

## FIRM

Soteria Company, LLC  
2020 – Present

## EDUCATION

B.Sc. in Mechanical Engineering  
California Polytechnic State  
University

## AREAS OF EXPERTISE

- Safety Certification
- System Engineering
- Requirements Management
- Reliability and Maintainability

## YEARS OF EXPERIENCE

35 Years

## CERTIFICATIONS

State of California Licensed Engineer

## EMPLOYMENT

- Bombardier Transportation,  
Mannheim, Germany  
2012 – present
- Soteria Company, LLC (Consultant)  
2009 - 2011
- Isabella Lode & Assoc, Seattle WA  
2006 - 2011
- AECOM, Seattle, WA  
2009 - 2010
- Parsons Transportation Group,  
Pasadena, CA/Charlotte, NC/Taipei  
Taiwan/ Denver, CO  
1999 - 2006
- Aegir Systems, Los Angeles, CA  
1998 - 1999
- Booz Allen & Hamilton, Los  
Angeles, CA  
1996 - 1998
- Parsons Brinkerhoff, Los Angeles,  
CA/Cairo, Egypt  
1992 – 1996
- E2 Engineering, Los Angeles, CA  
1991 – 1992
- Booz Allen & Hamilton,  
Albuquerque, NM  
1988 – 1990
- Boeing Aerospace, VAFB, CA  
1985 – 1988

## TECHNICAL EXPERIENCE

Ms. Lode has 35 years of experience in the transit industry, with 25 years of experience in systems engineering and requirements management on projects around the world. Her emphasis has been on safety certification and requirement compliance.

## SUMMARY OF EXPERIENCE

Isabella's safety certification and requirements management experience in the transit industry includes the following projects and activities:

- Requirement management specialist for on-board display for vehicle supplier
- Safety certification manager for Southeast Corridor, Denver, CO
- System assurance, safety, and security

## RELEVANT AND RELATED EXPERIENCE

### BOMBARDIER TRANSPORTATION

Systems Engineer  
2012 - present

Managed activities of team to obtain authorization to operate with new software package in various countries in Europe. Coordinated activities with project engineering and assessment teams to ensure timely authorization certificates. Prepared requirement specifications for train control system for projects operating in various countries in Europe. Prepared detailed requirements specification for development of train control system displays. Ensured projects meet European Train Control Standards and that systems can operate on national rail systems. Developed work around to control operating system seen by the train operator.

### ISABELLA LODE & ASSOCIATES

Owner  
2006 - 2011

#### Central Corridor Light Rail Project for Metropolitan Council, Minneapolis, MN

Prepared Preliminary Hazard Analysis and Threat and Vulnerability Assessment.

#### Valley Metro Rail, Phoenix, AZ

Completed the vehicle safety certification for light rail vehicle procurement

#### Sound Transit Link Light Rail Project

As acting Rail Activation Safety Manager revised Standard Operating Procedures for rail activation activities. Coordinated drill exercises with Sound Transit and operating agency.

#### LACMTA Expo Light Rail Line Design/Build Project

Consulting for Soteria Company, prepared various safety studies, prepared Safety Certification Checklist, and completed review of Safety Certification Report.

### AECOM

2009 - 2010  
Systems Engineer

#### Denver Union Station Project, Denver, CO

Finalized Preliminary Hazard Analysis, Safety and Security Certification Plan, Certifiable Element List, Certifiable Items List and Specification Conformance Checklists.

#### MAX BRT, City of Fort Collins

Prepared Safety and Security Management Plan.

#### Northeast Extension for Valley Metro Rail, Phoenix, AZ

Updated Safety and Security Certification Plan, prepared certifiable elements list and prepared certifiable items list.

## **PARSONS TRANSPORTATION GROUP**

Systems Engineer

1999 – 2006

### **Denver TREX Light Rail Project, Southeast Corridor, Denver, CO**

As part of the project construction team, managed final certification of system elements and final integration testing activities, allowing the project to open on schedule.

### **Taiwan High Speed Rail (THSR) Project**

As part of the system engineering group, prepared overall system functional description for all the core systems of the project. Prepared documentation demonstrating compliance with reliability and maintainability requirements. Ensured that all documentation, including test documentation and documentation of any deviations from pre-requisites, was completed for certification prior to energization of sections of track. Performed verification of documentation to demonstrate that the design met the required specifications. Created a database application to handle track allocation for contractors on over 200 miles of track.

### **Charlotte South Corridor Light Rail Project, Charlotte, NC**

As part of design team, was responsible for coordinating system and facilities interfaces. Prepared database to track status of all interfaces. Ensured information was placed in contracts to provide contractor with information to coordinate installation of systems and facilities equipment. Coordinated development of specifications for Ticket Vending Machines (TVM) procurement contract.

### **Pasadena Metro Gold Line Light Rail Project, Pasadena, CA**

As part of the design team, responsible for coordinating production of system assurance, system safety and system security documents. Oversaw the safety certification of the project. Directed integration testing activities as part of start-up. Prepared requests and obtained approval for exceptions to fire/life safety criteria. Prepared test reports for System Integration Testing. Prepared Test Program Plan. Managed test activities.

### **LACMTA Metro Red Line Subway Project, Los Angeles, CA**

As part of start-up team, responsible for tracking anomalies encountered during integration testing. Established database for tracking and reporting status of anomalies and their resolution. Reported on status of anomalies during status meetings for client. Ensured problems were given to proper contractor for resolution. Determined due date for fixes in order to meet project schedule dates. Witnessed contractor acceptance testing and integration testing. Assisted in determining schedule impacts when items in the schedule had slipped; evaluated possible workarounds in order to maintain the overall milestone dates with minimal financial impact.

## **AEGIR SYSTEMS, INC.**

Senior Engineer

1998 – 1999

### **LACMTA Metro Red Line, Los Angeles, CA**

Assisted in the development of integrated test plans and procedures pertinent to the activation of systems. Supported engineering and design efforts to identify security requirements and develop appropriate security design data for major public health and public safety facility construction projects.

## **BOOZ ALLEN & HAMILTON**

Systems Engineer

1996 – 1998

Supported integration testing of systems elements of the LACMTA and development of applicable schedules and testing procedures. Conducted integration testing to verify operational status and system interfaces for selected systems and subsystems. Reviewed design changes during construction to ensure compatibility of interfaces with required systems. Coordinated activities of testing team, operations personnel and construction contractors during start-up for most efficient use of available time and resources.

### **SCRRA Metrolink Fare Collection Project, Southern California**

As Resident Engineer, supervised procurement and installation of all Fare Collection Equipment. Reviewed station design drawings to ensure proper location/installation of electrical power conduit and wiring necessary to power fare collection equipment. Ensured work was performed according to approved plans and within budget.

### **Fare Collection Contract between ASCOM and SCRRA**

As Resident Engineer, responsible for negotiating changes to the contract and settling claims by the contractor.

## **PARSONS BRINCKERHOFF**

Systems Engineer

1992 - 1996

Developed Test Program Plan outlining roles and responsibilities of the Construction Manager, LACMTA Operations and Construction personnel and the Test Team during start-up activities. Prepared test procedures and conducted integration testing. Directed activities of test teams and problem investigation teams. Resolved anomalies discovered during field testing and directed integration testing activities that involved several subcontractors, i.e., vehicles, SCADA and traction power.

### **New York Metropolitan Transit Authority, New York, NY**

Evaluated signaling system and subsystems for necessary upgrades and modifications.

### **Cairo Metro Project, Cairo, Egypt**

Temporarily assigned to develop Integration Test Plan and identify testing requirements and responsibilities. Developed Safety Plan for initial powering-up and vehicle testing activities.

## **E2 ENGINEERING**

Systems Engineer

1991 - 1992

Reviewed applicable engineering drawings and commented on constructability of electrical and mechanical systems depicted. Ensured appropriate interfaces were maintained for systems requirements. Reviewed contractor test reports for compliance with specifications. Reviewed design drawings for integration of electrical, mechanical and systems contractors.

## **BOOZ ALLEN & HAMILTON**

System Engineer

1988 - 1990

Reviewed contractor designs for survivability criteria. Developed test plans to verify survivability criteria and reviewed contractor/testing data for compliance with specifications.

## **BOEING AEROSPACE**

Test Engineer

1985 - 1988

Performed system testing in preparation for ground and flight tests of Peacekeeper missile system. Represented Boeing Aerospace interests at meetings with associate contractors and clients.