

Alaska Dept. of Transportation & Public Facilities  
November 2002

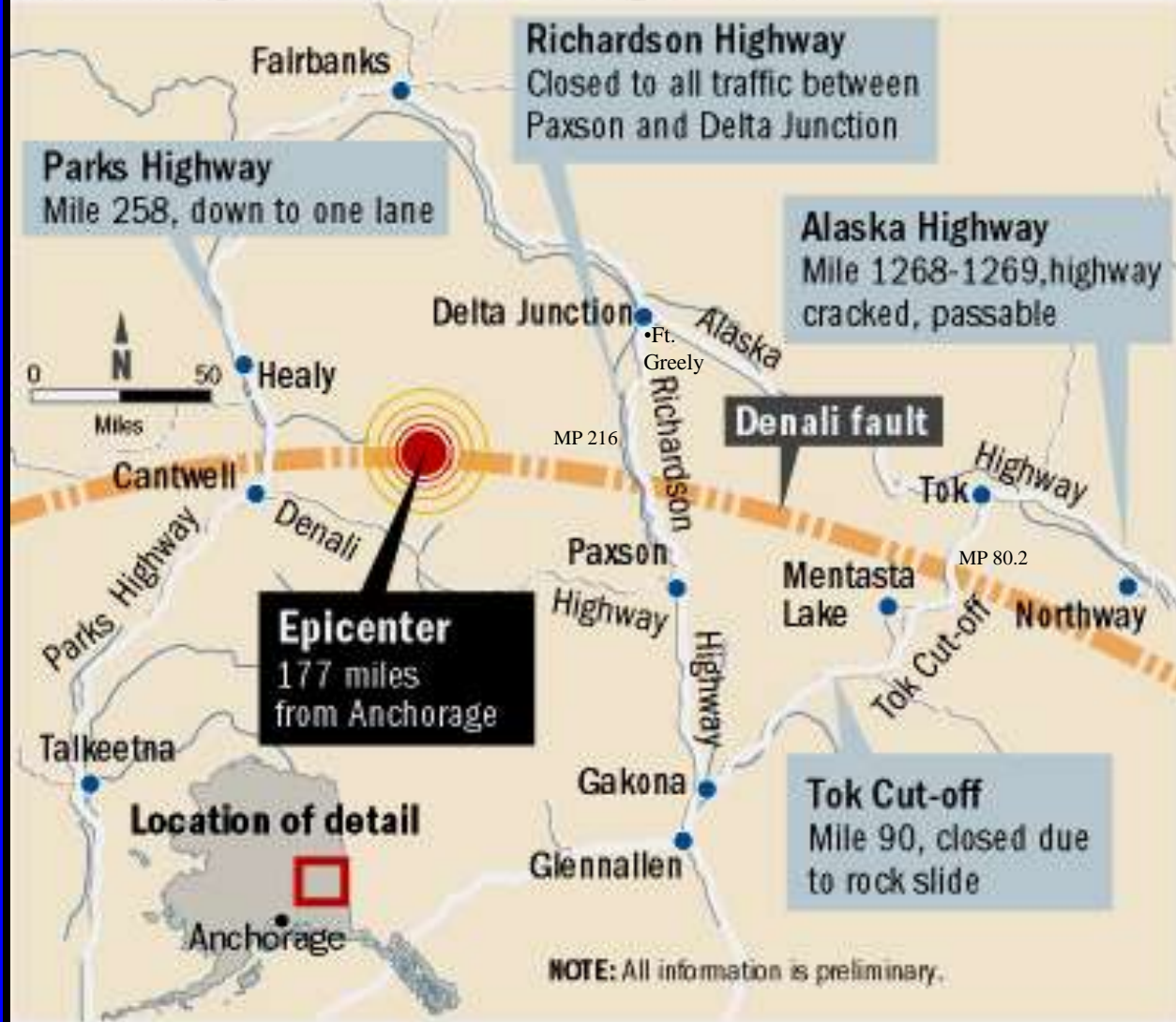




# Denali Fault

Sunday, November 3, 2002, 1:13 pm

## Damage from 7.9 quake



Source: Alaska Earthquake Information Center, State Troopers, Department of Transportation

RON ENGSTROM / Anchorage Daily News

# Alaska DOT&PF Earthquake Response:

First 24 hours after an earthquake:

- Level I Bridge Inspection

Looking for visible signs of movement & displacement

- Road Inspections

Looking for cracks, subsidence & surface deformations

- Airport Inspections

Looking for cracks, subsidence & surface deformations

72 hours after an earthquake:

- Level II Bridge Inspection

Bridge Division detailed structural inspection

# Parks Highway Mile 258



Photo by Jimmy Tohill

DOT response:  
M&O on the location by 2:30pm  
Keeps North Bound Lane open  
Repairs South Bound Lane within 4 hours

# Denali Highway



- Visible damage to Mile 81



# Richardson Highway Damage



# Richardson Highway Mile 197-216



## DOT response:

- M&O on location within the hour
- Road closed from Paxson to Delta for 11 hours
- Repairs begin immediately
- Road open shortly after midnight, 11 hours after quake

## Damage reported:

- Cracks in road up ranging from several inches to several feet wide and up to eight feet deep
- Hundreds of cubic yards of slides
- Road shifting sideways up to 4 feet
- Gaps between bridge abutments and asphalt







# Tok Cutoff Highway



## Significant Damage Reported:

- Major cracks in road over long stretches of highway
- Drops in road as much as 6 feet

## DOT response:

- M&O on scene at the time of the quake
- Road closed from mile 64-80 for 24 hours
- Repair work begins immediately
- Opens up to one lane traffic with pilot car, hours restricted to daylight driving only due to hazardous conditions.

# Tok Cutoff Damage





4 10:27 AM







4 10:31 AM



















# TransAlaska Pipeline









**DANGER**  
No Smoking  
or Fire Arms

3 4:19 PM

# Northway Airport



## Damage to Northway Airport

- Large crack along centerline of runway
- One foot heaves

## DOT response:

- Airport closed
- DOT assessment team on scene within 24 hours
- Temporary repairs start within 72 hours to restore 3,200 feet of runway to keep open this winter

# Northway Airport Damage





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# Northway Airport restoration



- Restoring 3,200 feet
- Gravel surface will allow DOT to maintain this winter
- Long term fix this summer

# Tanana River Bridge



- Bridge shifted 3 inches
- Broke steel restraints
- Superstructure shift at the abutment



# What are the challenges for temporary and permanent repairs?



Area has not yet received a deep freeze or significant snow. Time is of the essence.

More significant repairs, such as asphalt, cannot take place in these cold temperatures.

Areas with most damage tended to be areas with underlying fine grained, wet soils i.e. loose, wet sand.

Indications that landslide hazards have increased in some areas. These areas may need stabilization.



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