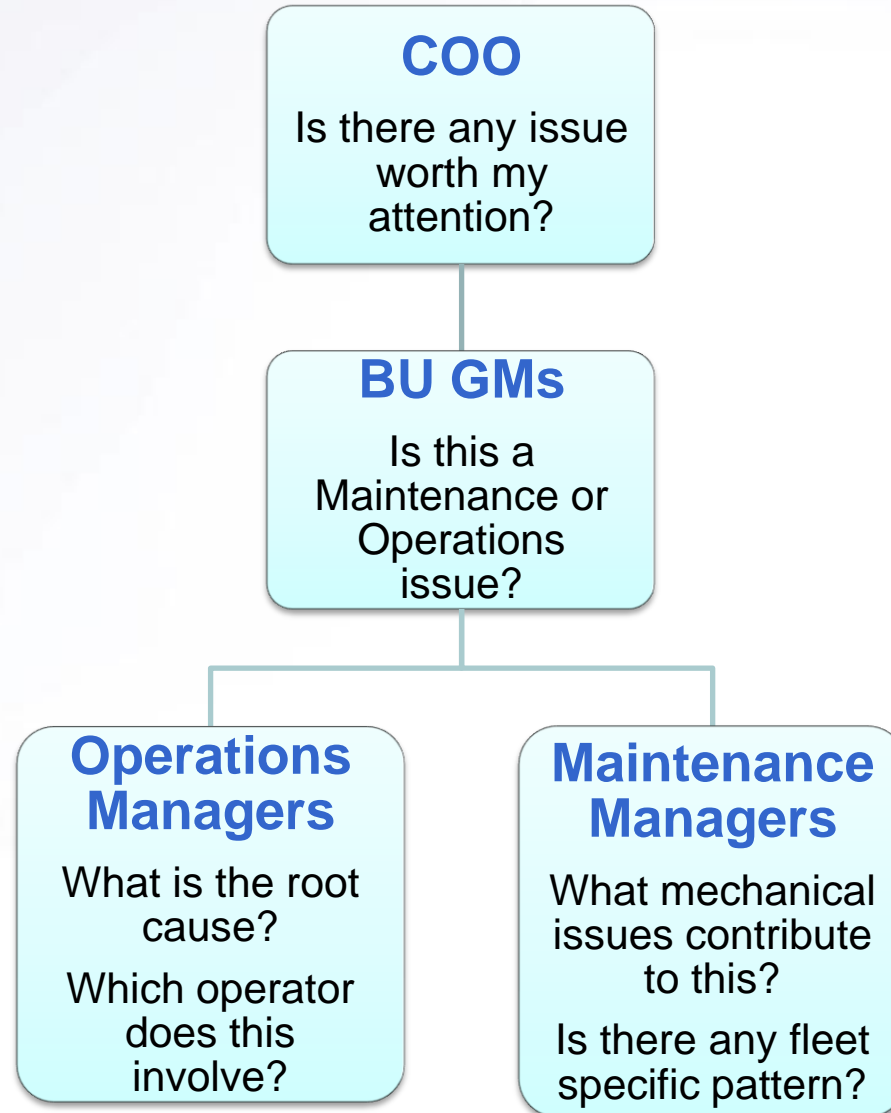


# Maintenance Manager View (con't)

Any systemic problem in a particular fleet?



# Information Hierarchy



# Information Design Consideration

- Normalized for Comparison
- Alerts
  - What is good, bad or marginal performance?
  - When should I be notified?
- Data Considerations
  - Are Data Available, if so, where are they?
  - Lowest Granularity
  - View Data by Dimensions for Decisions-making
  - Data Cleansing (ETL)

# Take Away

- Start from the business decisions
- Understand who needs what
- Define alerts definition for decision-makers
- Getting data with lowest granularity for root cause analysis
- Spend effort in defining data cleansing process



# Questions