# Economic and Revenue Impacts of Potential Flooding in the Green River Valley

Briefing to the King County Forecast Council

January 21, 2010

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# Purpose of this Briefing

- Recent repairs around the Howard Hanson Dam have reduced the odds of a major flooding event. However, the risk remains significant.
- If a flooding event occurs:
  - What will be the economic impact?
  - What will be the tax revenue impact?

# Computer Simulated Flood Scenarios

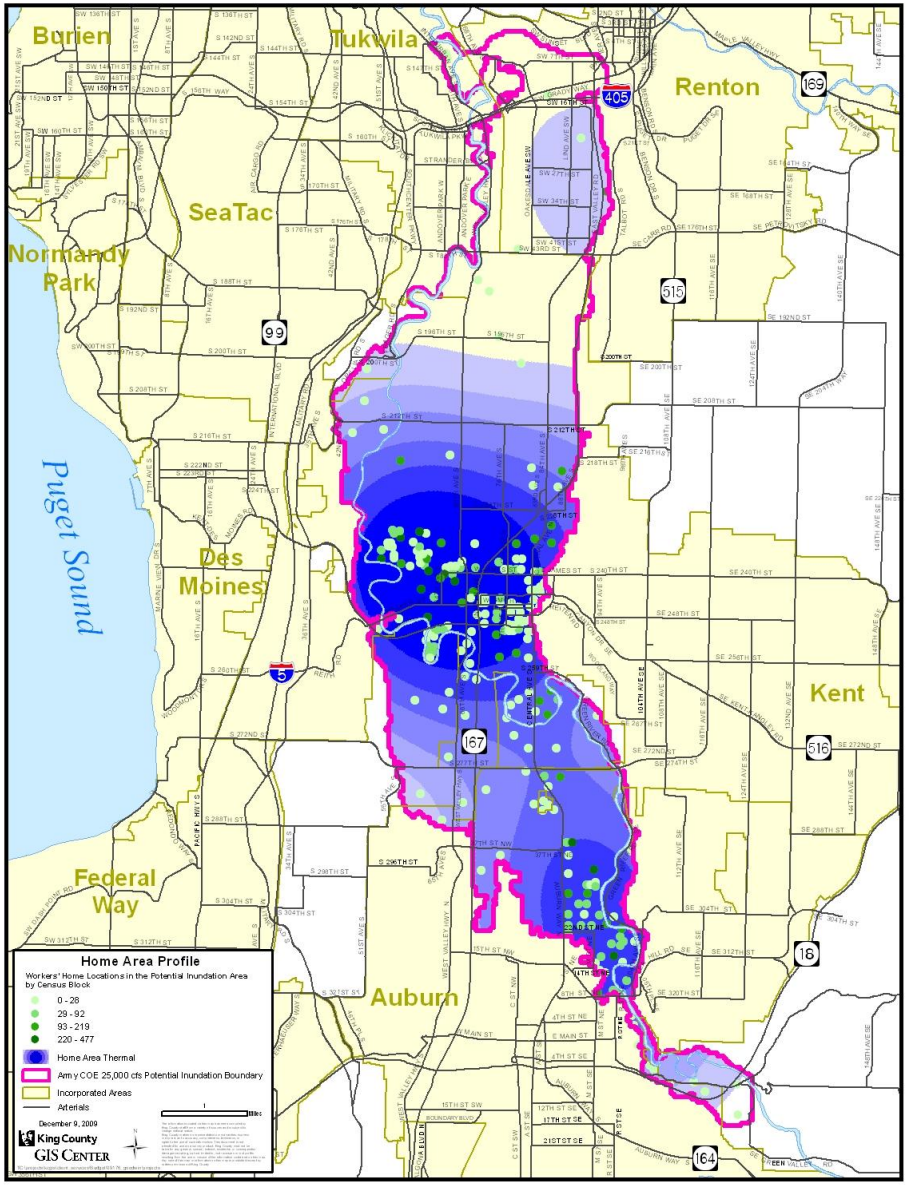
- US Army Corps of Engineers (USACE) simulated four flood scenarios
  - We chose the near-worst-case scenario of 25,000 cubic feet per second water flow measured at the Auburn gauge.
  - USACE has not assigned a probability to this scenario.
  - Assumes all levies hold.
  - Does not take into account downstream mitigation efforts by cities and the County.

# Methodology

- King County Global Information System Center (GIS) created a geo-coded "shape file" of the area of simulated flood inundation using exact coordinates.
- Economic, revenue and demographic data from various agencies were overlaid on the shape file.

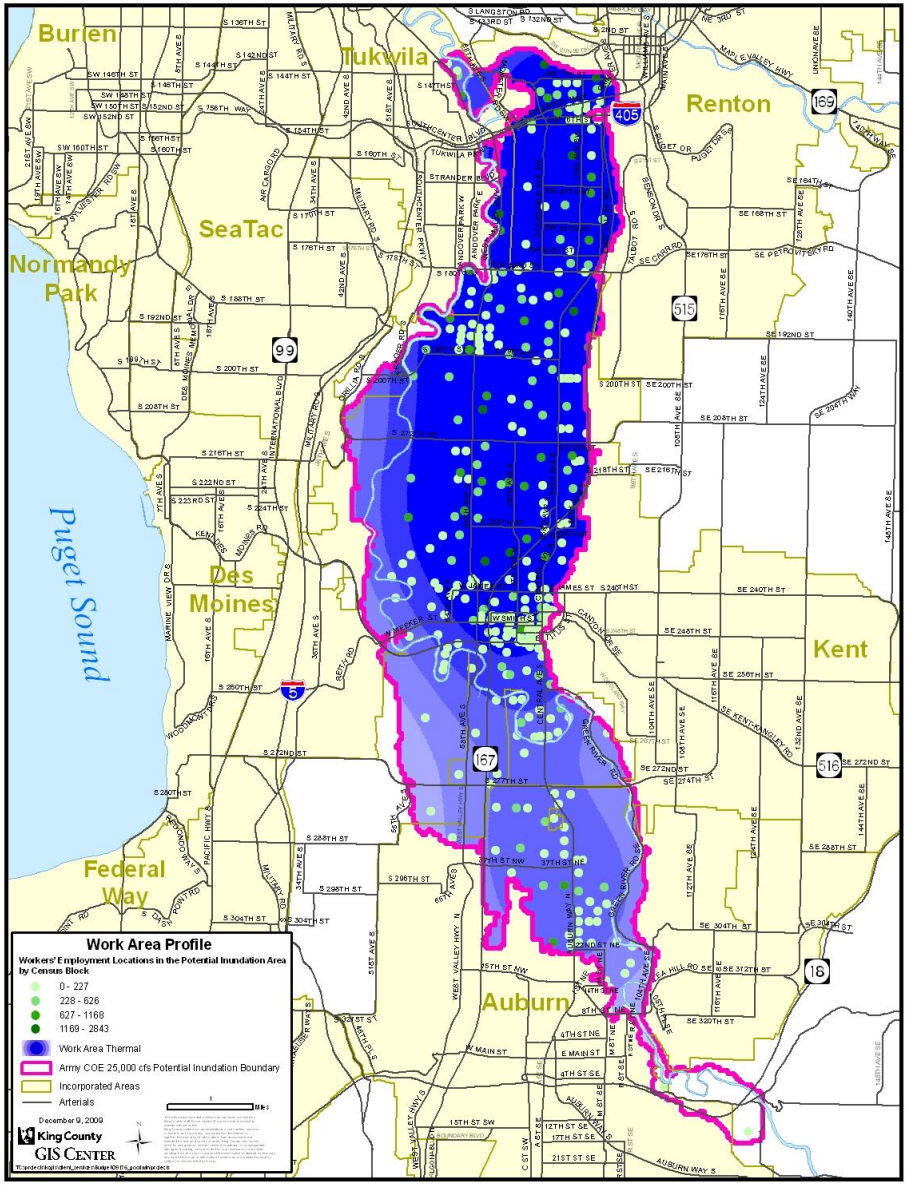
## Inundation Area

- The pink outline shows the area that would be underwater in a 25,000 cfs event.
- The contours and dots show the concentration of residences.



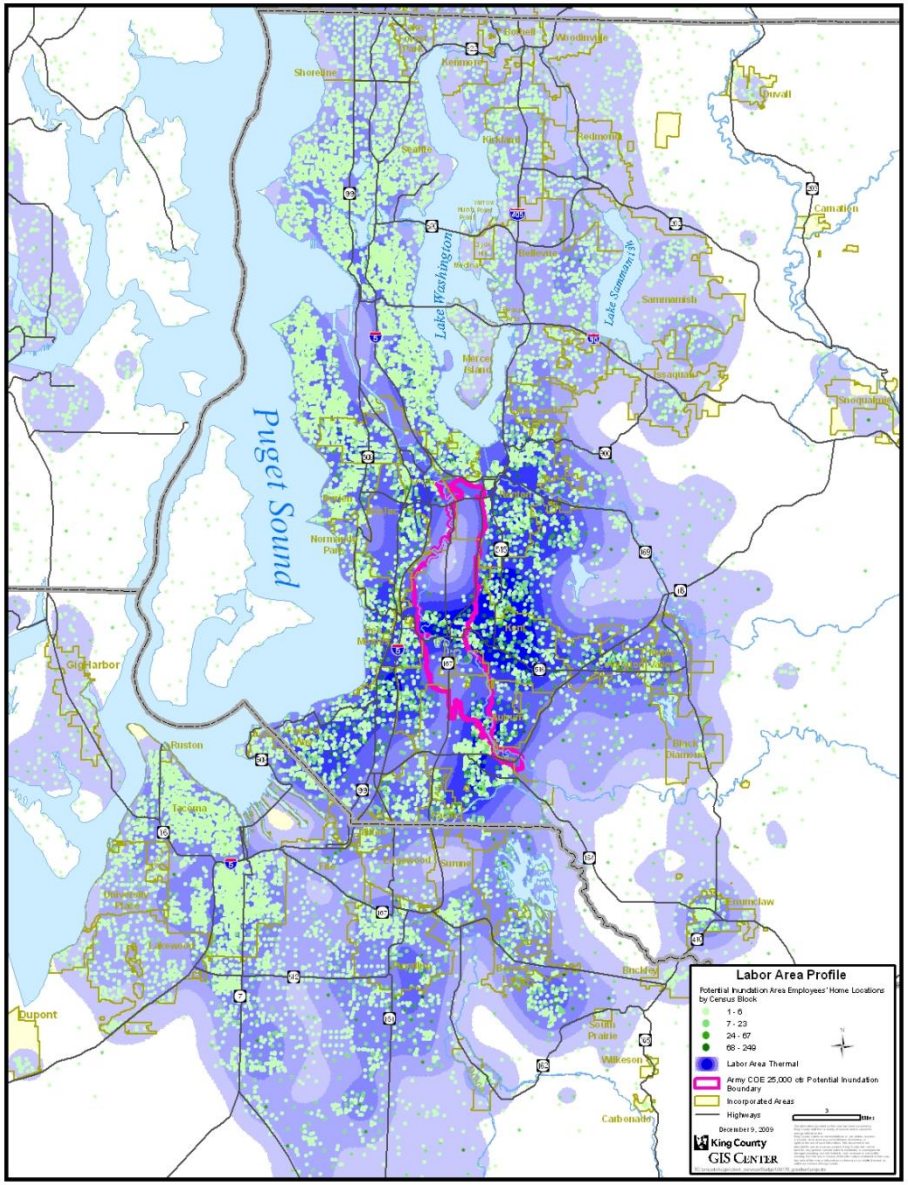
# Where Economic Activity Occurs

- $63 million per day in total economic output.
- 100,000 jobs.
- $16 million per day payroll.
- The contours and dots show the concentration of jobs



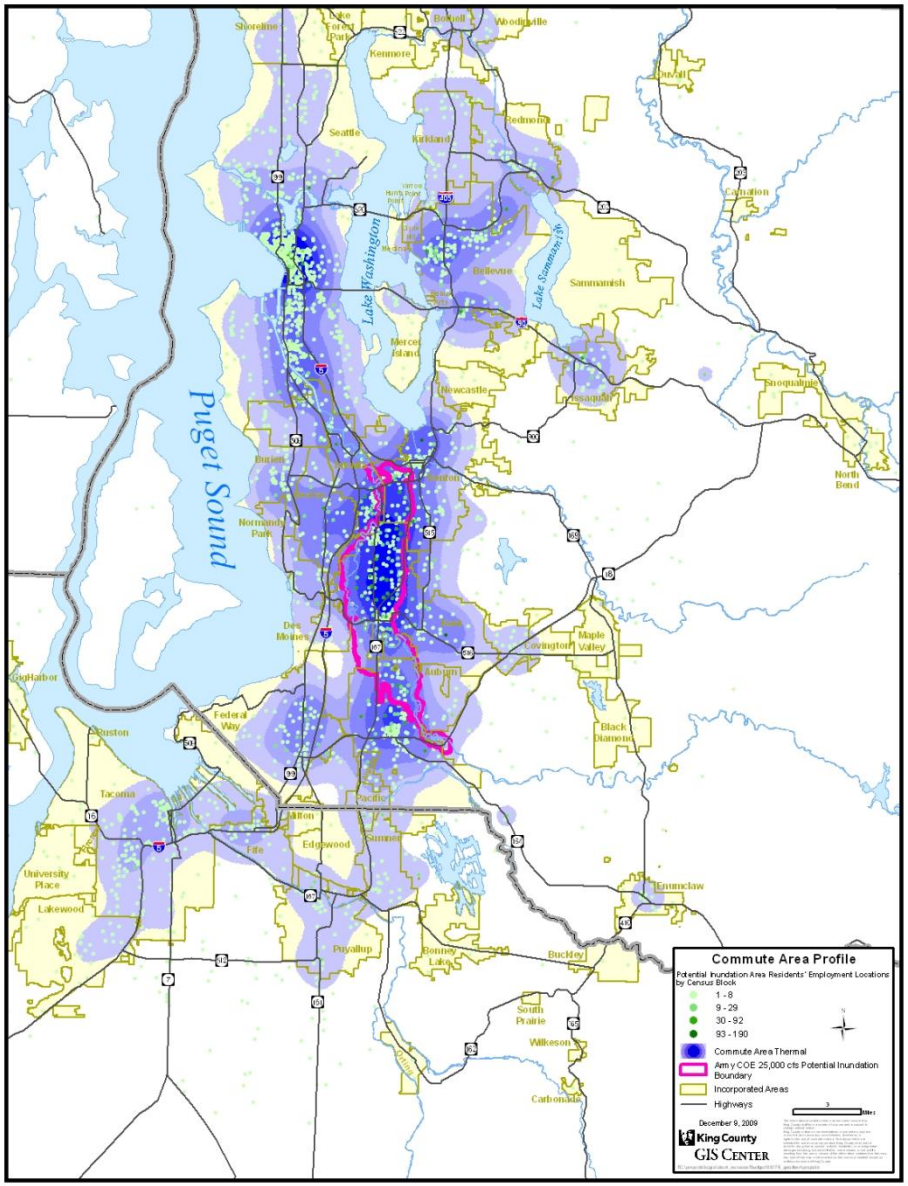
## Where Workers Live

- Most of the 100,000 workers live outside the area and commute into it.
- The contours and dots show where workers live.



## Where Residents Work

- About 10,000 residents of the inundation area commute to jobs outside the area.
- These residents would have a hard time getting to their jobs if there were a flood.
- The contours and dots show where residents work.



## Sales Tax Revenue

- 4,771 retail businesses in the inundation area.
- $4.7 billion in taxable retail sales in 2008.
- $1.2 million per day sales tax revenue.
- Figures are adjusted for "streamlining."

| Sales Tax Revenue Per Day | | |
|---|---|---|
| Auburn | $ 283,000 | 23% |
| Kent | $ 384,000 | 32% |
| Renton | $ 198,000 | 16% |
| Tukwila | $ 329,000 | 27% |
| Unincorporated King County | $ 22,000 | 2% |
| Total | $1,215,000 | 100% |

If the Green River Valley experiences flooding comparable to the USACE 25,000 cfs scenario, King County will face the following revenue losses:

LO + CJ + MIDD + Metro Transit:

**$156,000 per day**

Total cost in lost revenue of a 5-day flood event:

**$780,000**

| Allocation of Sales Tax Revenue Per Day (2008 data, rounded) | | |
|---|---|---|
| State of Washington | $ 827,000 | 68.1% |
| King County – LO + CJ | $ 29,000 | 2.4% |
| MIDD | $ 13,000 | 1.1% |
| Metro Transit | $ 115,000 | 9.5% |
| Regional Transit Authority | $ 115,000 | 9.5% |
| Auburn – LO + CJ | $ 26,000 | 2.1% |
| Kent – LO + CJ | $ 36,000 | 3.0% |
| Renton – LO + CJ | $ 19,000 | 1.6% |
| Tukwila – LO + CJ | $ 30,000 | 2.5% |
| Food & Beverage | $ 6,000 | 0.5% |
| Total | $1,215,000 | 100% |

Notes: LO = Local Option
CJ = Criminal Justice
MIDD = Mental Illness & Drug Dependency

# Property Values and Taxes

- **Assessed value of all property in the inundation area was $6.7 billion in 2008.**
- **$112 million in property taxes were collected in 2008.**
- **A flood event will not directly affect current property tax revenue, but**
  - Could affect new construction if a permanent fix is not in sight.
  - Could shift the tax burden to other parts of the county if there is substantial personal property damage or properties become unusable.

# Qualifications

- The estimated impacts could be overstated if:
  - Flood event is less than 25,000 cfs
  - Sandbagging and other defensive measures prove effective
  - Estimates are based on 2008 data. Current retail sales are well below that and so the impact may be less than estimated
  - There is some “snap back” in retail sales from rebuilding
- The impact could be understated if there is a flood event that is more severe than assumed, especially if there is a levy failure

# Conclusions

- **The economic disruption of a flood event to workers, commuters and businesses would be substantial.**
- **A flood event would reduce King County revenues approximately $156,000 per day.**
- **The longer-term impact would depend critically on whether a permanent solution is in sight.**

# Questions?