COVERLAB Panel Session

May 18, 2022
COVERLAB
COMMERCIAL VEHICLE ENFORCEMENT RESOURCE LAB

IMPROVING COMMERCIAL VEHICLE ENFORCEMENT EFFECTIVENESS

COVERLAB helps commercial vehicle enforcement programs increase operational effectiveness through data driven analytics, program development assistance, and applied research.
COVERLAB Evolution

- **Incremental**
  - Started with geocoding crashes
  - Crash map deliverables
  - Added online maps
  - Added grant writing assistance
  - Added Analytics

- **Funding Model**
  - Retainer-based
  - 60 / 40
Partnership Benefits

- Extends the reach of CVE programs without the commitment of an FTE

- Provides Business Continuance
  - Complex program has steep learning curve
  - Command staff turnover decreases efficiency
  - Critical business services are continued while command staff gets up to speed

- Inexpensive relative to consultants

- Non-profit / education adds credibility to program

- Extends CVE capabilities – incrementally at first
Getting Started

- Identify the most important needs
- Identify internal resources
- What don’t you have?
- What is your budget?

- Do you have a University Transportation Center?
- If not, reach out to data science, GIS, stats, etc. dept.
Getting Started

- Start small
- Excel
- Geolocate crashes
- Fixed deliverable to establish trust
University Challenges

- Access to data and PII, security, etc.
- Can’t directly apply for grants due to competition
- Discretionary based on commander
- Integration of systems
- Retention of long term employees
- Need relationship building skill sets

Upsides
- Established trust = extension of staff
- Partnership = recurring funding
- Flexibility if trust is gained
CVE Challenges

- How to allocate part of your funds for university assistance
- Budget constraints needed to justify
- Access to raw data
- Technical capabilities to manipulate and analyze data
- Lack of technical personnel dedicated to CVE
Skill Sets

- Data Science
- GIS
- Statistics
- Computer Science
- Analytics
- Information Technology
Lessons Learned

- Accessible = Simple
  - Invest in data visualization best practices
  - Invest in UI/UX
- Command Staff Buy-In
- Require reporting of outcomes and strategies
- Actionable Intelligence
- Leverage pre-existing technologies
Types of Analytics

- **Descriptive Analytics**: What happened?
- **Diagnostic Analytics**: Why did it happen?
- **Predictive Analytics**: What will happen?
- **Prescriptive Analytics**: How can we make it happen?

**Axes**
- **Vertical**: Value
- **Horizontal**: Difficulty
- **Diagonal Line**: Insight

**Labels**
- **Information**: Hindsight
- **Optimization**: Foresight

**Source**: Gartner
Behind the Scenes

SQL Server ➔ Multi-Dimensional Data Model ➔ Tableau Server / ArcGIS Server ➔ Embedded Analytics

Data ➔ Information ➔ Knowledge ➔ Intelligence
What’s Next?
Effectiveness

[Image of two men, one in a police uniform saying "Arrest'em!" to the other who is dressed in white and laughing.]
Develop Smart Strategies

- Are We Being Effective?

- Specific Targeted Enforcement
  - who, what, where, why how

- Specific Alternative Interdictions
  - When and where are NCDOT treatments needed?
  - Where and when is teaming effective? Local/Traditional
  - Identifying and engaging high risk carriers