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Forecasting Affected Populations for Benefit-Cost Analyses

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Agenda

- Importance of Forecasts
- U.S. Coast Guard Examples
- Issues for Forecasting
- Summary
- Appendix – Web sites
Importance of Forecasts

• Required for Federal Rulemakings

• Typically 10-years, but not mandated

• Basis for discounted benefits & costs

• Should not assume steady-state population
USCG Example 1
Inspection of Towing Vessels Rulemaking

• Base population from government & industry sources

• 10-Year Analysis

• From base population calculate average new builds per year
USCG Example 1
Inspection of Towing Vessels Rulemaking

• Other industry sources for deletions

• Annual deletions = Annual new builds

• Derived steady-state population

✓ Key point: Net annual change can be difficult to calculate
USCG Example 2
Cargo Securing Manuals Rulemaking

- Rule targets containers lost at sea
- Base is current estimate of worldwide losses
- Used global port calls to estimate base U.S. traffic

Photograph from Cedre
USCG Example 2
Cargo Securing Manuals Rulemaking

• Estimate base containers lost in U.S. traffic

• Tioga Group forecasts 4.9% annual growth in container traffic

• Forecasted growth in lost containers

✓ Key point: Context & background are critical
Forecasting Human Populations

• Generations – Baby boomers retiring

• Current demographic changes
  o Fertility
  o Life expectancy
  o Economic impact: housing, health, consumer spending

✓ Account for population changes
Forecasting Economics

GDP 2006-2016, Constant $2009, billions

- Business cycle context
- Compare similar points in cycles
- Check trends in prices, interest rates, and employment rates

✓ Economic activity is not linear
Forecasting Specific Industries

• Commodity prices / market structure
• Technology developments
• Government policies & regulations
✓ Identify industry change agents
Summary

✓ Deriving and projecting affected populations may require working with disparate information sources

✓ Problems? See your friendly expert demographer, economist, statistician

✓ Well-developed affected population is foundation for robust cost-benefit analysis
Appendix

Data sources for

- Demographics
- U.S. economic data
- International economic data
- Industry/company information
Demographics

• U.S. Census Bureau, [www.census.gov](http://www.census.gov)

• U.S. Centers for Disease Control and Prevention, [www.cdc.gov](http://www.cdc.gov)

• Population Reference Bureau, [www.prb.org](http://www.prb.org)
U.S. Economic Data

• National Bureau of Economic Research, www.nber.org

• Bureau of Economic Analysis, www.bea.gov

International Economic Data

- Organization for Economic Co-operation and Development (OECD), www.oecd.org
- International Monetary Fund, www.imf.org
Industry/Company Information

• Appropriate government agency

• Trade journals & trade associations

• Company web sites, annual reports, SEC filings