

SAFETY IN NIGHT WORK
OPERATIONS:
WHAT DOES THE DATA SAY?

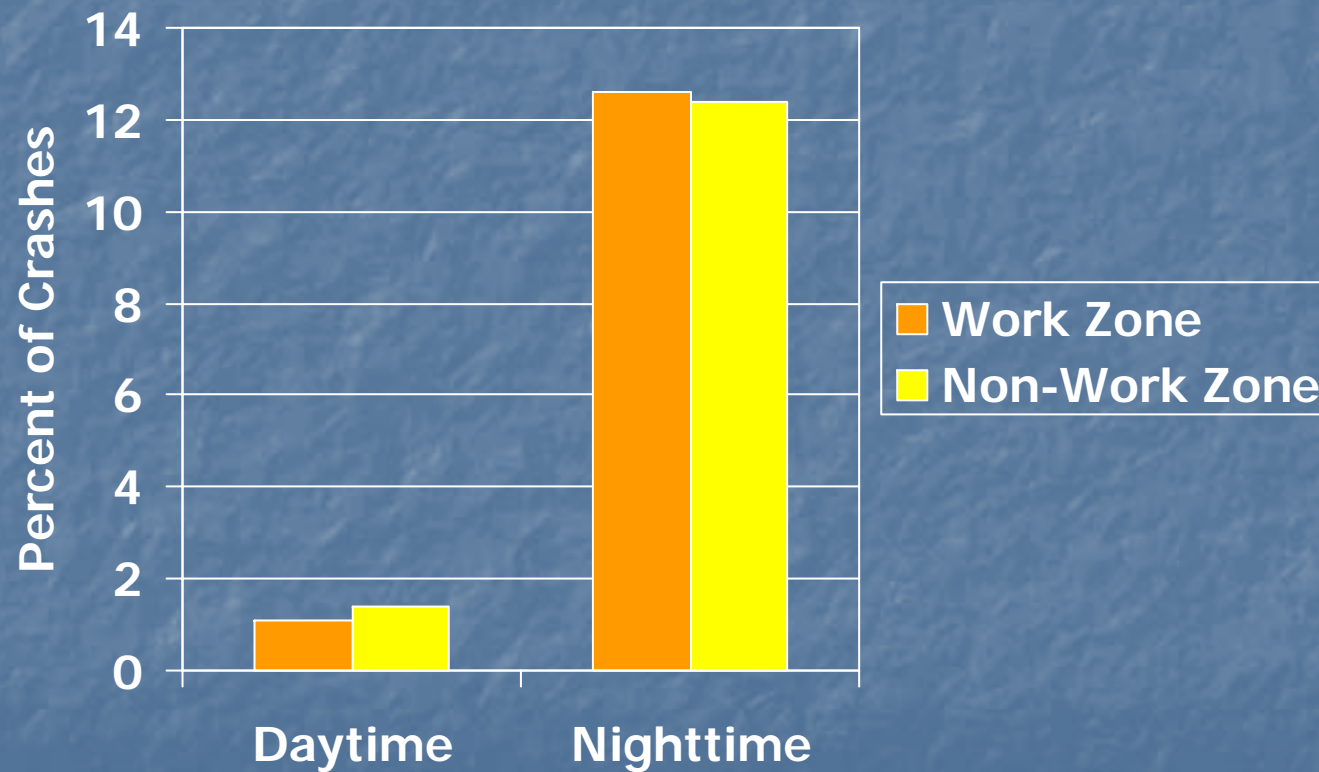
Gerald Ullman
Texas Transportation Institute
October 9, 2007

Why is Safety a Concern at Night?

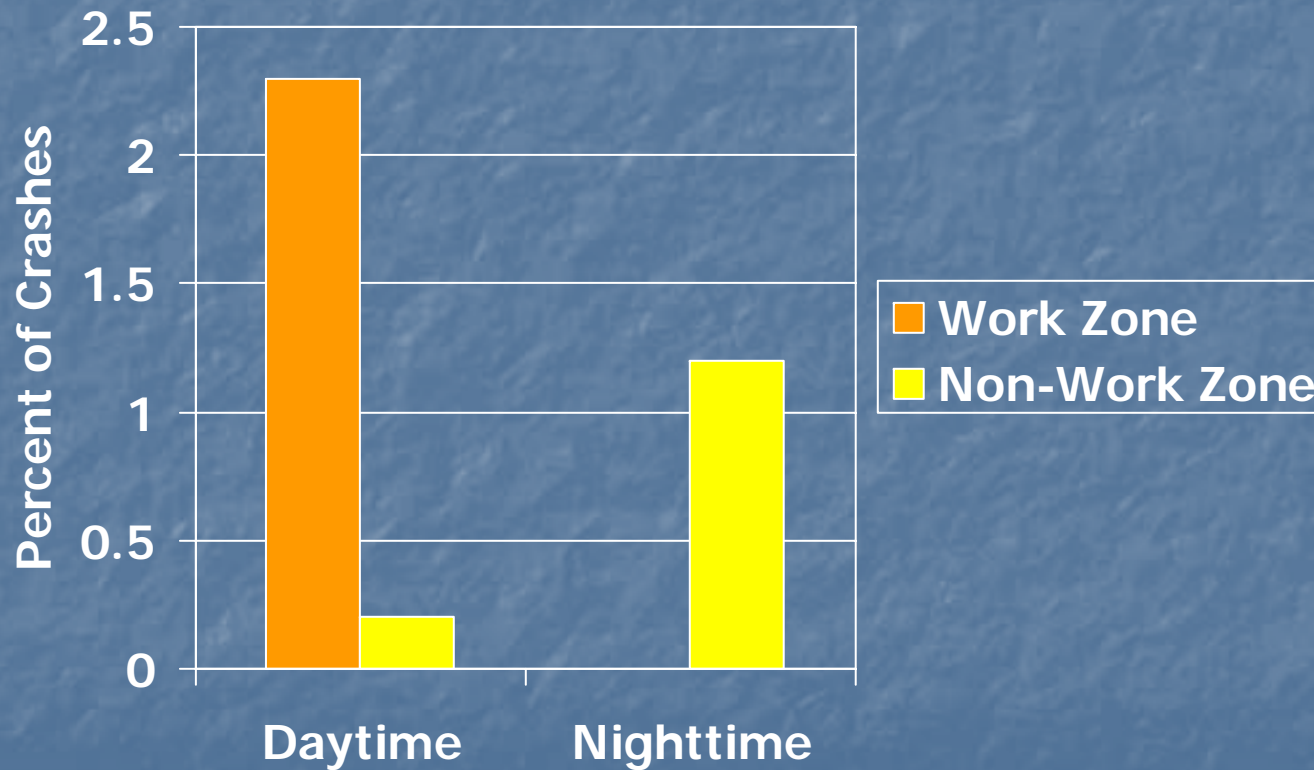
- Reduced visibility
- Drunk/drugged drivers
- Drowsy drivers
- Higher operating speeds past the work area

Implies that crash risks, and maybe crash severity, is higher when working at night.

Drunk Driving in Work Zones



Drowsy Driving in Work Zones



Drowsy Workers in Work Zones

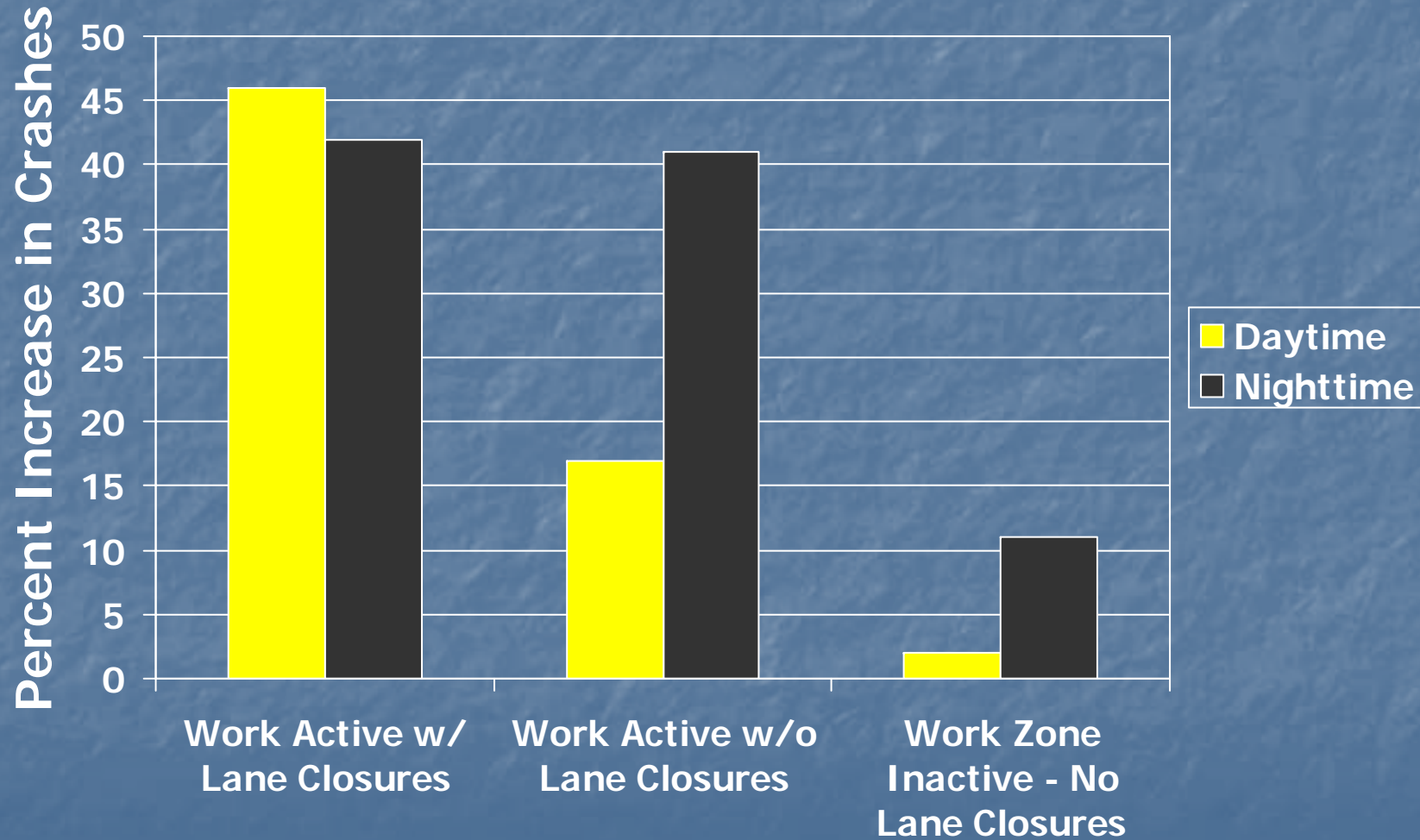
- 20% report sleep-related disorders
- Dynamic schedules disrupt adjustments
- Supervisory personnel have daytime duties as well
- Older workers more likely affected
- Data very limited on performance
- No evidence that night work increases worker injuries or deaths

Effect of Night Work on Crash Risk

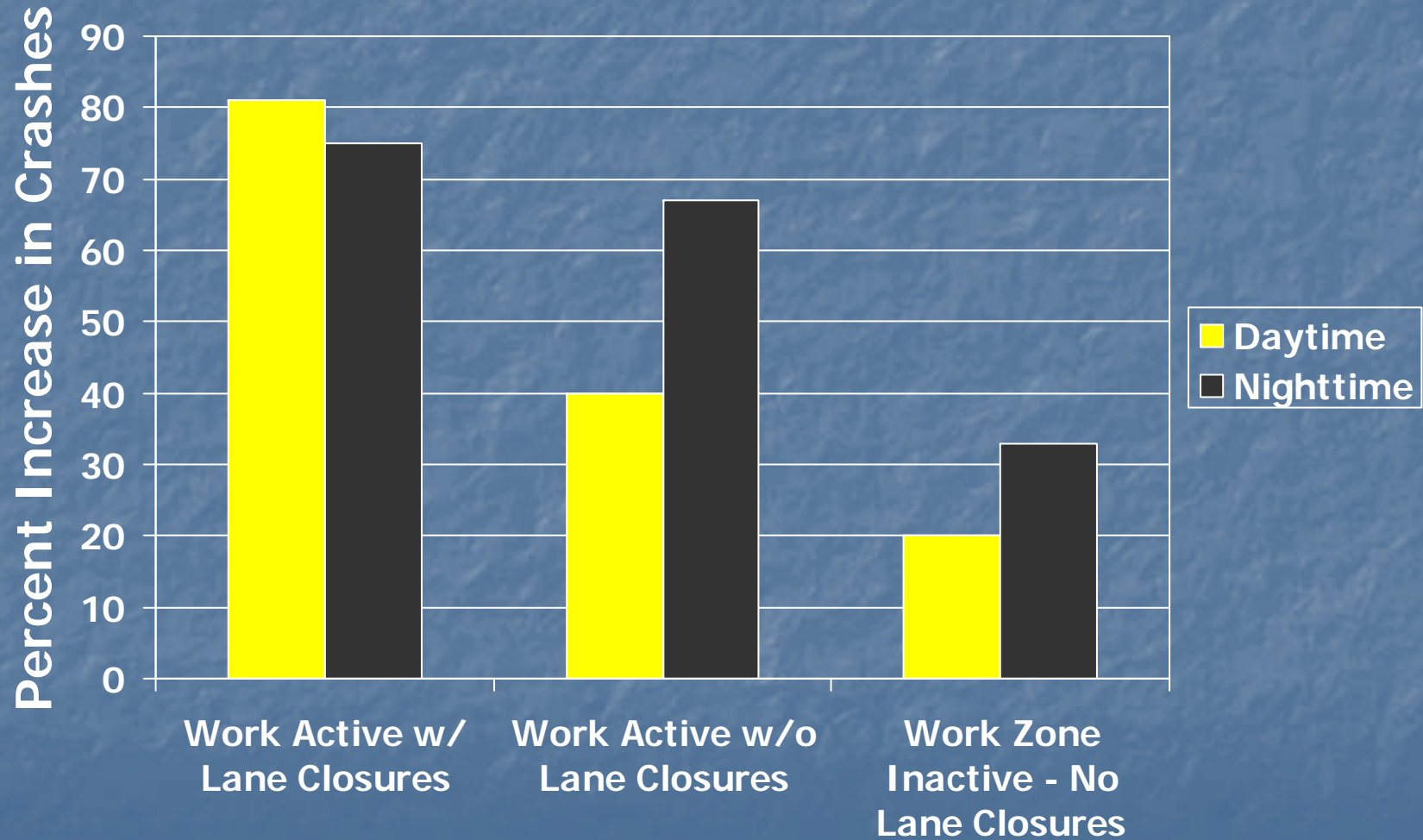
- Sullivan (1989) – crashes during night work increase 87 percent
- Ullman et al. (2004) – crashes at night increased 102 percent

Major unanswered question: How would crashes have been affected if the work had been done during the day?

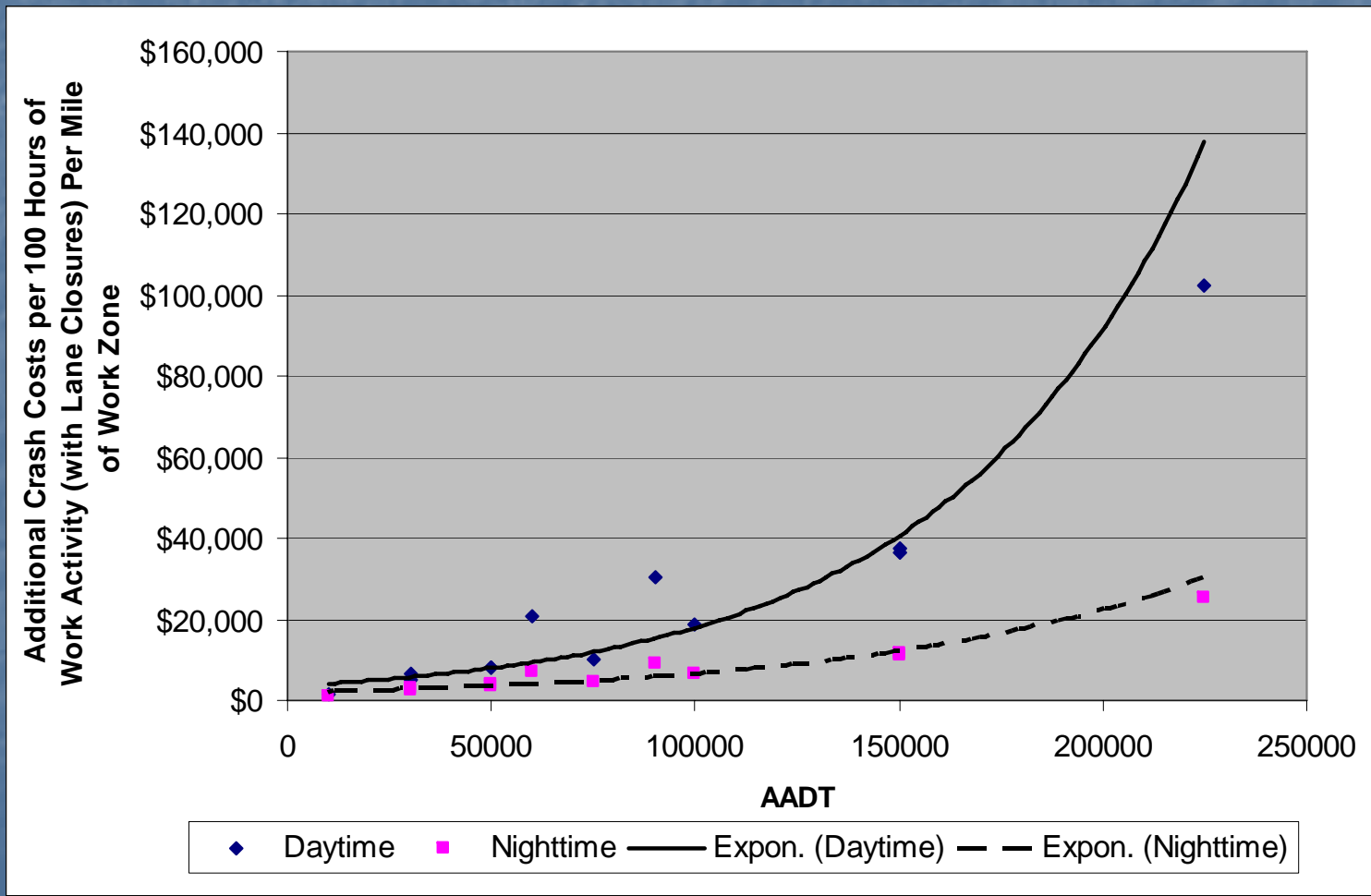
SEVERE TRAFFIC CRASHES



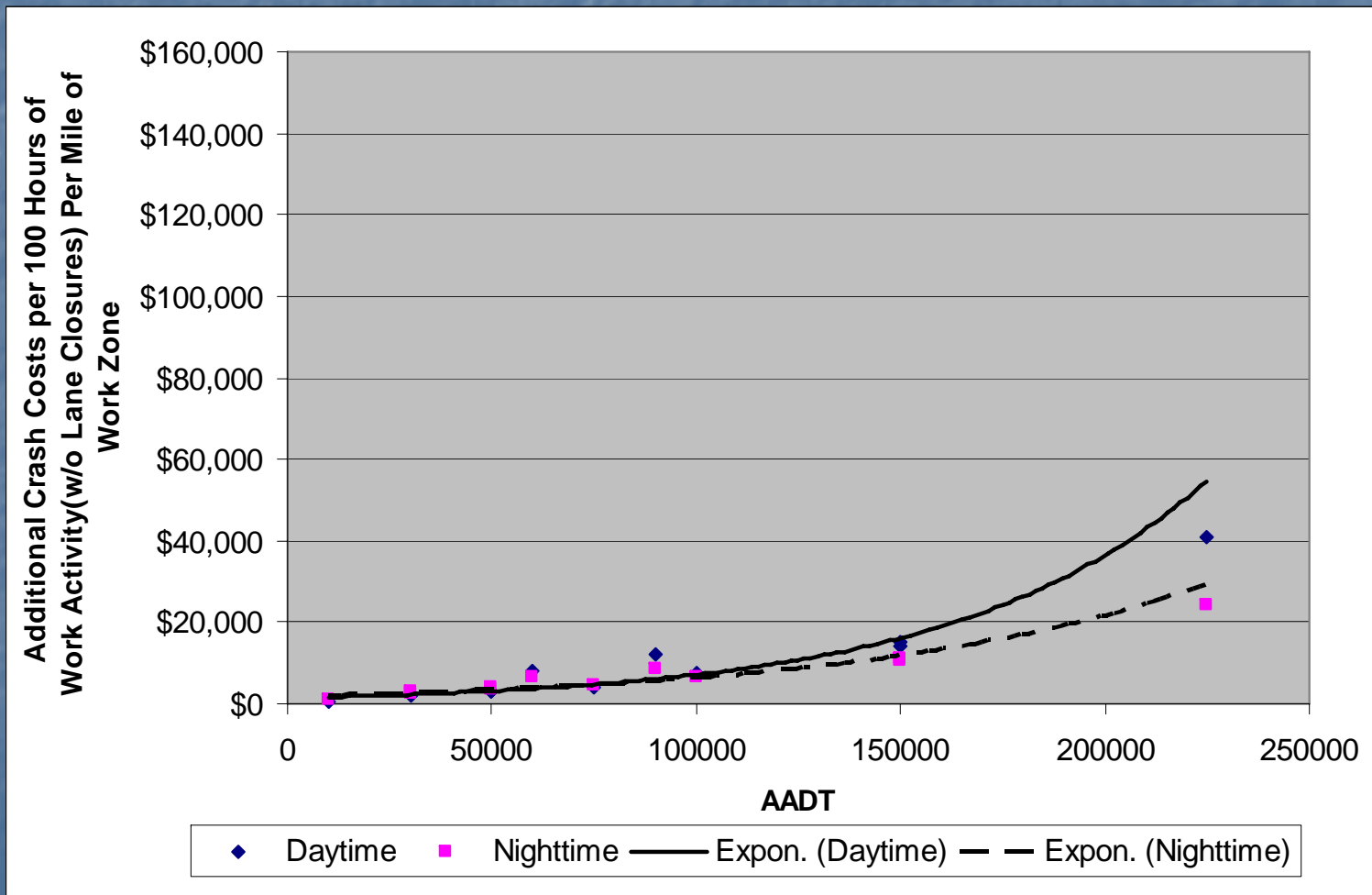
PDO TRAFFIC CRASHES



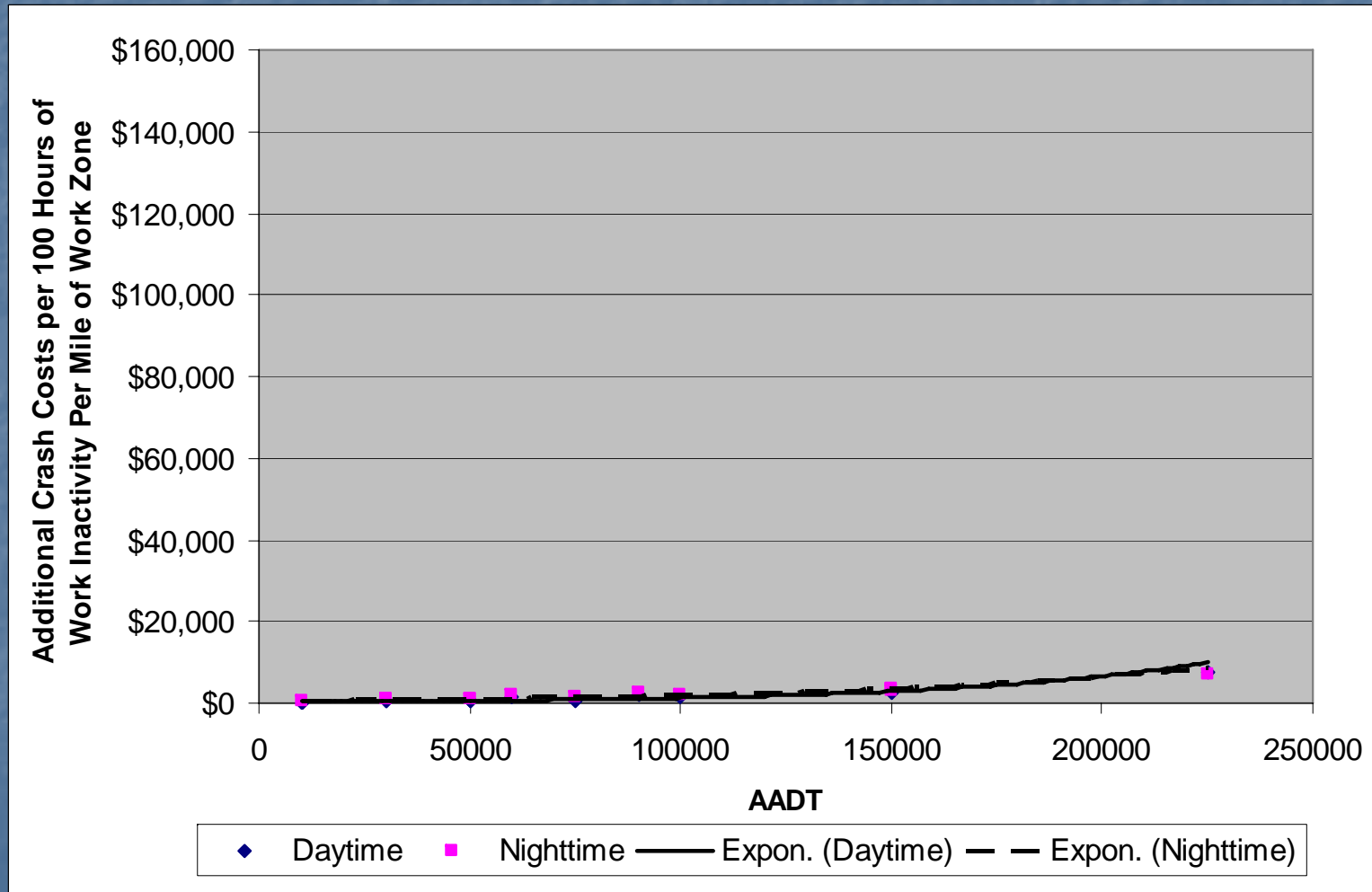
ADDITIONAL CRASH COSTS: WORK ACTIVITY w/ LC



ADDITIONAL CRASH COSTS: WORK ACTIVITY w/o LC



WORK ZONE INACTIVE: NO LC



Questions?

Gerald Ullman

Texas Transportation Institute

g-ullman@tamu.edu

979-845-9908