



# **Freight Assessment**

## **Best practices, lessons learned and initial findings from Chile**

**International Workshop on Green Freight Initiatives**  
**Brasilia, Brazil**  
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**Eastern Research Group (ERG)**





# Obrigado!

- **Sponsorship:** U.S. EPA Smart Way Program
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- **ERG Team:**
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- **Participating ministries & stakeholders**



# Founded in 1984, ERG is a consulting firm focused on public sector clients

## Markets

- Air Quality
- Climate Change & Energy
- Marine/Coastal Resources
- Public Health
- Solid Waste Management
- Water Quality

## Services

- Field Research & Measurement
- Compliance & Enforcement
- Emission Inventories & Modeling
- Risk Assessment
- Economic Analysis
- Communications

## International Green Transport Support (Client)

- North American Smart Way Partnership (U.S. EPA, NR Canada, SEMARNAT)
- Global Green Freight Action Plan (U.S. EPA)
- “How To” Guides for Program Development and Technology Verification (U.S. EPA)
- Mexico application for IMO Marine Emissions Control Area (CEC)
- International Collaboration on Ship Emission Reductions (Vancouver Fraser Port)
- U.S.– China Green Port & Vessel Initiative (U.S. EPA)
- Adaptation of U.S. vehicle emissions model MOVES to Mexico (USAID)
- U.S. National Clean Diesel Campaign (U.S. EPA)
- Emission inventories for trucks, ships, rail, aircraft, cargo equipment (several)
- **Chile Freight Assessment (U.S. EPA)**



# Project Background

- U.S. EPA is funding a freight assessment in Chile, in line with ongoing assessments in other countries.
- End product will be a report offered as a resource for future green freight program development in Chile.
- A resource document only; does not address Green Freight program design, implementation etc.
- We hope results and tools from this work may be useful for other countries – e.g., online surveys



# Why Conduct a Freight Assessment?

- Gather baseline data on mode share trends, truck market, and truck operational patterns.
- Understand current and planned implementation of fuel savings technologies.
- Identify promising opportunities for emission reductions.
- ICCT's Freight Assessment Blueprint (2017) used as template for Chile study





# Five Elements of a Freight Assessment

From ICCT Freight Assessment Blueprint

1. Roles and trends of trucking, shipping, rail, air
  - mode share & trends of different sectors
2. Freight truck and trailer sales market
  - truck fleet breakdown, sales & trends
3. Operational characteristics of the trucking sector
  - km/year, urban vs. intercity, amount of idle, FTL vs. LTL, % empty
4. Decision making around fuel savings technologies and strategies
  - technologies in use & planned; barriers to increasing
5. Institutional framework and green freight program planning
  - government policies & programs; private initiatives

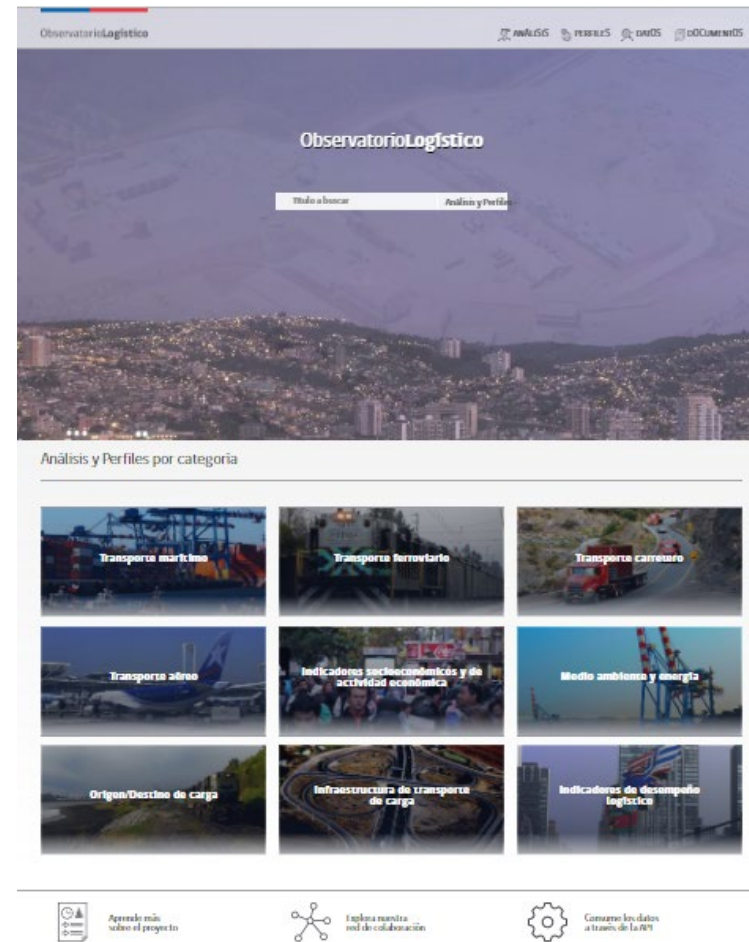
# Tasks & Approach

TASK	APPROACH
TASK 1: ROLES AND TRENDS OF TRUCKING, SHIPPING, AND RAIL	Identify existing data sources (e.g.:NVR, VIR, INE anuario, Observatorio Transporte de Carga , Programa Transforma Logistica)  Synthesize data to quantify freight modes, market and trends (in progress)
TASK 2: FREIGHT TRUCKS AND TRAILERS SALES MARKET	
TASK 3: OPERATIONAL CHARACTERISTICS OF THE TRUCKING SECTOR	Identify target stakeholders in three groups: carrier, 3PL, technology suppliers  Develop survey questions  Implement surveys via combination of in-person interview, phone interviews, and online  Analyze results (in progress)
TASK 4: DECISION MAKING AROUND FUEL-SAVING TECHNOLOGIES AND STRATEGIES	
TASK 5: INSTITUTIONAL FRAMEWORK AND GREEN FREIGHT PROGRAM PLANNING	
FINAL REPORTING	Compile results from Task 1-5, produce Spanish & English versions



# Task 1 & 2 Data Sources

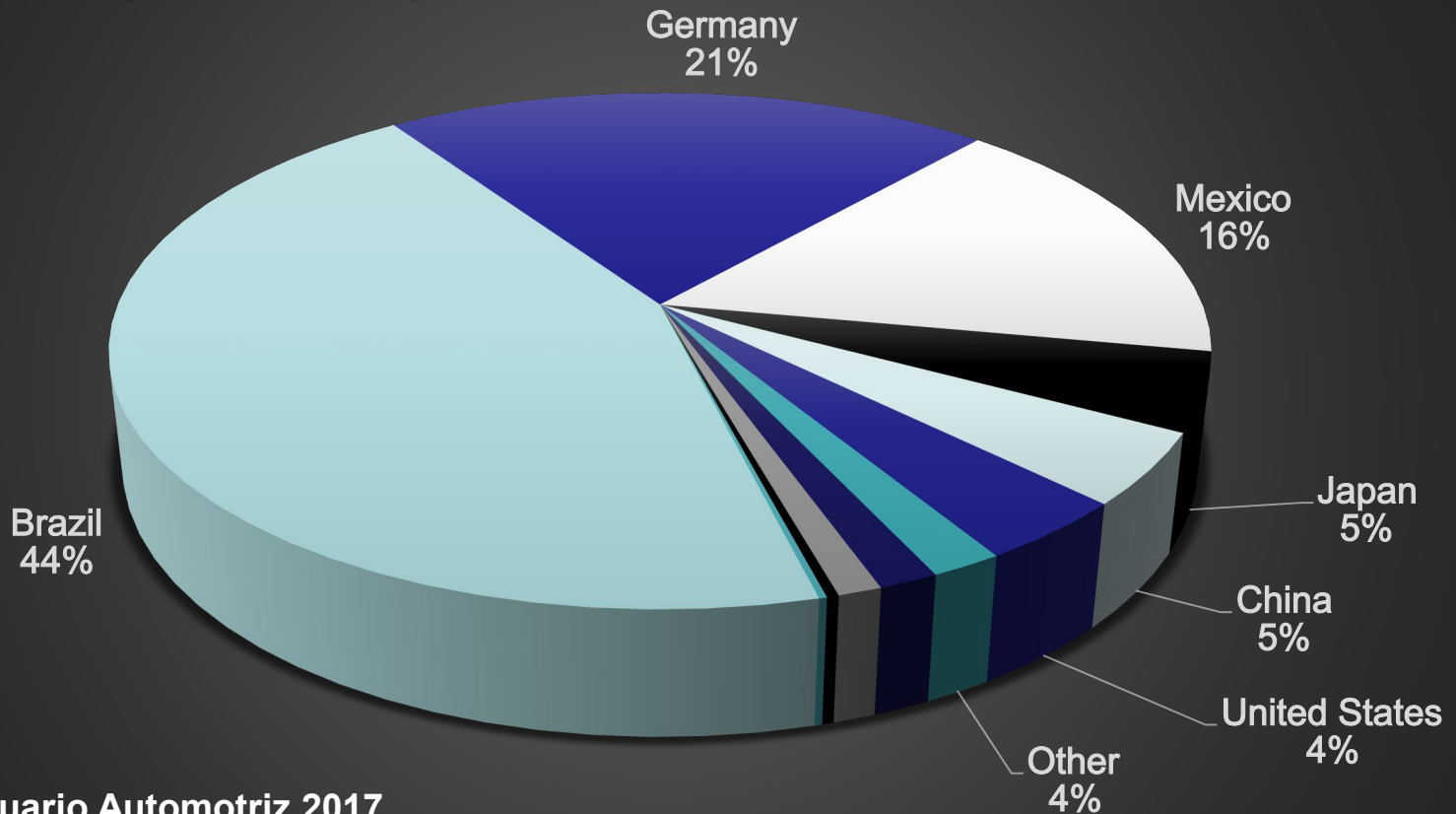
- Many data sources identified
  - Reports & publications
  - Websites & online clearinghouses
  - Data directly obtained from government agencies
- Initial observations:
  - Cargo data robust at points of entry/exit (e.g. borders, ports)
  - Road cargo estimates more limited
  - All vehicles are imported; creates unique dynamic





# Example Truck Market Data

## Heavy -Duty Truck Imports, 2016



source: Anuario Automotriz 2017



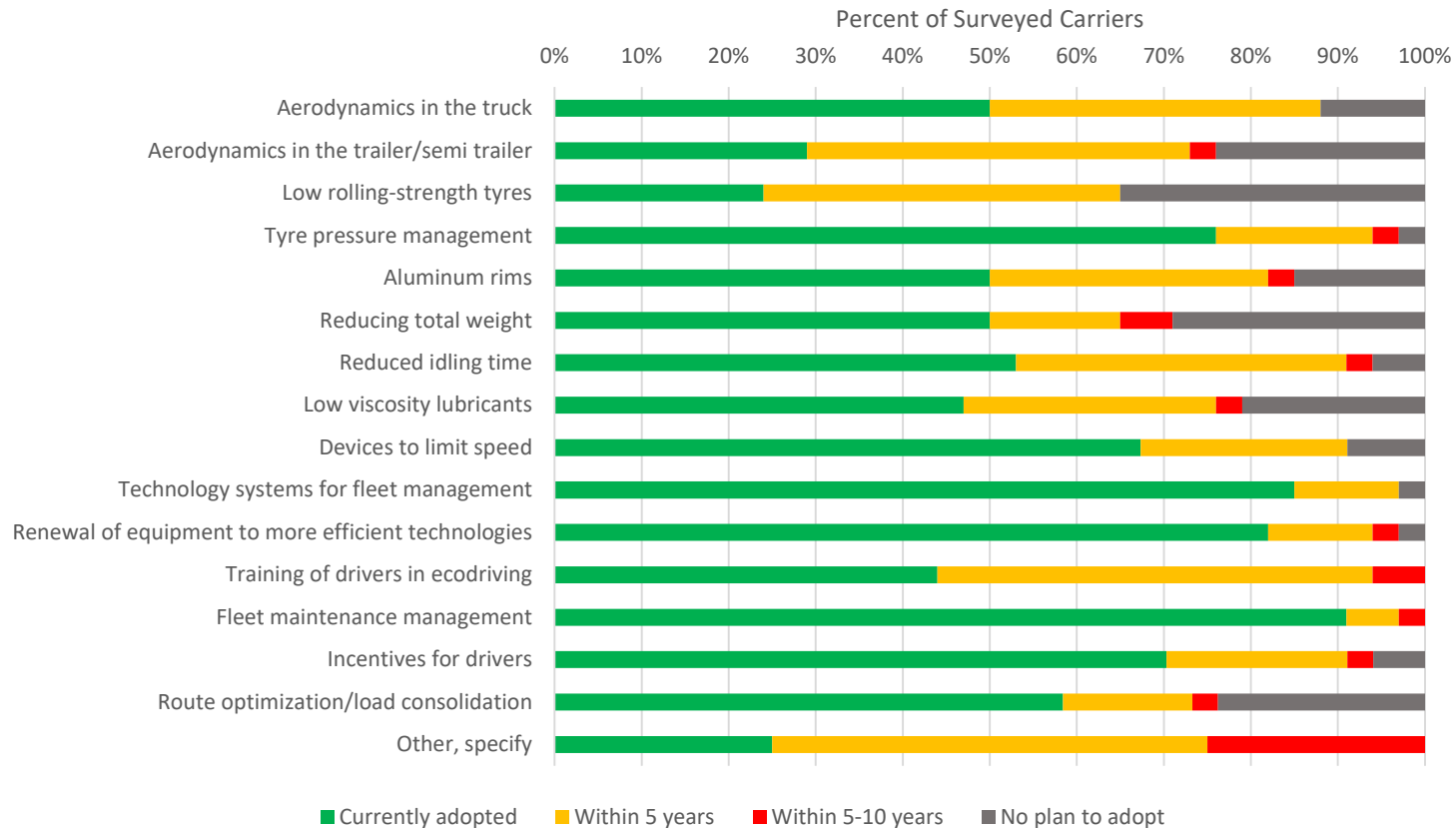
# Task 3 & 4 Survey Responses

Group	In-Person Interviews	Phone Interviews	Online	Total
Freight Carriers	9	17	8	34
Third-Party Logistics (3PL)	-	5	2	7
Technology Suppliers	5	5	10	20
<i>Total</i>	<i>14</i>	<i>27</i>	<i>20</i>	<b>61</b>

# Example Survey Results

## Freight Carriers

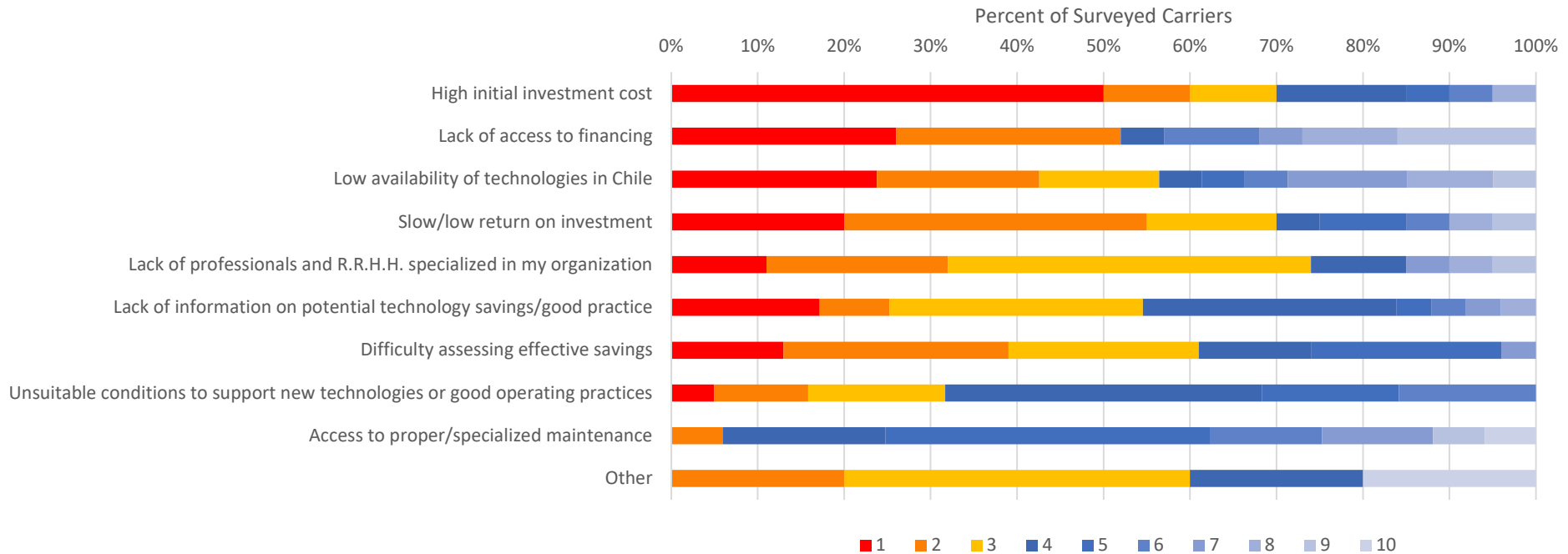
Which fuel-saving technologies or best practices have you implemented, or plan to?



# Example Survey Results

## Freight Carriers

What factors do you consider a barrier when you want to adopt new technologies or good practices for fuel economy? (Rank 1-10)

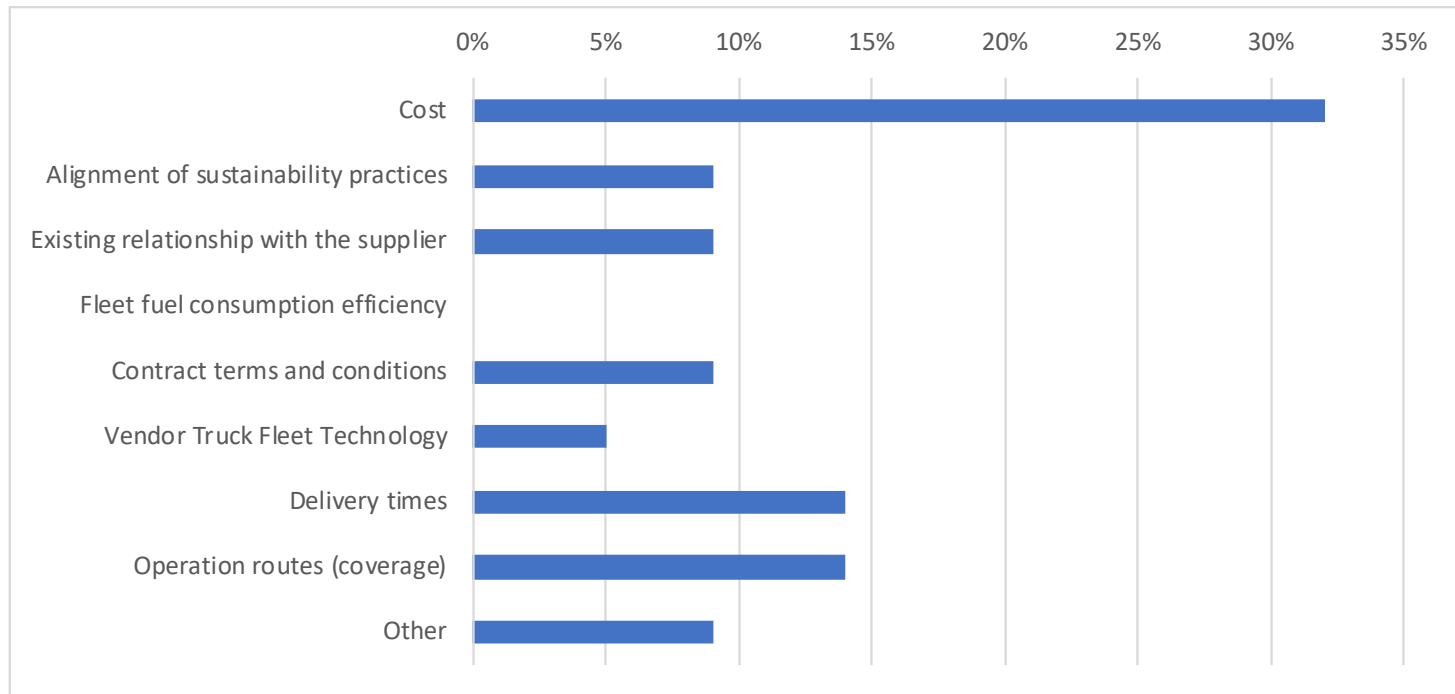




# Example Survey Results

## 3PL

What factors influence your choice when hiring a transportation provider?

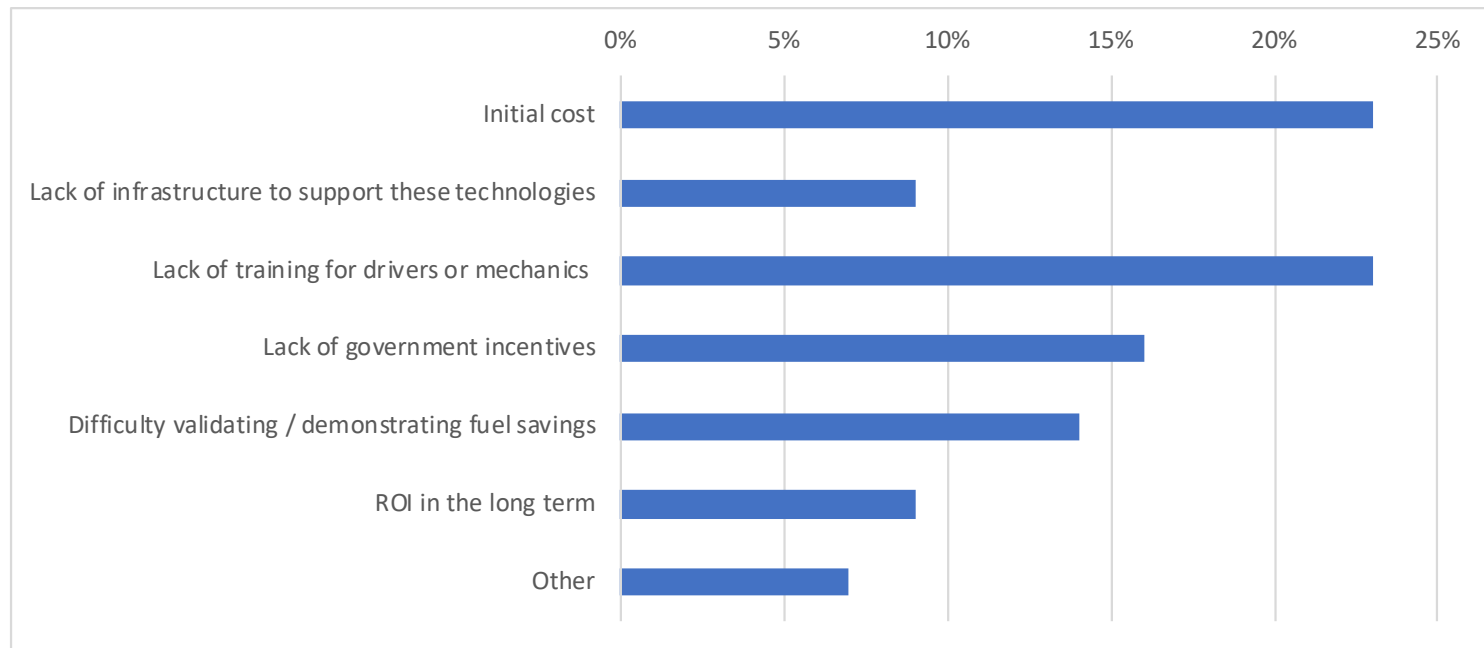




# Example Survey Results

## Technology Suppliers

Given your experience, what are the barriers that limit the adoption of technologies that help reduce fuel consumption?





# Lessons Learned & Next Steps

- ICCT Freight Assessment Blueprint is an excellent resource
- Local consultants essential for knowledge of data sources, current green freight efforts, and stakeholder contacts.
- Surveys very useful; ours could be re-used
  - Online allows broad distribution, but interview format essential to engage stakeholders
- Chile has a high number of small carriers (< 5 trucks); difficult to represent in surveys.
  - Would require more focused follow-up.
- **Next Step: compile report for delivery to U.S. EPA  
December 2019**