

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

Briefing to the King County Forecast Council

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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.

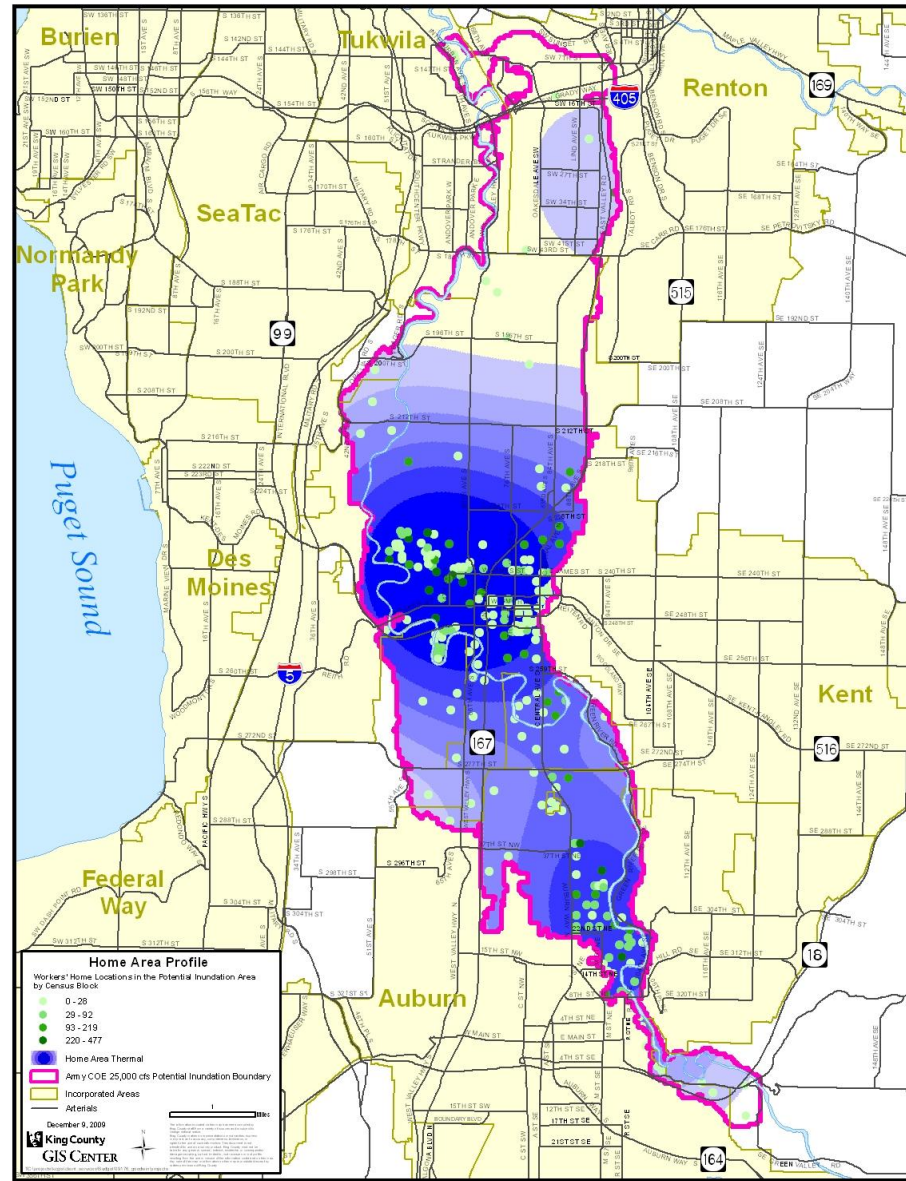


Methodology

- 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.

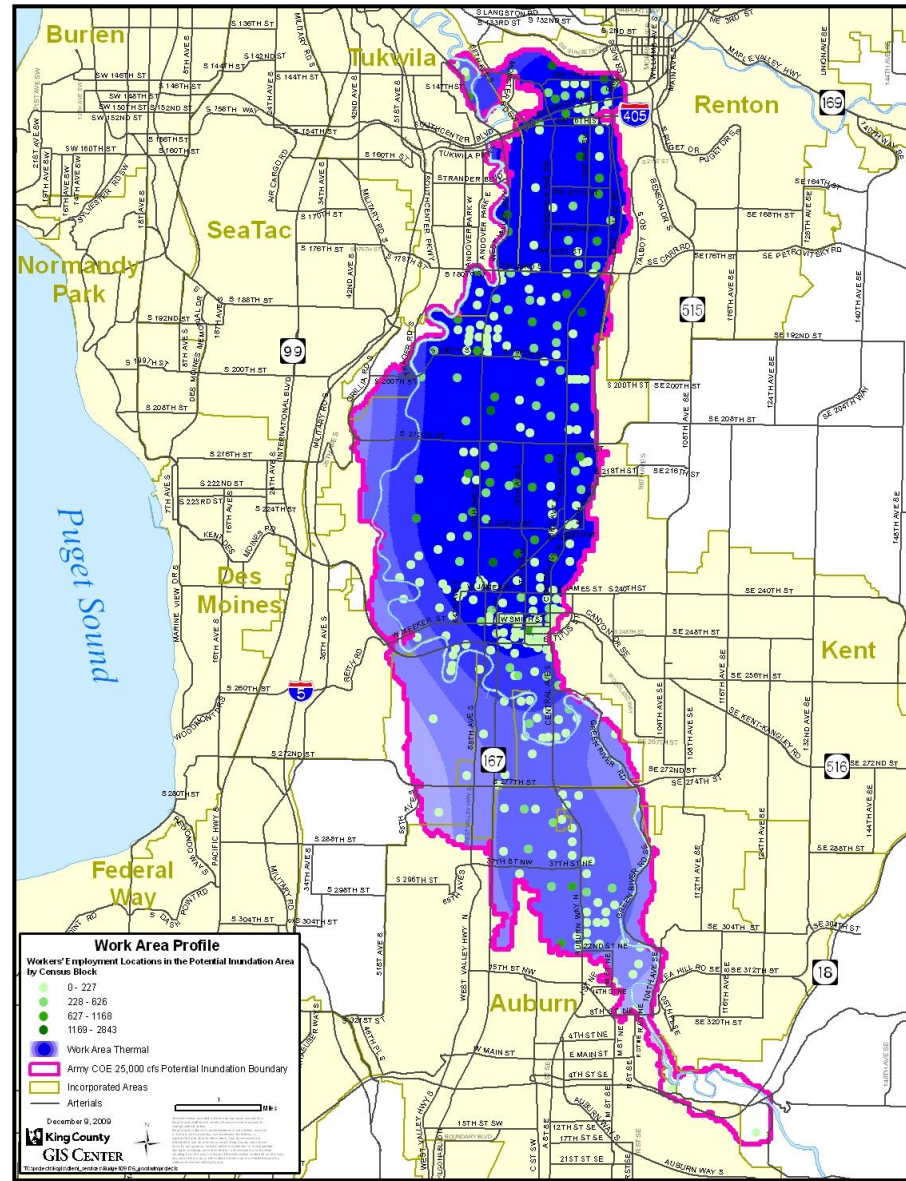
Inundation Area

- 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

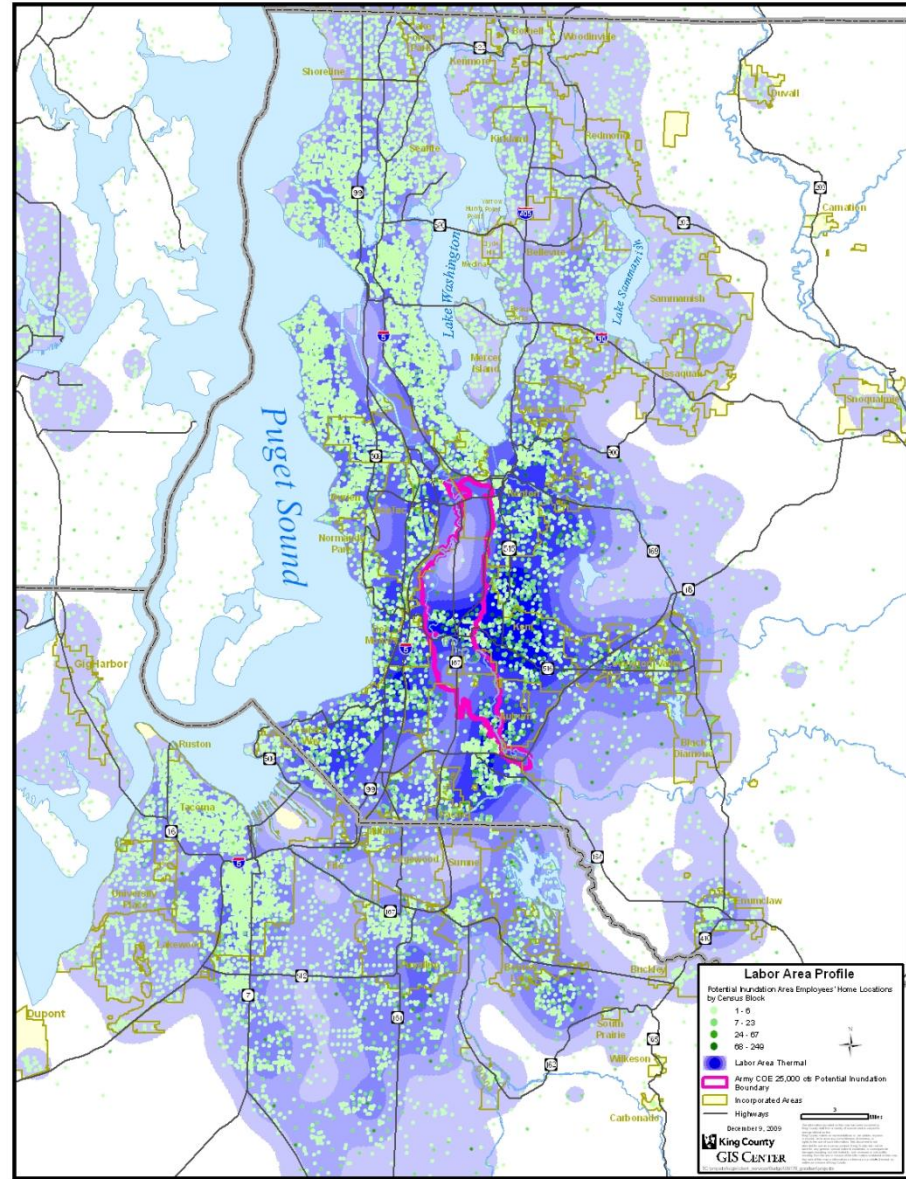
- \$63 million per day in total economic output.
- 100,000 jobs.
- \$16 million per day payroll.
- The contours and dots show the concentration of jobs





Where Workers Live

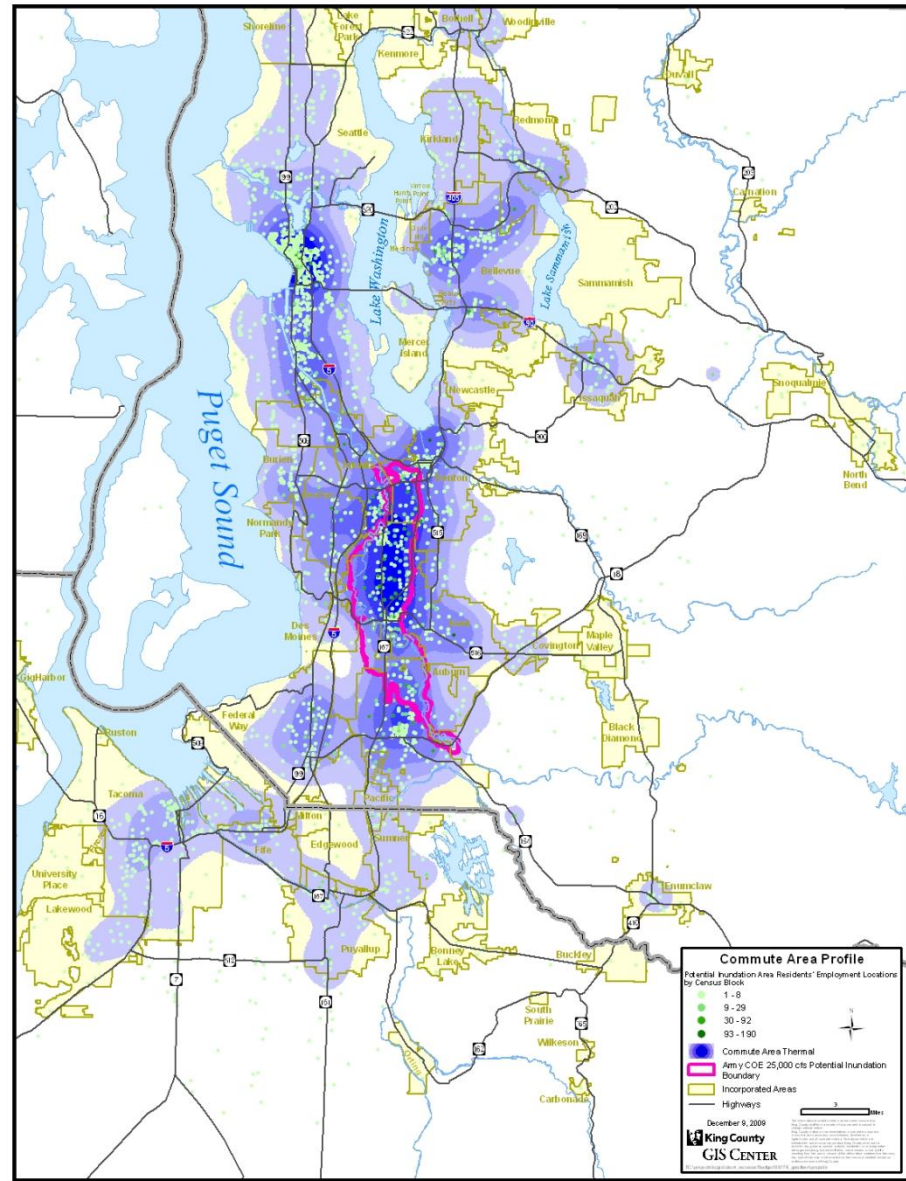
- Most of the 100,000 workers live outside the area and commute into it.
- The contours and dots show where workers live.

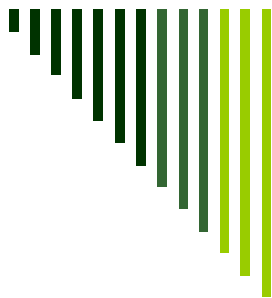




Where Residents Work

- 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.

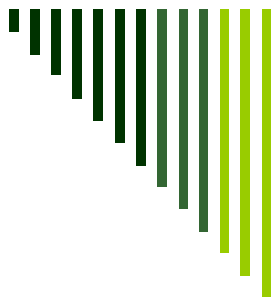




Sales Tax Revenue

- 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?