

# Little Cottonwood Canyon Transportation Study *National Rural ITS Conference*

***Mark Parry, PE***

Utah Department of  
Transportation

***Jon Nepstad, AICP***

Fehr & Peers Associates

August 14, 2006





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# Little Cottonwood Canyon Transportation Study



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**ALTA**









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Michael Thomas, with son Adam, 10, explains how his family and two Alta employees were blindsided by an avalanche.

# St. Louis family unhurt in avalanche adventure

**Swept from the road:**  
An SUV with nine people inside, hit by a slide, drops 100 feet

By KIRSTEN STEWART  
AND JASON BERGREEN  
*The Salt Lake Tribune*

## How the snow stacked up

Brighton	-	20 inches
Snowbasin	-	22 inches
Tony Grove	-	12 inches
Pleasant Grove Bench	-	6 inches (Logan Canyon)
Taylorville	-	1 inch
East Layton	-	7 inches
Chalk Creek	-	8 inches
Salt Lake City International Airport	-	0.5 inches (Uinta Mountains)

## Avalanche sweeps 9 in SUV off canyon road; no one hurt

By Pat Reavy  
and Wendy Leonard  
*Deseret Morning News*

**LITTLE COTTONWOOD CANYON** — An avalanche swept a SUV with nine people, including five children, off the main canyon road and over the edge here Thursday and carried it 100 feet before the vehicle came to rest on its hood.

"Just driving down the road and ...," said Michael Thomas, the driver, while smacking his hands together. "It was surreal."

Without warning, the avalanche

hit the vehicle about 6:30 p.m. near the White Pine Chutes about half-way up the canyon, pushed it on its side and carried it over the edge as the passengers, including children ages 3 to 10, held on for the bumpy ride.

Everyone in the SUV was wearing a seat belt. Adam Thomas, 10, said he helped unbuckle his brothers who were left strapped in their seats upside down, once the vehicle came to rest.

"It was the worst nightmare I ever had," he said.

Michael Thomas said everyone

in the SUV was a "little shaken up" and some of the children were crying, but otherwise everyone was OK.

The Thomases are from St. Louis and had been in Utah all week learning to ski for the first time. On their way down the mountain they picked up two teenage employees from Alta Ski Resort. The teens were able to kick out a window of the vehicle and help everyone get out, Michael Thomas said.

Please see **WEATHER** on B8

resort employees who had just hitched a ride with the family.

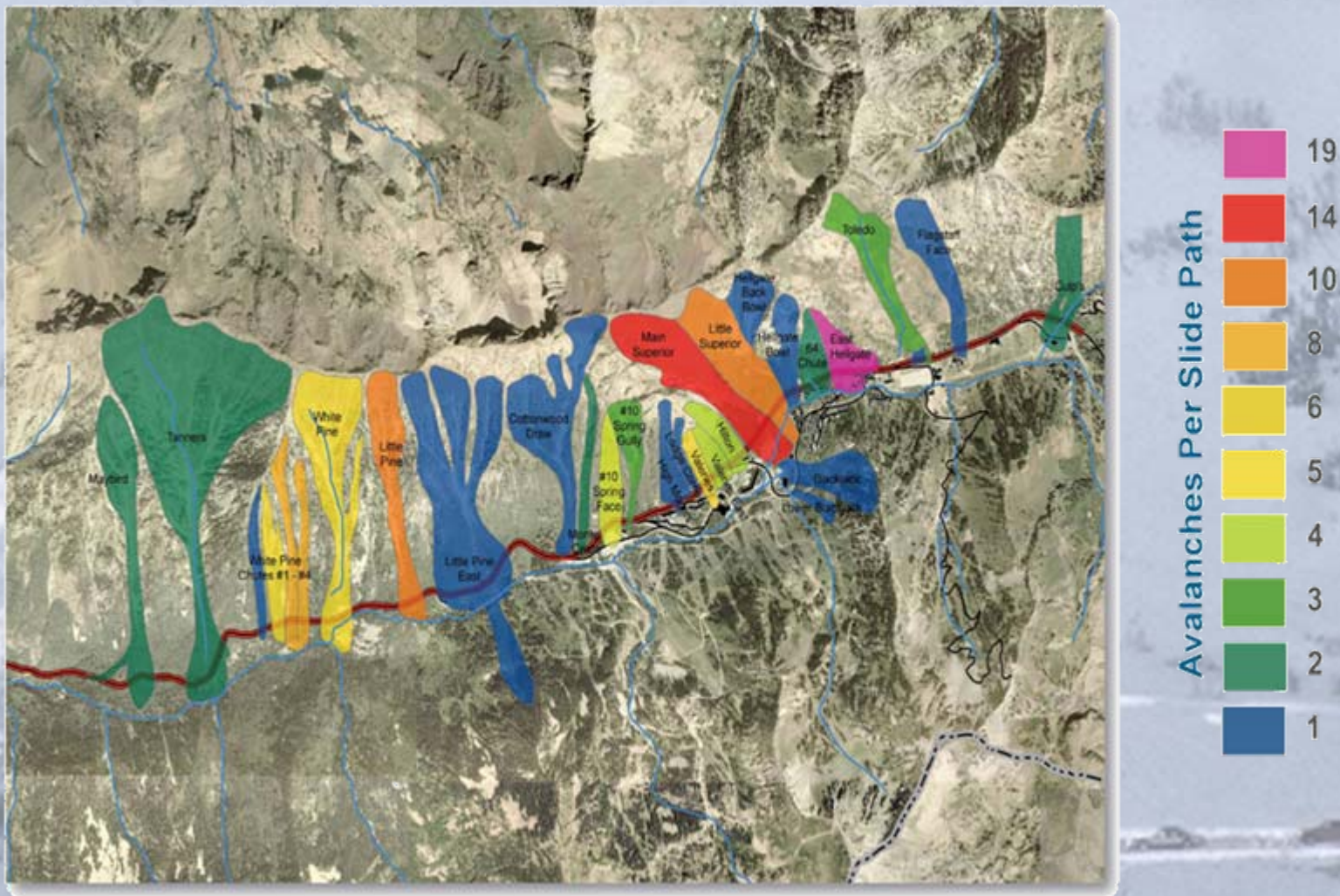
It was the Thomases' first trip to Utah.

"'Life Elevated,' right?" quipped Michael Thomas as he waited for a mouthful

the Pacific storm system that moved into Utah earlier this week and built up steam on its way Thursday



# Little Cottonwood Canyon Slide Frequency – 1995 to 2005



# Factors in the AHI

**Numerical expression of damage potential from avalanches to vehicles.**

## **Factors:**

- Width and depth of avalanches at the road**
- Frequency of avalanche occurrence**
- Number of avalanche paths**
- Spacing between paths**
- Winter traffic volume**
- Traffic Speed**





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# Risk Reduction



## Road

### Active

- Gazex
- Artillery
- Infrasound
- Forecasting Team

### Passive

- Sheds
- Berms
- Snow Nets
- Realignment



## Traffic

- Demand Reduction
- Parking Management
- Information System

- Traffic Flow
- Parking Lot Metering
- Incident Management



# One Part the Overall Solution: “Smart Canyon”

- **Elements include:**
  - Optimize the parking
  - Better traffic management
  - More road conditions to users
  - Better transit information
  - Improved communications among agencies



**Meanwhile, back at the TOC, UDOT  
applying for a Rural ITS grant to help  
this very area...**





**By sheer luck (or  
great planning) the  
grant was awarded  
while the study team  
was finalizing  
alternatives...**

**GRANT APPLICATION FOR PARTICIPATION IN THE  
FY05 ITS INTEGRATION COMPONENT  
of the  
ITS DEPLOYMENT PROGRAM**

**Project Identification Number:** VII.L.1.a.  
**Project Name:** ITS - Rural Recreation and Tourism  
**Project Location:** Statewide  
**FY05 Total to be Allocated:** \$ 681,629  
**Submitted by:** Utah Department of Transportation  
July 15, 2005  
**Project Contact:** Richard Manser  
Utah Department of Transportation  
2060 South 2760 West  
Salt Lake City, UT 84104-4592  
Phone: 801 887 3718  
Fax : 801 887 3794  
E-mail address: rmanser@utah.gov

Attachment 2: Guidelines - ITS Deployment Program  
January, 2005

I-1

# Elements of the Rural ITS Earmark

- Provide congestion relief for the canyon
  - Parking Management
  - Traveler Information
  - Communication
  - Improve Safety





# Maximize Park & Ride Opportunities





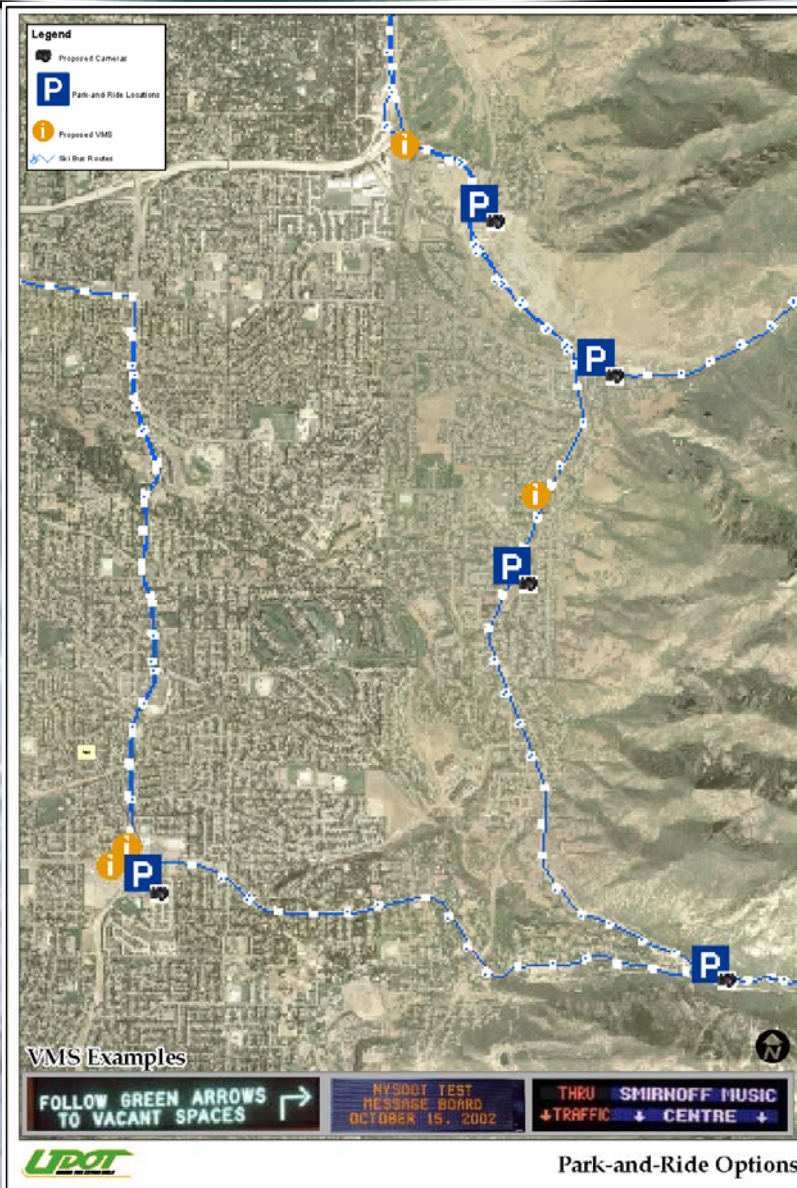
# Optimize Parking Lot Egress





# Parking Management

- Publicize park and rides
- Operational process for managing park and rides
- Technology to support the parking management



# Publicize the Park and Rides

- New Signs & Name the Lots
- Publicize availability of parking spaces and use of public transportation





# Operational Process

- Identify Available Spaces
  - Agency Interaction
  - Infrastructure
- Inform Public of Status
  - Agency Interaction
  - Infrastructure



# Communication

- Identify the communication needs
  - Interagency process
  - infrastructure
- Identify possible solutions
- Determine the best solution





# Canyon Conditions

- Obtain Data
  - RWIS
  - Traffic Loops
  - Maintenance observations
- Communication



# Inform Public

- Electronic Signs
- HAR
- VMS Signs
  - Ski Lifts
  - Lots
  - Surface Streets
  - Transit Stops





# Safety

- New methods of Avalanche Monitoring
- Protect Travelers
  - Keep the Skiers in the canyon
  - Prevent them from driving up the canyon





# Status

- Obtained funding
- Working on contract for design of parking management

