Businesses are essential to community resilience but their recovery process is not well understood.
Survey Development Process

- **Nov 2014**: Working group formed.
  - Reviewed existing survey tools and identified research needs.

- **May 2015**: Survey questions drafted.
  - Revised survey questions using feedback from panel of technical reviewers.

- **Aug 2016**: Survey piloted in Napa, CA.
  - Surveyed 20 businesses using online tool at 2-year earthquake anniversary.

- **Nov 2016**: Survey piloted in Cushing, OK.
  - Sent team to Cushing one week after earthquake to survey damage and interview 50 businesses.

- **Jun 2018**: Survey tool and protocol revised.
  - Produced final versions of survey questions and deployment strategy to be used by EERI in future earthquakes.

- **Mar 2019**: Survey deployed in Anchorage, AK.
  - Sent team to Anchorage three months after earthquake to survey 23 businesses.
Anchorage Earthquake and Survey Deployment

Findings not representative of all businesses in Anchorage
Drivers of Business Downtime in Anchorage

- Building damage
- Inventory damage
- Suppliers unable to meet demand
- Staff unable to work due to personal issues

Findings not representative of all businesses in Anchorage
Building codes do not protect property.

Building codes protect lives – They do *not* limit damage or maintain functionality.
Cordonning

- Outmigration of workforce and customers
- Lost revenue and wages
- Reduced tax base
Roadmap to Business Resilience

1. Evaluate baseline risks
2. Develop mitigation strategies
3. Perform cost-benefit analysis
4. Implement strategies
San Francisco Downtown Resilience Strategy

Restoration curves are from a similar study of the University of British Columbia; the San Francisco study is in initial planning stages.
San Francisco Disaster Recovery Framework

- Identify guiding principles for achieving successful recovery
- Outline pre- and post-disaster roles and responsibilities for government
- Describe key factors, activities, and considerations for pre- and post-disaster recovery planning
- Engage whole community to get buy-in and ensure needs are met
Thank you