Understanding the Costs of Highway Projects

David P. Orr, PE
Cornell Local Roads Program
Repair Options

- Good
  - Fast
  - Cheap

Pick any two
Getting Work Done

- Determine work needed
- Plan activities
- Calculate costs
- Implement
Calculate Cost

- Materials
  - Invoices (Contractual Expenses)
  - Labor
- Equipment
Estimate Amount

- Use day size units for productivity
- MOBILIZATION
Production Units

- Area
  - Linear
  - Each

$/unit
Materials

- Divisible
- Stockpiled items
Invoices

- Directly to the job
  - Equipment rental
  - Contracts
  - FOB vs. in-place
Material & Invoice Prices

- www.ogs.state.ny.us/purchase/
  - County bids
  - Your own bids
    - Estimates & quotes
    - ...

Public works contracts
Purchase contracts

$35,000
$10,000
Material & Invoice Conversion

- Determine quantity needed for production
  - Convert to $/unit
Labor

- Your crew
  - Include benefits?
    - Use average rates
- Do you include your own time?
Equipment

- Your equipment
  - Make a list
  - Per hour or per day costs
NYSDOT Equipment Rental Rate Schedule

- New York State Office of General Services “Heavy Equipment Rental Standby Contract”
- *Rental Rate Blue Book for Construction Equipment* by PRIMEDIA, Inc.
- NYSDOT.gov → A-Z Site Index
Contingencies

- General overhead rate
  - 5-10% for budget purposes
Total Costs

- Significant digits
  - 3 digit rule
Process

- Write out construction steps
  - Estimate time to complete each step
  - Calculate cost for each step
- Add steps together
WZ Traffic Control?
Estimate Other Work

- $/unit
  - New number of units

\[
\text{\$} = \frac{\text{\$}}{\text{units}} \times \text{New units}
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Estimating the Costs of Highway Projects

Textor 103

1:15-2:30 pm
2:45-4:00 pm