



Pipeline and Hazardous Materials  
Safety Administration

Office of Pipeline Safety

Pipeline Incidents and Accidents

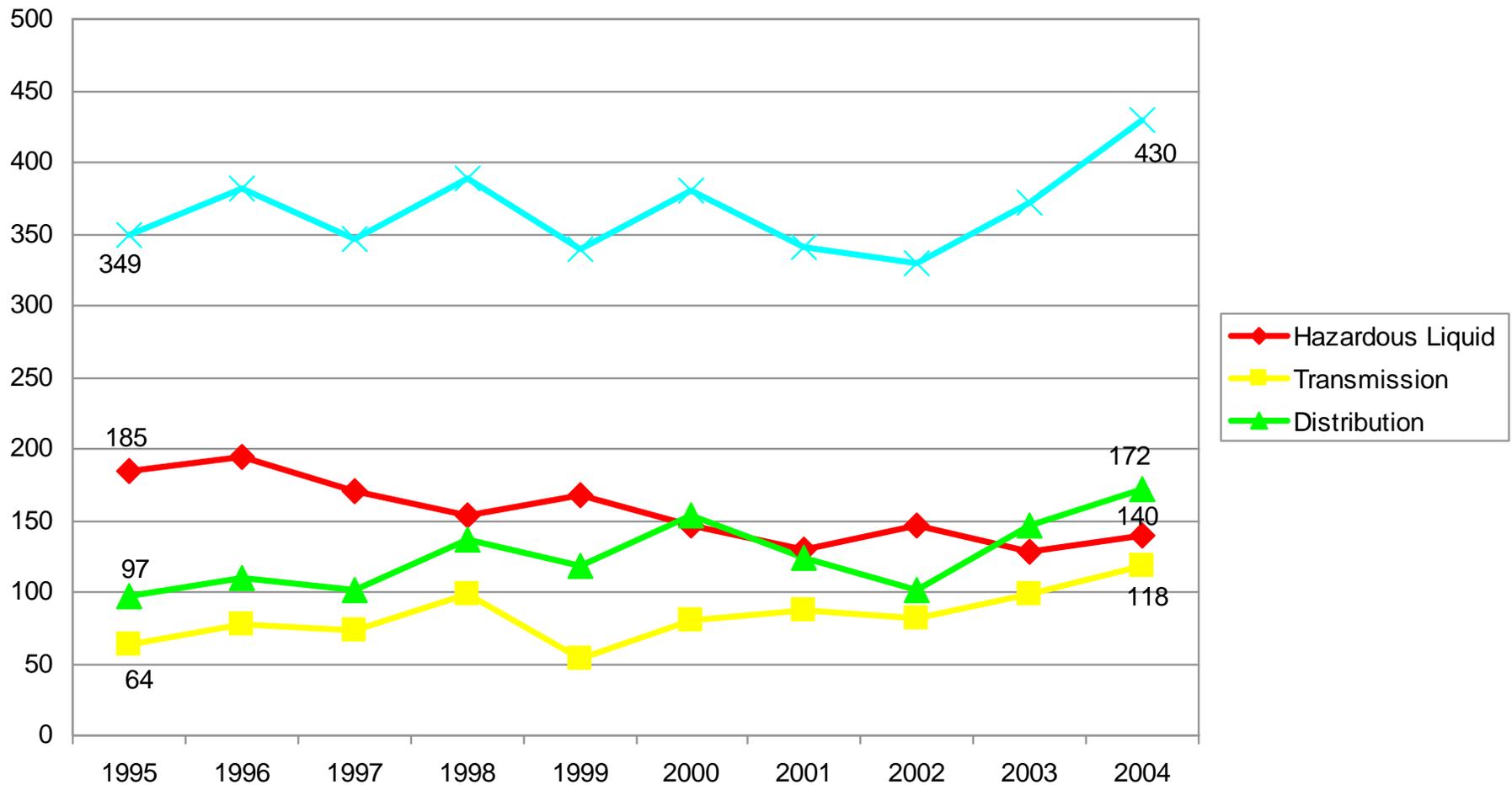
# **A Quick Overview of Pipeline Incidents/Accidents Frequencies and Causes**

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June 16, 2005

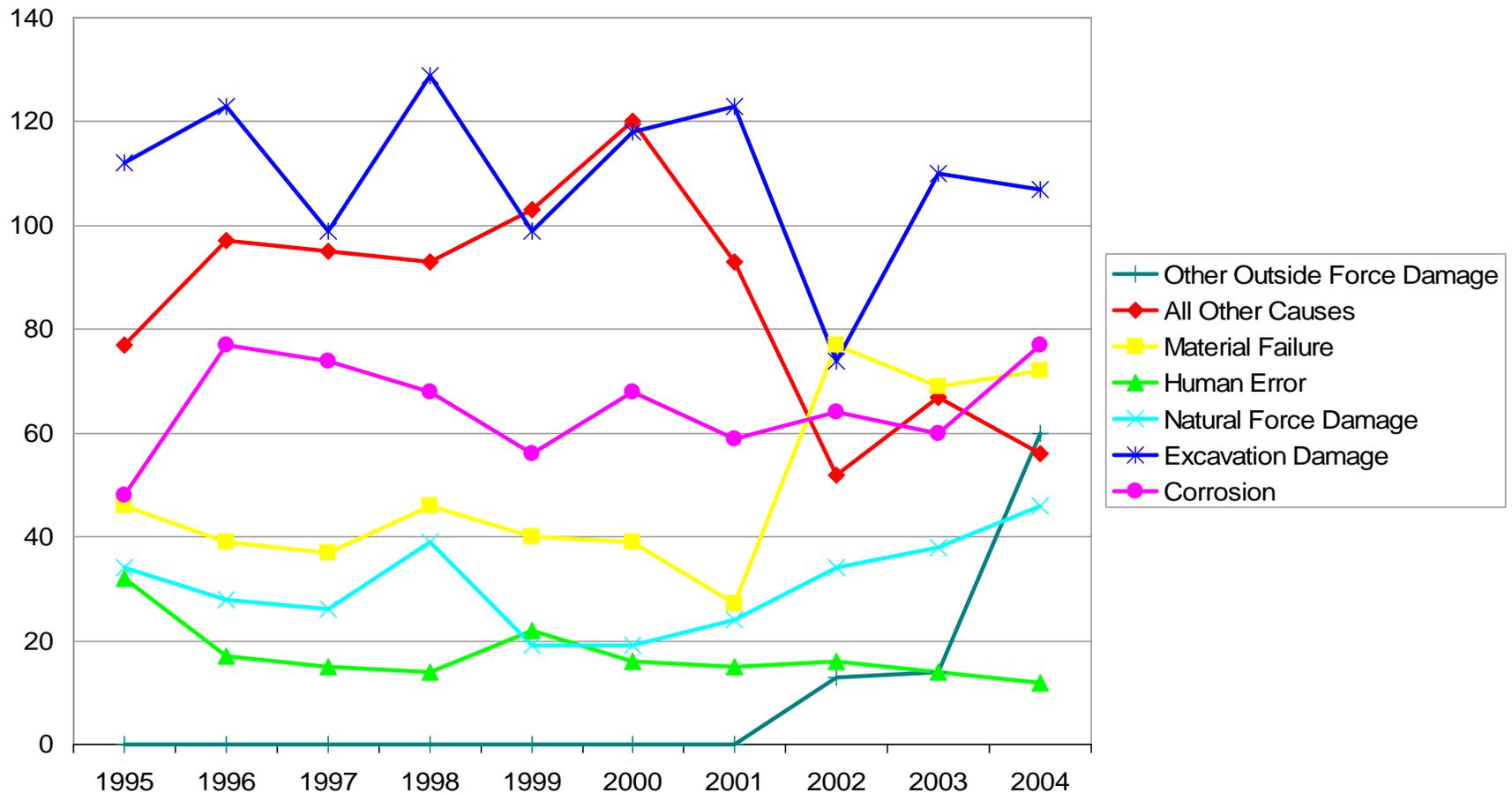


# Pipeline Incident Frequency



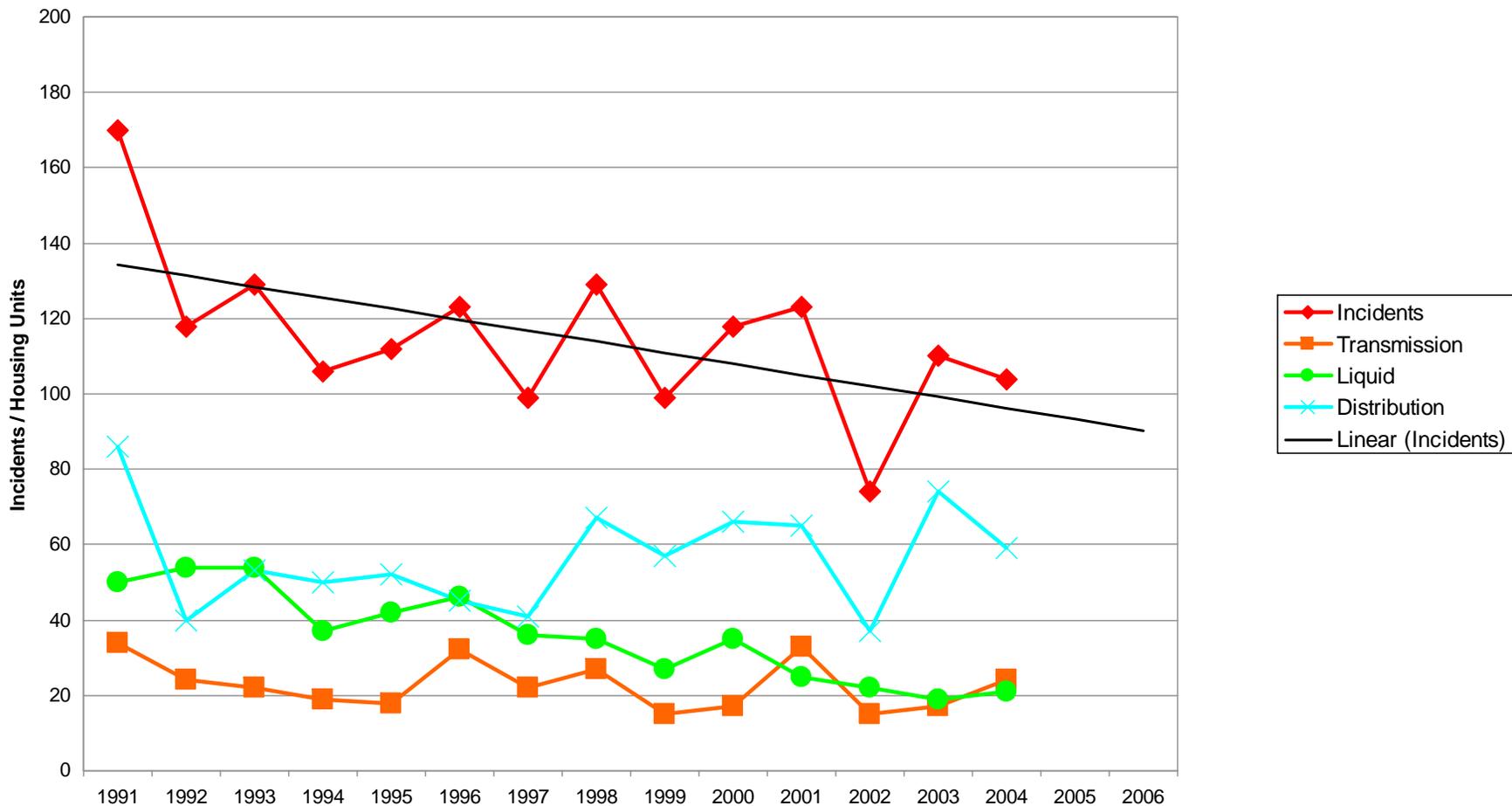


# Pipeline Incidents by Cause



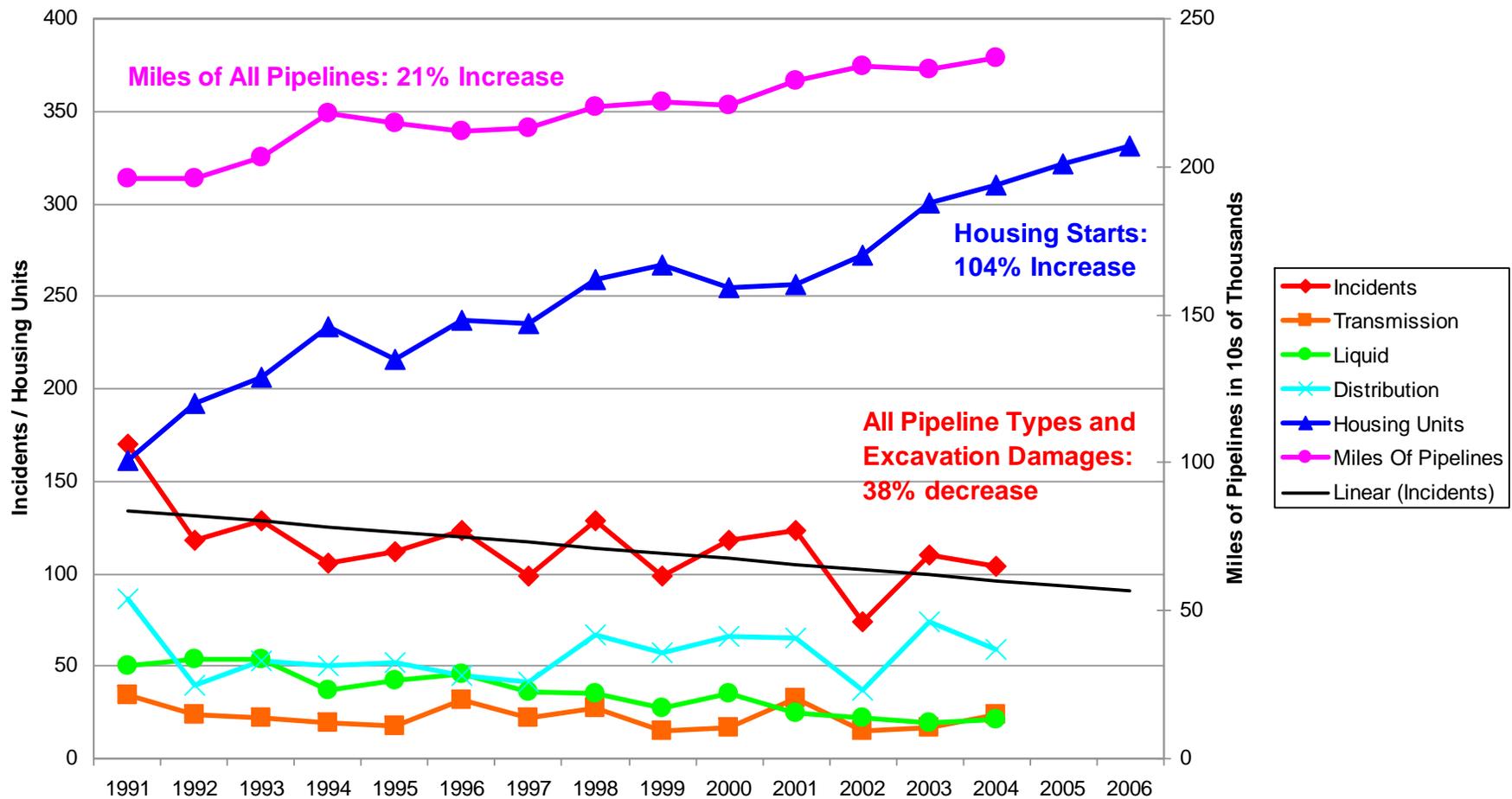


# Excavation Incidents (All Pipeline Types)



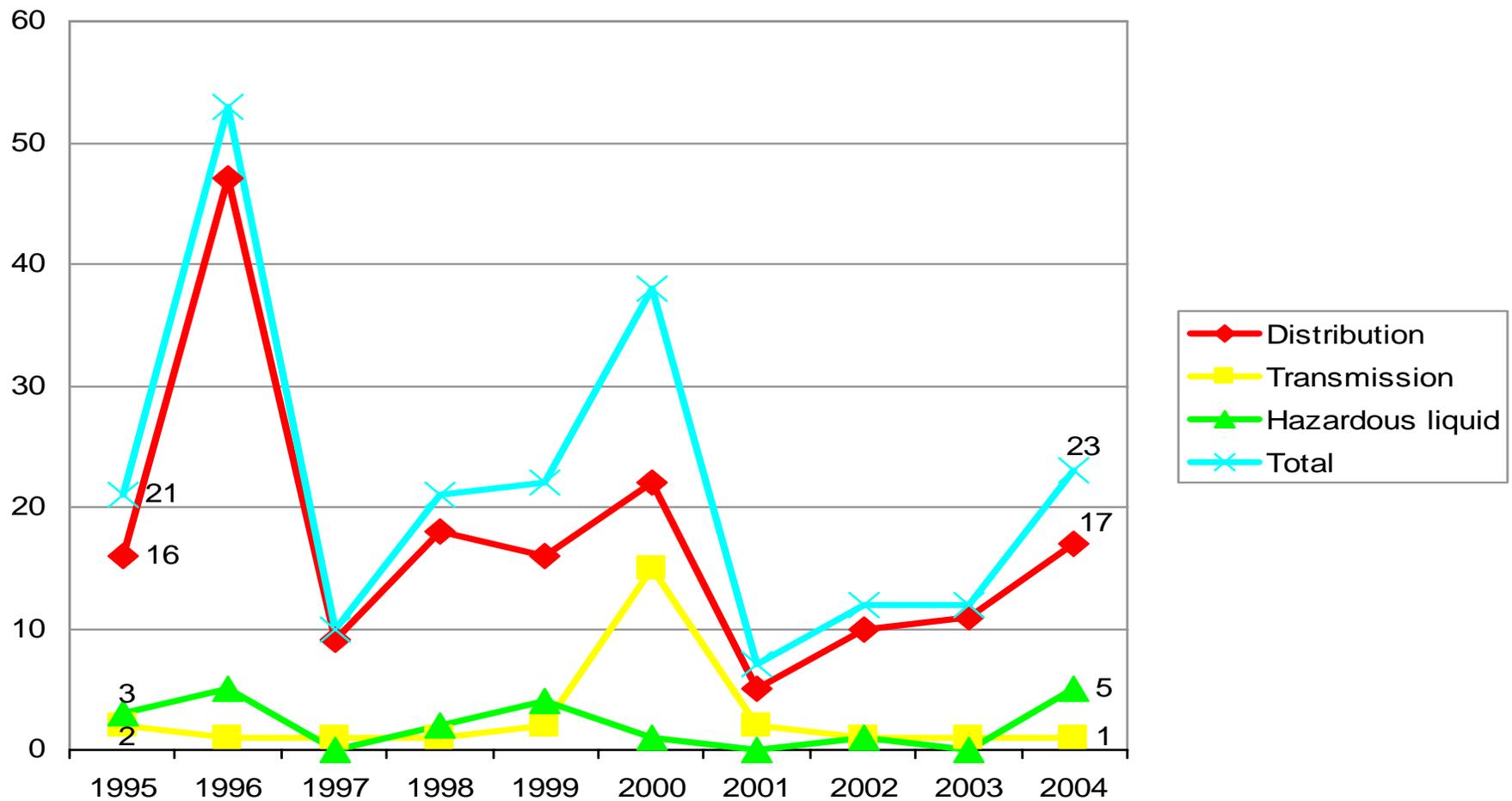


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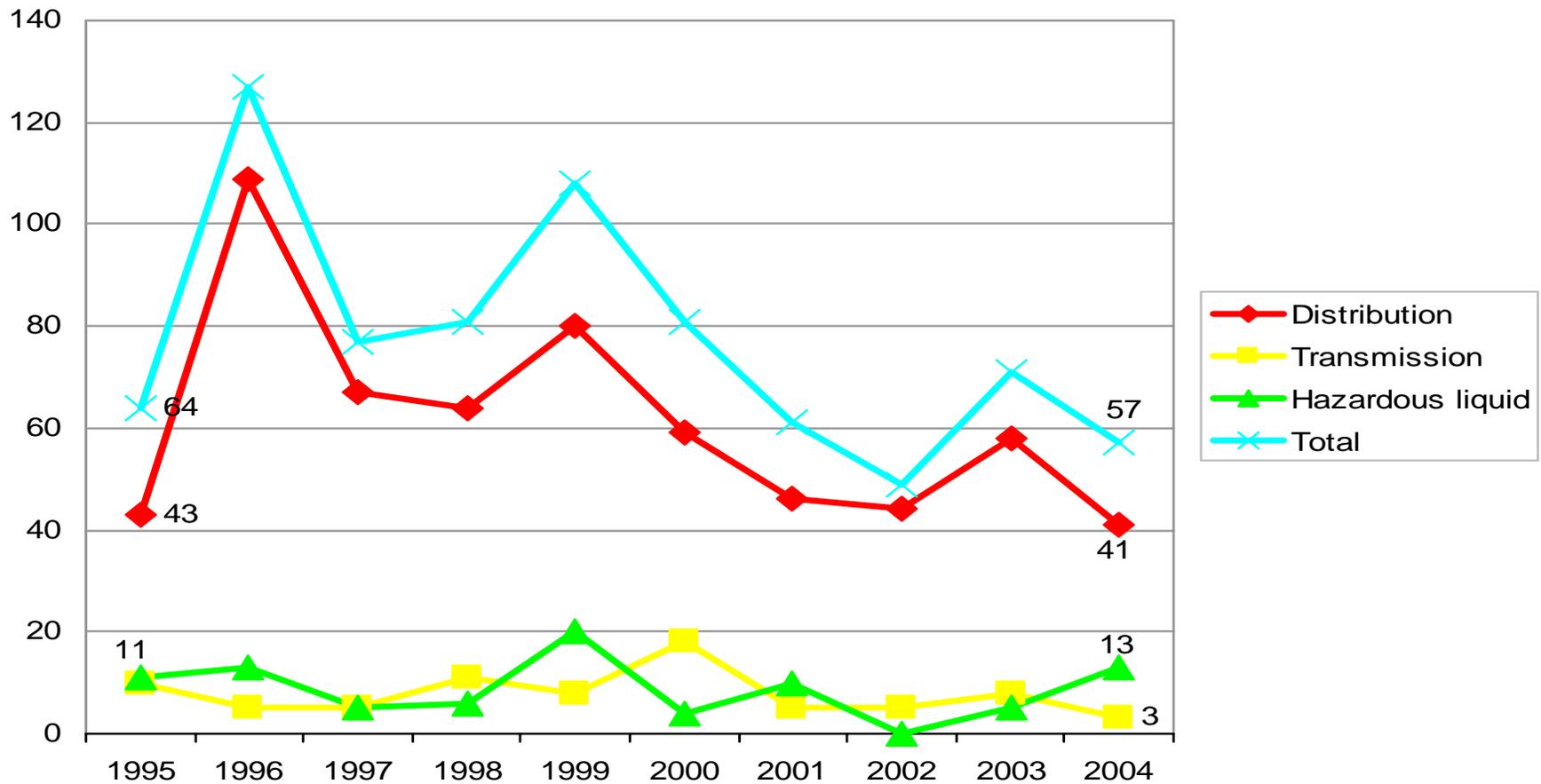


# Consequences: Fatalities



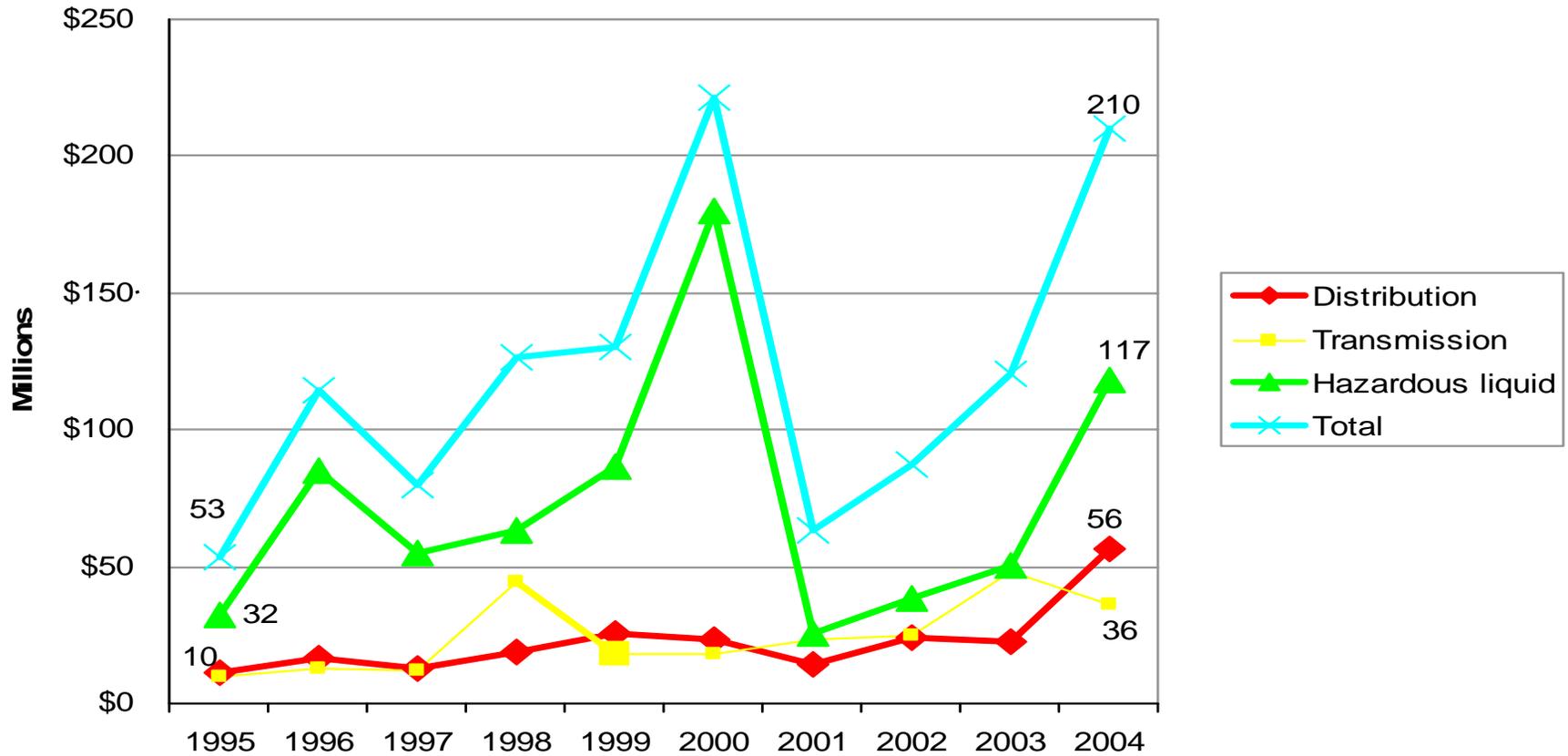


# Consequences: Injuries



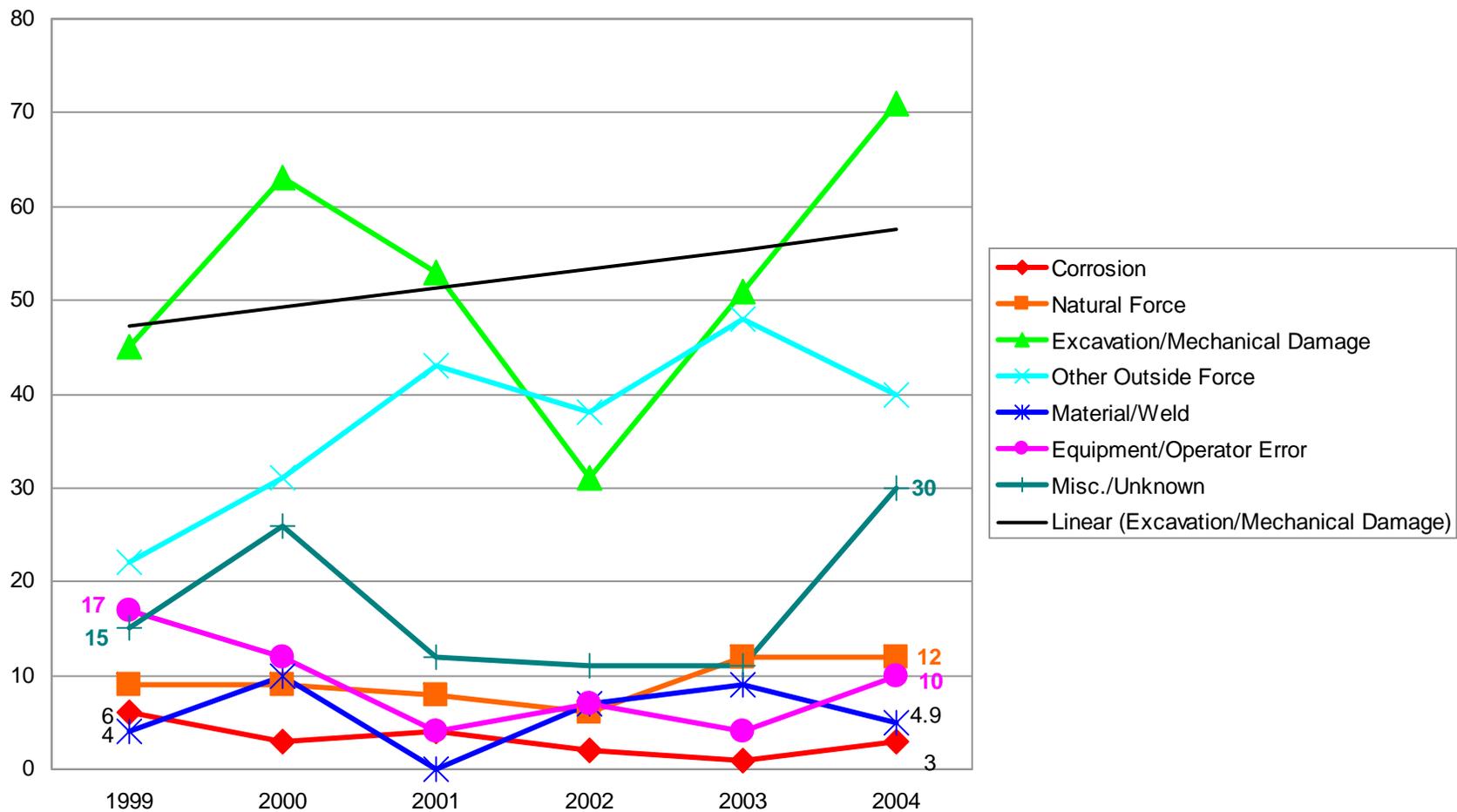


# Consequences: Property Damage



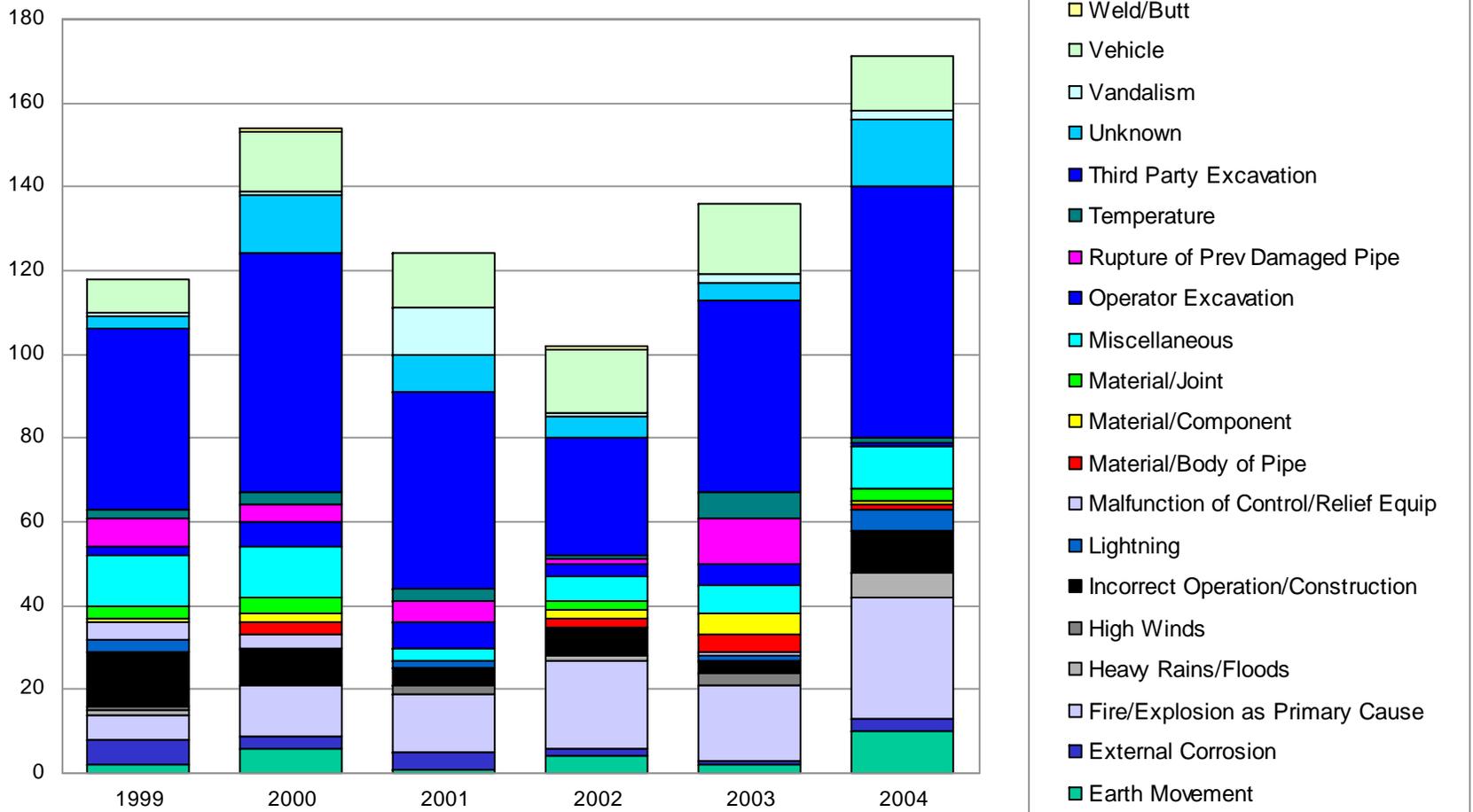


# Overall Trends: Gas Distribution Incidents



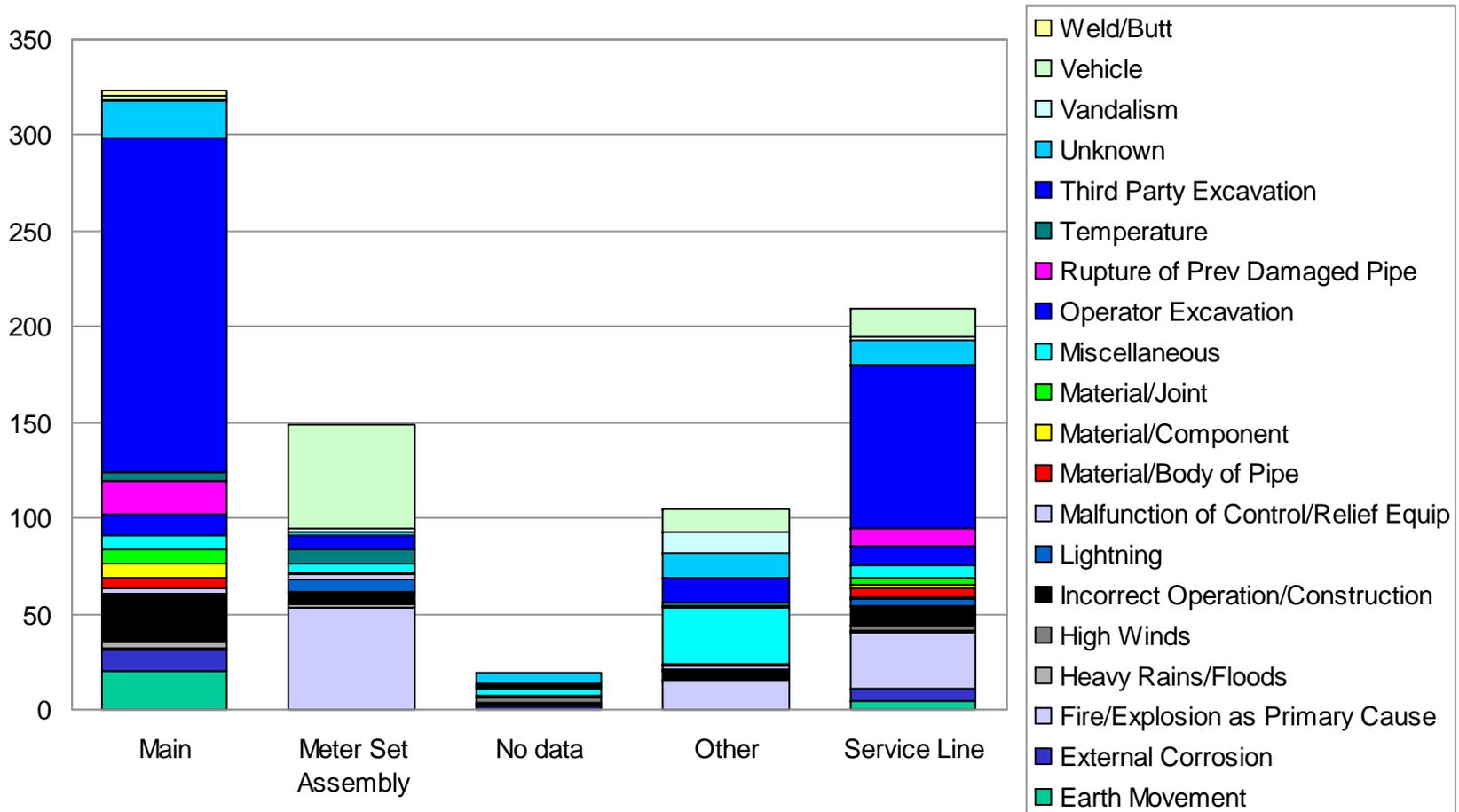


# Improvement in Incident Data





# Distribution Incidents (1999-2004)





# 2004 Allegro Distribution Incident Study Summary Findings

- *Used operator's narrative filed with the PHMSA Form F 7100.1 over the five year period 1999-2003 to reclassify causes*
- *Excavation/ Mechanical Damage and Other Outside Force still largest cause categories but the separation is crucial for the insight necessary to address the underlying issues.*
- *Moved 60% of the incidents formerly classified as "Other" into a more meaningful category.*
- *New combined Miscellaneous/Unknown now accounts for just 12% of incidents.*
- *Excavation/Mechanical Damage accounts for 38% of the incidents 75% of which involved the kinds of activities that are subject to One-Call statutes.*



# 2004 Allegro Distribution Incident Study Summary Findings

- Most of the Excavation incidents occurred on Mains and Service Lines
- This category was the largest cause of incidents involving Injuries
- “Participants in One-Call programs – the entities who pay for the programs such as electric, phone, cable, and water utilities – are among the parties causing the damage. Thus, strategies to address the issue may involve stricter enforcement of One-Call statutes, but will also require involvement, and cooperation, of these other utilities”
- “Almost 10% of the Excavation/Mechanical Damage incidents are caused by operators themselves (or their contractors), so additional training or behavior changes may be required”
- “Another issue is tradesmen such as plumbers, where One-Call statutes are not relevant, but where additional “good practices” may be needed”



# 2004 Allegro Distribution Incident Study Summary Findings

- Fire/Explosion as the Primary Cause (“Fire First” in this report) accounts for 11% of the incidents.
- Vehicles Unrelated to Excavation Activity cause 11% of the incidents, 2/3 of them involving Meter Set Assemblies.
- Operator Error, which accounts for just 6% of all reportable incidents, causes 16% of the incidents involving an injury



# 2004 Allegro Distribution Incident Study Summary Findings

“This examination clearly points out many ways that the hazards causing gas distribution incidents are diverse, different from those faced by gas transmission and oil pipelines, often outside of the operator’s control, and often outside of the regulatory reach of the Office of Pipeline Safety. Because these incidents clearly have a societal impact, in deaths, injuries, property damage, burden on first responders in the community, and in a host of other ways, they must be addressed, however. Formulating a set of strategies that will reduce their occurrence and mitigate their impact will require a broad partnership of stakeholders.”



## Conclusion

- Progress is being made across all pipeline types in addressing excavation and mechanical damages
- Excavation/mechanical damage continues to be a major threat especially in distribution systems
- Better information reporting will continue to help identify where threats occur